
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

FORM 8-K

CURRENT REPORT

**Pursuant to Section 13 or 15(d) of
The Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported)
February 5, 2013**

Pacific Biosciences of California, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-34899
(Commission
File Number)

16-1590339
(IRS Employer
Identification No.)

1380 Willow Road
Menlo Park, California 94025
(Address of principal executive offices, including zip code)

(650) 521-8000
(Registrant's telephone number, including area code)

(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):

- 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.

Facility Agreement

On February 5, 2013, Pacific Biosciences of California, Inc. (the "Company") entered into a Facility Agreement (the "Facility Agreement") with entities affiliated with Deerfield Management Company, L.P. (collectively, "Deerfield"), pursuant to which Deerfield agreed to provide \$20.5 million in funding to the Company (the "Facility"). Under the terms of the Facility Agreement, the Company issued to Deerfield promissory notes in the aggregate principal amount of \$20.5 million (the "Notes"). The Notes bear simple interest at a rate of 8.75% per annum, payable quarterly in arrears commencing on April 1, 2013 and on the first business day of each January, April, July and October thereafter. The Company received net proceeds of \$20.0 million, representing \$20.5 million of gross proceeds, less a \$500,000 facility fee, before deducting other expenses of the transaction.

The Facility has a maximum term of seven years from the date of the Facility Agreement. The Facility Agreement provides for an early repayment of principal in the event the Company has Net Sales (as defined in the Facility Agreement) of less than \$41 million for the twelve-month period from the beginning of the second calendar quarter of 2014 through the first calendar quarter of 2015 (the "Milestone"). If the Milestone is not achieved, at Deerfield's option, one-third of the original principal balance of the Facility will become due, on each of the third, fourth and fifth anniversaries of the date of the Facility Agreement.

From and after the date of the Facility Agreement, at the election of the holders of Notes representing a majority of the aggregate principal amount of the outstanding Notes, the Company shall apply 25% of the net proceeds from any financing that includes an equity component, including without limitation, the sale or issuance of the Company's common stock (the "Common Stock"), options, warrants or other securities convertible or exchangeable for shares of Common Stock, to the payment of the Notes. This right is subject to certain exceptions set forth in the Facility Agreement, including that the right will not apply until the Company has issued 15,000,000 shares (as adjusted for any stock split or reverse stock split) of its Common Stock or rights to acquire its capital stock following the date of the Facility Agreement.

Deerfield has the option to require the Company to repay the Notes if the Company completes a Major Transaction (as defined in the Facility Agreement), including a change of control of the Company or a sale of all or substantially all of the assets of the Company. Additionally, the principal balance of the Facility may become immediately due and payable upon an "Event of Default," as defined in the Facility Agreement, in which case Deerfield would have the right to require the Company to repay 100% of the principal amount of the loan, plus any accrued and unpaid interest thereon. The Facility Agreement does not provide for a prepayment of the Facility at the Company's option.

The Facility Agreement also contains various representations and warranties, and affirmative and negative covenants, customary for financings of this type, including restrictions on the ability of the Company and its subsidiaries to incur additional indebtedness or liens on its assets, except as permitted under the Facility Agreement. In addition, the Company is required to maintain consolidated cash and cash equivalents on the last day of each calendar quarter of not less than \$2.0 million.

Warrant

In connection with the execution of the Facility Agreement, on February 5, 2013, the Company issued to Deerfield warrants to purchase an aggregate of 5,500,000 shares of Common Stock immediately exercisable at an exercise price initially equal to \$2.63 (the "Warrants"). The number of shares of Common Stock into which the Warrants are exercisable and the exercise price will be adjusted to reflect any stock splits, payment of stock dividends, recapitalizations, reclassifications or other similar adjustments in the number of outstanding shares of Common Stock. The exercise price may also be adjusted to reflect certain dividends or other distributions, including distributions of stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or similar transaction.

If the Company declares and pays dividends or makes other distributions to the holders of the Common Stock, the holders of the Warrants are entitled to receive the dividends or distributions as if the holders had exercised the Warrants and held Common Stock. The Warrants expire on the seventh anniversary of the date of issuance and contain certain limitations that prevent a holder from acquiring shares upon exercise of a Warrant that would result in the number of shares beneficially owned by such holder to exceed 9.985% of the total number of shares of Common Stock then issued and outstanding. The maximum number of shares of Common Stock that may be issued under the Warrants may not exceed 19.9% of the Company's outstanding capital stock at the time of issuance of the Warrants.

The exercise price may be paid, at the election of the holder, in cash, by a reduction of the principal amount of the holder's Note outstanding under the Facility Agreement or pursuant to certain cashless exercise provisions. In connection with certain Major Transactions (as defined in the Warrant) and certain Events of Default (as defined in the Warrant) including a change of control of the Company, the sale of all or substantially all of the Company's assets, liquidation, bankruptcy, or in the event the Common Stock ceases to be registered under Section 12 of the Securities Exchange Act of 1934, as amended, the holder may have the option to receive, in exchange for the Warrant, a number of shares of Common Stock equal to the Black-Scholes value of the Warrant (as defined in the Warrant), divided by the closing price of the Common Stock on the trading day immediately preceding the date on which the applicable Major Transaction is consummated or Event of Default is triggered. In certain circumstances in which cash is paid to common stockholders in connection with a Major Transaction, a portion of such payment may be made in cash rather than in shares of Common Stock.

Registration Rights Agreement

In connection with the Facility, the Company entered into a Registration Rights Agreement with Deerfield (the "Registration Rights Agreement") obligating the Company to register for resale the shares of Common Stock issuable upon the exercise of the Warrants on a registration statement on Form S-3 to be filed with the Securities and Exchange Commission within 45 days after the date the Warrants were issued. The Company is required to file additional registration statements to register the resale of any shares underlying the Warrants which are not included in the registration statement. The Registration Rights Agreement will terminate on the date that is eight years from the date of its signing.

Security Agreement

In connection with the Facility Agreement, the Company entered into a Security Agreement with Deerfield (the "Security Agreement"), pursuant to which, as security for the Company's repayment of its obligations under the Facility Agreement, the Company granted to Deerfield a security interest in substantially all of its property and interests in property, except as otherwise limited in the Security Agreement.

The foregoing summaries of the Facility Agreement, the Warrant, the Registration Rights Agreement and the Security Agreement do not purport to be complete and are qualified in their entirety by reference to such agreements as filed herewith as exhibits to this Current Report on Form 8-K. In addition, on February 5, 2013 the Company issued a press release titled "Pacific Biosciences Completes \$20.5 Million Debt Financing." A copy of the press release is included as Exhibit 99.1 to this current report on Form 8-K and is incorporated herein by reference.

ITEM 2.03. CREATION OF A DIRECT FINANCIAL OBLIGATION OR AN OBLIGATION UNDER AN OFF-BALANCE SHEET ARRANGEMENT OF A REGISTRANT.

The disclosure set forth above under Item 1.01 relating to the Facility Agreement is hereby incorporated by reference into this Item 2.03.

ITEM 3.02. UNREGISTERED SALES OF EQUITY SECURITIES.

The Warrants described in Item 1.01 above were offered and sold in reliance upon the exemption from registration provided by Section 4(2) under the Securities Act. The Facility Agreement contains representations to support the Company's reasonable belief that Deerfield had access to information concerning its operations and financial condition, that Deerfield is acquiring the Warrants for its own account and not with a view to the distribution thereof, and that Deerfield is an "accredited investor" as defined by Rule 501 promulgated under the Securities Act.

ITEM 9.01. FINANCIAL STATEMENTS AND EXHIBITS.

(d) Exhibits.

- 4.1 Form of Warrant to purchase shares of common stock of Pacific Biosciences of California, Inc.
- 10.1 Facility Agreement, dated February 5, 2013 by and among Pacific Biosciences of California, Inc. and the entities listed on the signature pages thereof.
- 10.2 Registration Rights Agreement, dated February 5, 2013, by and among Pacific Biosciences of California, Inc. and the entities listed on the signature pages thereof.
- 10.3 Security Agreement, dated February 5, 2013 by and among Pacific Biosciences of California, Inc. and the entities listed on the signature pages thereof.
- 99.1 Press Release dated February 5, 2013 titled "Pacific Biosciences Completes \$20.5 Million Debt Financing."

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
4.1	Form of Warrant to purchase shares of common stock of Pacific Biosciences of California, Inc.
10.1	Facility Agreement, dated February 5, 2013 by and among Pacific Biosciences of California, Inc. and the entities listed on the signature pages thereof.
10.2	Registration Rights Agreement, dated February 5, 2013 by and among Pacific Biosciences of California, Inc. and the entities listed on the signature pages thereof.
10.3	Security Agreement, dated February 5, 2013 by and among Pacific Biosciences of California, Inc. and the entities listed on the signature pages thereof.
99.1	Press Release dated February 5, 2013 titled "Pacific Biosciences Completes \$20.5 Million Debt Financing."

THIS WARRANT AND THE SECURITIES ISSUABLE UPON EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY STATE SECURITIES LAW, AND MAY NOT BE SOLD, TRANSFERRED, ASSIGNED, PLEDGED, HYPOTHECATED OR OTHERWISE DISPOSED OF OR EXERCISED UNLESS (I) THE RESALE OR TRANSFER OF SUCH SECURITIES IS PURSUANT TO A REGISTRATION STATEMENT UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS THAT IS EFFECTIVE AT THE TIME OF SUCH RESALE OR TRANSFER, OR (II) AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS IS AVAILABLE IN CONNECTION WITH SUCH OFFER, SALE OR TRANSFER.

AN INVESTMENT IN THESE SECURITIES INVOLVES A HIGH DEGREE OF RISK. HOLDERS MUST RELY ON THEIR OWN ANALYSIS OF THE INVESTMENT AND ASSESSMENT OF THE RISKS INVOLVED.

Warrant to Purchase
shares

Warrant Number

**Warrant to Purchase Common Stock
of
Pacific Biosciences of California, Inc.**

THIS CERTIFIES that _____ or any subsequent holder hereof ("Holder") has the right to purchase from Pacific Biosciences of California, Inc., a Delaware corporation, (the "Company"), _____ (_____) fully paid and nonassessable shares of the Company's common stock, \$0.001 par value per share ("Common Stock"), subject to adjustment as provided herein, at a price equal to the Exercise Price as defined in Section 3 below, at any time during the Term (as defined below).

Holder agrees with the Company that this Warrant to Purchase Common Stock of the Company (this "Warrant" or this "Agreement") is issued and all rights hereunder shall be held subject to all of the conditions, limitations and provisions set forth herein.

1. Date of Issuance and Term.

This Warrant shall be deemed to be issued on February 5, 2013 ("Date of Issuance"). The term of this Warrant begins on the Date of Issuance and ends at 5:00 p.m., New York City time, on the date that is seven (7) years after the Date of Issuance (the "Term"). This Warrant was issued in conjunction with that certain Facility Agreement (the "Facility Agreement") and the Registration Rights Agreement ("Registration Rights Agreement") by and between the Company, Deerfield Private Design Fund II, L.P., Deerfield Private Design International II, L.P., Deerfield Special Situations Fund, L.P. and Deerfield Special Situations International Master Fund, L.P., each dated February 5, 2013, entered into in conjunction herewith.

Notwithstanding anything herein to the contrary, the Company shall not issue to the Holder, and the Holder may not acquire, a number of shares of Common Stock upon exercise of this Warrant to the extent that, upon such exercise, the number of shares of Common Stock then beneficially owned by the Holder and its Affiliates and any other persons or entities 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") (including shares held by any "group" of which the Holder is a member, but excluding shares beneficially owned by virtue of the ownership of securities or rights to acquire securities that have limitations on the right to convert, exercise or purchase similar to the limitation set forth herein) would exceed 9.985% of the total number of shares of Common Stock then issued and outstanding (the "9.985% Cap"), provided, however, that the 9.985% Cap shall not apply with respect to the issuance of shares of Common Stock pursuant to a Cashless Major Exercise (as defined below) in

connection with a Major Transaction (as defined below) covered by the provisions of Section 5(c)(i)(A)(1) below in which the Company is not the surviving entity (a “Qualified Change of Control Transaction”) to the extent that the number of shares beneficially owned by the Holder and its affiliates in the successor entity immediately following consummation of such Qualified Change of Control Transaction does not exceed 9.985% of the outstanding common stock of such successor entity and provided, further, that the 9.985% Cap shall only apply to the extent that the Common Stock is deemed to constitute an “equity security” pursuant to Rule 13d-1(i) promulgated under the Exchange Act. For purposes hereof, “group” has the meaning set forth in Section 13(d) of the Exchange Act and applicable regulations of the Securities and Exchange Commission (the “SEC”), and the percentage held by the Holder shall be determined in a manner consistent with the provisions of Section 13(d) of the Exchange Act. Upon the written request of the Holder, the Company shall, within two (2) Trading Days, confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding.

“Affiliate” means any person or entity that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person or entity, as such terms are used in and construed under Rule 144 under the Securities Act of 1933, as amended (the “Securities Act”). With respect to a Holder of Warrants, any investment fund or managed account that is managed on a discretionary basis by the same investment manager as such Holder will be deemed to be an Affiliate of such Holder.

“Holder” means _____ and any transferee or assignee pursuant to the terms of this Warrant.

2. Exercise.

(a) *Manner of Exercise.* During the Term, this Warrant may be Exercised as to all or any lesser number of whole shares of Common Stock covered hereby (the “Warrant Shares” or the “Shares”) upon surrender of this Warrant, with the Exercise Form attached hereto as Exhibit A (the “Exercise Form”) duly completed and executed, together with the full Exercise Price (as defined below, which may be satisfied by a Cash Exercise or a Cashless Exercise, as each is defined below) for each share of Common Stock as to which this Warrant is Exercised, at the office of the Company, 1380 Willow Road, Menlo Park, CA 94025; Phone: (656) 521-8000, Fax: (650) 644-0348, electronic mail (bdow@pacificbiosciences.com) or at such other office or agency as the Company may designate in writing, by overnight mail, with an advance copy of the Exercise Form sent to the Company by facsimile or electronic mail (such surrender and payment of the Exercise Price hereinafter called the “Exercise” of this Warrant).

(b) *Date of Exercise.* The “Date of Exercise” of the Warrant shall be defined as the date that the Exercise Form attached hereto as Exhibit A, completed and executed, is sent by facsimile or electronic mail to the Company, provided that the Exercise Form is received by the Company and the Exercise Price is satisfied, each as soon as practicable thereafter. Alternatively, the Date of Exercise shall be defined as the date the original Exercise Form is received by the Company, if Holder has not sent advance notice by facsimile or electronic mail. Upon delivery of the Exercise Form to the Company by facsimile, electronic mail or otherwise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been Exercised, irrespective of the date such Warrant Shares are issued in certificated form or credited to the Holder’s account at the Company’s transfer agent (the “Transfer Agent”); provided, however, that in the event of a Cashless Major Exercise in respect of a Qualified Change of Control Transaction, the Holder shall be deemed to have become the holder of record of the shares issuable upon such exercise immediately prior to the consummation of such Qualified Change of Control Transaction and provided, further, that in the event of a Cashless Major Exercise triggered by an event set forth in Section 5(c)(i)(E), the Holder shall be deemed to have become the holder of record of the shares issuable upon such exercise immediately following the occurrence of the Major Transaction. The Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Exercise Form is delivered to the Company. Execution and delivery of the Exercise Form 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, if any.

(c) *Delivery of Common Stock Upon Exercise.* Within three (3) Business Days (for purposes of this Warrant, “Business Days” means days on which banks are open for business in The City of New York and San Francisco, California) after any Date of Exercise, or in the case of a Cashless Major Exercise or a Cashless Default Exercise

(each as defined in Section 5(c) below), within the period provided in Section 5(c)(iv) or Section 3(c), as applicable (the “Delivery Period”), the Company shall issue and deliver (or cause the Transfer Agent to issue and deliver) in accordance with the terms hereof to or upon the order of the Holder that number of shares of Common Stock (“Exercise Shares”) for the portion of this Warrant converted as shall be determined in accordance herewith. Upon the Exercise of this Warrant or any part hereof, the Company shall, at its own cost and expense, take all necessary action, including obtaining and delivering an opinion of counsel, to assure that the Transfer Agent shall issue stock certificates in the name of Holder (or its nominee) or such other persons as designated by Holder and in such denominations to be specified at Exercise representing the number of shares of Common Stock issuable upon such Exercise. The Company warrants that no instructions other than these instructions have been or will be given to the Transfer Agent and that, unless waived by the Holder, the Exercise Shares will be free trading, and freely transferable, and will not contain a legend restricting the resale or transferability of the Exercise Shares if the Unrestricted Conditions (as defined below) are met.

(d) *Delivery Failure.* In addition to any other remedies which may be available to the Holder, in the event that the Company fails for any reason to effect delivery of the Exercise Shares by the end of the Delivery Period (a “Delivery Failure”), the Holder will be entitled to revoke all or part of the relevant Exercise Form by delivery of a notice to such effect to the Company whereupon the Company and the Holder shall each be restored to their respective positions immediately prior to the delivery of such notice, except that the liquidated damages described herein shall be payable through the date notice of revocation or rescission is given to the Company.

(e) *Legends.*

(i) Restrictive Legend. The Holder understands that until such time as this Warrant, the Exercise Shares and the Failure Payment Shares have been registered under the Securities Act as contemplated by the Registration Rights Agreement or otherwise may be sold pursuant to Rule 144 under the Securities Act or an exemption from registration under the Securities Act without any restriction as to the number of securities as of a particular date that can then be immediately sold, this Warrant, the Exercise Shares and the Failure Payment Shares, as applicable, may bear a restrictive legend in substantially the following form (and a stop-transfer order may be placed against transfer of the certificates for such securities):

“THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE SOLD, TRANSFERRED OR ASSIGNED OTHER THAN (1) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER SAID ACT THAT IS EFFECTIVE AT THE TIME OF SUCH TRANSFER, (2) PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER SAID ACT INCLUDING, WITHOUT LIMITATION, PURSUANT TO RULES 144 OR 144A UNDER SAID ACT OR (3) PURSUANT TO A PRIVATE SALE EFFECTED UNDER APPLICABLE FORMAL OR INFORMAL SEC INTERPRETATION OR GUIDANCE, SUCH AS A SO-CALLED “4(1) AND A HALF” SALE.”

“THE SALE, TRANSFER OR ASSIGNMENT OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE TERMS AND CONDITIONS OF A CERTAIN REGISTRATION RIGHTS AGREEMENT DATED AS OF FEBRUARY 5, 2013, AS AMENDED FROM TIME TO TIME, AMONG THE COMPANY AND CERTAIN HOLDERS OF ITS OUTSTANDING SECURITIES. COPIES OF SUCH AGREEMENT MAY BE OBTAINED AT NO COST BY WRITTEN REQUEST MADE BY THE HOLDER OF RECORD OF THIS CERTIFICATE TO THE SECRETARY OF THE COMPANY.”

(ii) Removal of Restrictive Legends. The certificates evidencing the Exercise Shares and the Failure Payment Shares, as applicable, shall not contain any legend restricting the transfer thereof (including the legend set forth above in subsection 2(e)(i)): (A) pursuant to a sale or disposition pursuant to an effective registration statement that is effective at the time of such disposition or resale covering the disposition or resale of such securities, (B) following any sale or disposition of such Exercise Shares and/or Failure Payment Shares pursuant to Rule 144, (C) if such Exercise Shares and/or Failure Payment Shares are eligible for sale under Rule 144(b)(1), (D) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the SEC), (E) if at the time of Exercise, the Holder has indicated on the

Exercise Form its intent to sell or dispose of the shares within three (3) Trading Days pursuant to a currently effective registration statement, or (F) if, following the issuance of any Exercise Shares or Failure Payment Shares and while a registration statement covering the resale of such security is effective under the Securities Act, the Holder requests the removal of such legends via facsimile, electronic mail or regular mail and the Holder indicates in such written communication its intent to sell or dispose of the shares pursuant to a currently effective registration statement in accordance with the Securities Act and applicable securities laws (collectively, the “Unrestricted Conditions”). The Company shall cause its counsel to issue a legal opinion to the Transfer Agent promptly after the Effective Date if required by the Company’s transfer agent to effect the issuance of the Exercise Shares or the Failure Payment Shares, as applicable, without a restrictive legend or removal of the legend hereunder if the applicable Unrestricted Condition(s) are met and if the removal of such legends is in compliance with the Securities Act. If the Unrestricted Conditions are met at the time of issuance of the Exercise Shares or the Failure Payment Shares, then such Exercise Shares or Failure Payment Shares, as applicable, shall be issued free of all legends regarding registration under the Securities Act. The Company agrees that following the Effective Date at such time as the Unrestricted Conditions are met or such legend is otherwise no longer required under this Section 2(e), it will, no later than three (3) Trading Days following the delivery (the “Unlegended Shares Delivery Deadline”) by the Holder to the Company or the Transfer Agent of a certificate representing Exercise Shares and/or Failure Payment Shares, as applicable, issued with a restrictive legend (such third Trading Day, the “Legend Removal Date”), deliver or cause to be delivered to such Holder a certificate (or electronic transfer) representing such shares that is free from all restrictive and other legends. For purposes hereof, “Effective Date” shall mean the date that the Registration Statement that the Company is required to file pursuant to the Registration Rights Agreement has been declared effective by the SEC.

(iii) Sale or Disposition of Unlegended Shares. Holder covenants and agrees (A) that the removal of the restrictive legend from any certificates representing securities as set forth in Section 2(e)(ii) above is predicated upon the Company’s reliance that the Holder has resold or disposed of, or will resell or dispose of, as applicable, any Exercise Shares and/or any Failure Payment Shares, as applicable, pursuant to either a registration statement that meets the registration requirements of the Securities Act covering the resale or disposition of such securities that is effective at the time of such resale or disposition, including any applicable prospectus delivery requirements, or pursuant to an exemption from registration under the Securities Act, (B) that the Holder has resold or disposed of, or will resell or dispose of, as applicable such securities pursuant to either a registration statement that meets the registration requirements of the Securities Act covering the resale or disposition of such securities that is effective at the time of such resale or disposition, including any applicable prospectus delivery requirements, or pursuant to an exemption from registration under the Securities Act, and (C) that if such securities are sold or disposed of pursuant to a registration statement, they will be sold or disposed of in compliance with the plan of distribution set forth therein or an exemption therefrom.

(f) Cancellation of Warrant. This Warrant shall be canceled upon the full Exercise of this Warrant, and, as soon as practical after the Date of Exercise, Holder shall be entitled to receive Common Stock for the number of shares purchased upon such Exercise of this Warrant. If this Warrant is not Exercised in full, Holder shall be entitled to receive a new Warrant (containing terms identical to this Warrant) representing any unexercised portion of this Warrant in addition to such Common Stock; provided, however, as set forth in Section 2(b), Holder shall not be required to physically surrender this warrant if the Warrant is not Exercised in full.

(g) Holder of Record. Each person in whose name any Warrant for shares of Common Stock is issued shall, for all purposes, be deemed to be the Holder of record of such shares on the Date of Exercise of this Warrant, irrespective of the date of delivery of the Common Stock purchased upon the Exercise of this Warrant.

(h) Delivery of Electronic Shares. In lieu of delivering physical certificates representing the Common Stock issuable upon Exercise or legend removal, or representing Failure Payment Shares, provided the Transfer Agent is participating in the Depository Trust Company (“DTC”) Fast Automated Securities Transfer (“FAST”) program, upon written request of the Holder, the Company shall use its best efforts to cause its Transfer Agent to electronically transmit the Common Stock issuable upon Exercise to the Holder by crediting Holder’s account with the Transfer Agent through DTC’s Deposit Withdrawal Agent Commission (DWAC) system to the extent that such common stock does not bear the restrictive legend set forth in Section 2(e)(i) above. The time periods for delivery described herein shall apply to the electronic transmittals described herein. Any delivery not effected by electronic transmission shall be effected by delivery of physical certificates.

(i) *Buy-In*. In addition to any other rights available to the Holder, if the Company fails to cause its Transfer Agent to transmit to the Holder a certificate or certificates, or electronic shares through DWAC, representing the Exercise Shares pursuant to an Exercise on or before the Delivery Period (other than any failure principally caused by the failure of Holder to provide any required information), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Exercise Shares which the Holder anticipated receiving upon such Exercise (a "Buy-In"), then the Company shall (1) pay in cash to the Holder the amount by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (A) the number of Exercise Shares that the Company was required to deliver to the Holder in connection with the Exercise at issue times and (B) the price at which the sell order giving rise to such purchase obligation was executed, and (2) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Exercise Shares for which such Exercise was not honored or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its Exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted Exercise to cover the sale of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (1) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In, together with applicable confirmations and other evidence reasonably requested by the Company. 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.

3. Payment of Warrant Exercise Price for Cash Exercise or Cashless Exercise; Cashless Major Exercise and Cashless Default Exercise.

(a) *Exercise Price*. The Exercise Price ("Exercise Price") shall initially equal to \$2.63 per share, subject to adjustment pursuant to the terms hereof, including but not limited to Section 5 below.

Payment of the Exercise Price may be made by either of the following, or a combination thereof, at the election of Holder:

(i) Cash Exercise: The Holder may exercise this Warrant in cash, bank or cashier's check, wire transfer or through a reduction of an amount of principal outstanding under any Notes (as defined in the Facility Agreement) in accordance with Section 2.3 of the Facility Agreement, if and to the extent that the Holder is a holder of any Notes issued pursuant to the Facility Agreement, by the Holder (a "Cash Exercise"); or

(ii) Cashless Exercise: The Holder, at its option, may exercise this Warrant in a cashless exercise transaction. In order to effect a Cashless Exercise, the Holder shall surrender this Warrant at the principal office of the Company together with notice of cashless election, in which event the Company shall issue Holder a number of shares of Common Stock computed using the following formula (a "Cashless Exercise"):

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

- where:
- X = the number of shares of Common Stock to be issued to Holder.
 - Y = the number of shares of Common Stock for which this Warrant is being Exercised.
 - A = the Market Price of one (1) share of Common Stock (for purposes of this Section 3(a)(ii), where "Market Price," as of any date, means the Volume Weighted Average Price (as defined herein) of the Company's Common Stock during the ten (10) consecutive Trading Day period immediately preceding the date in question.
 - B = the Exercise Price.

As used herein, the “Volume Weighted Average Price” for any security as of any date means the volume weighted average sale price on The NASDAQ Global Market (“NASDAQ”) as reported by, or based upon data reported by, Bloomberg Financial Markets or an equivalent, reliable reporting service mutually acceptable to and hereafter designated by holders of a majority in interest of the Warrants and the Company (“Bloomberg”) or, if NASDAQ is not the principal trading market for such security, the volume weighted average sale price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or, if no volume weighted average sale price is reported for such security, then the last closing trade price of such security as reported by Bloomberg, or, if no last closing trade price is reported for such security by Bloomberg, the average of the bid prices of any market makers for such security that are listed in the over the counter market by the Financial Industry Regulatory Authority, Inc. or in the “pink sheets” by the Pink OTC Market, Inc. If the Volume Weighted Average Price cannot be calculated for such security on such date in the manner provided above, the volume weighted average price shall be the fair market value as mutually determined by the Company and the Holders of a majority in interest of the Warrants being Exercised for which the calculation of the volume weighted average price is required in order to determine the Exercise Price of such Warrants. “Trading Day” shall mean any day on which the Common Stock is traded for any period on NASDAQ, or on the principal securities exchange or other securities market on which the Common Stock is then being traded.

For purposes of Rule 144 and sub-section (d)(3)(ii) thereof, it is intended, understood and acknowledged that the Common Stock issuable upon Exercise of this Warrant in a Cashless Exercise transaction shall be deemed to have been acquired at the time this Warrant was issued, *provided, however*, that the preceding assumes that there are no future changes to Rule 144 that eliminate the provisions allowing for tacking of holding periods under such circumstances. Moreover, it is intended, understood and acknowledged that the holding period for the Common Stock issuable upon Exercise of this Warrant in a Cashless Exercise transaction shall be deemed to have commenced on the date this Warrant was issued.

(b) *Cashless Major Exercise*: To the extent the Holder shall exercise this Warrant as a Cashless Major Exercise pursuant to Section 5(c)(i) below, the Holder shall send to the Company the Exercise Form indicating that the Holder is exercising this Warrant (or any portion thereof) pursuant to a Cashless Major Exercise, in which event the Company shall issue a number of shares of Common Stock equal to the Black-Scholes Value (as defined in Section 5(c)(iii) below) of the Warrant (or such applicable portion being exercised) divided by the closing price of the Common Stock on the principal securities exchange or other securities market on which the Common Stock is then traded on the Trading Day immediately preceding the date on which the applicable Major Transaction is consummated. As provided in Section 2(b), the Holder shall only be required to physically surrender this Warrant in the event that the Holder is exercising this Warrant in full.

(c) *Cashless Default Exercise*: To the extent the Holder exercises this Warrant as a Cashless Default Exercise pursuant to Section 11(b)(i) below, the Holder shall surrender this Warrant to the principal office of the Company together with the Exercise Form indicating that the Holder is exercising this Warrant pursuant to a Cashless Default Exercise, in which event the Company shall issue to the Holder, within five (5) Trading Days of the applicable Default Notice, a number of shares of Common Stock equal to the Black-Scholes Value (as defined in Section 5(c)(iii) below) of the Warrant on the date of such Default Notice divided by the closing price of the Common Stock on the principal securities exchange or other securities market on which the Common Stock is then traded for the five (5) Trading Days prior to the date of the applicable Default Notice.

(d) *Dispute Resolution*. In the case of a dispute as to the determination of the closing price or the Volume Weighted Average Price of the Company’s Common Stock or the arithmetic calculation of the Exercise Price, Market Price or any Major Transaction Warrant Early Termination Price, the Company shall submit the disputed determinations or arithmetic calculations via facsimile within two (2) Business Days of receipt, or deemed receipt, of the Exercise Form or Major Transaction Early Termination Notice, or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation within two (2) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile (i) the disputed determination of the closing price or the Volume Weighted Average Price of the Company’s Common Stock to an independent, reputable investment bank selected by the Company and approved by the Holder, which approval shall not be unreasonably withheld or

(ii) the disputed arithmetic calculation of the Exercise Price, Market Price or any Major Transaction Warrant Early Termination Price to the Company's independent, outside accountant. The Company shall cause the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than five (5) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

4. Transfer and Registration.

(a) *Transfer Rights.* Subject to the provisions of Sections 2(e) and 8 of this Warrant, this Warrant may be transferred on the books of the Company, in whole or in part, in person or by attorney, upon surrender of this Warrant properly completed and endorsed. This Warrant shall be canceled upon such surrender and, as soon as practicable thereafter, the person to whom such transfer is made shall be entitled to receive a new Warrant or Warrants as to the portion of this Warrant transferred, and Holder shall be entitled to receive a new Warrant as to the portion hereof retained.

(b) *Registrable Securities.* The Common Stock issuable upon the Exercise of this Warrant has registration rights pursuant to the Registration Rights Agreement, subject to the terms of such agreement.

5. Adjustments Upon Certain Events.

(a) *Participation.* The Holder, as the holder of this Warrant, shall be entitled to receive such dividends paid and distributions of any kind made to the holders of Common Stock of the Company to the same extent as if the Holder had Exercised this Warrant into Common Stock (without regard to any limitations on exercise herein or elsewhere and without regard to whether or not a sufficient number of shares are authorized and reserved to effect any such exercise and issuance) and had held such shares of Common Stock on the record date for such dividends and distributions. Payments under the preceding sentence shall be made concurrently with the dividend or distribution to the holders of Common Stock.

(b) *Recapitalization or Reclassification.* If the Company shall at any time effect a stock split, payment of stock dividend, recapitalization, reclassification or other similar transaction of such character that the shares of Common Stock shall be changed into or become exchangeable for a larger or smaller number of shares, then upon the effective date thereof, the number of shares of Common Stock which Holder shall be entitled to purchase upon Exercise of this Warrant shall be increased or decreased, as the case may be, in direct proportion to the increase or decrease in the number of shares of Common Stock by reason of such stock split, payment of stock dividend, recapitalization, reclassification or similar transaction, and the Exercise Price shall be, in the case of an increase in the number of shares, proportionally decreased and, in the case of decrease in the number of shares, proportionally increased. The Company shall give Holder the same notice it provides to holders of Common Stock of any transaction described in this Section 5(b).

(c) *Rights Upon Major Transaction.*

(i) Major Transaction. In the event that a Major Transaction (as defined below) occurs, then (1) in the case of a Cash-Out Major Transaction and in the case of a Mixed Major Transaction to the extent of the percentage of the cash consideration in the Mixed Major Transaction (determined in accordance with the definition of a Mixed Major Transaction below), in both cases wherein holders of Common Stock will be paid cash consideration, the Holder, at its option, may require the Company to redeem the Holder's outstanding Warrants in accordance with Sections 5(c)(iii) and 5(c)(iv) below and (2) in the case of all other Major Transactions and in the case of a Mixed Major Transaction to the extent of the percentage of the consideration represented by securities of a Successor Entity in the Mixed Major Transaction, the Holder shall have the right to exercise this Warrant as a Cashless Major Exercise. In the event the Holder shall not have exercised any of its rights under clauses (1) or (2) above within the applicable time periods set forth herein, then the Major Transaction shall be treated as an Assumption (as defined below) in accordance with Section 5(c)(ii) below unless the Holder waives its rights under this Section 5(c) with respect to such Major Transaction. Each of the following events shall constitute a "Major Transaction":

(A) a consolidation, merger, exchange of shares, recapitalization, reorganization, business combination or other similar event, (1) following which the holders of Common Stock immediately preceding such consolidation, merger, exchange, recapitalization, reorganization, combination or event either (a) no longer hold a majority of the shares of Common Stock or (b) no longer have the ability to elect a majority of the board of directors of the Company or (2) as a result of which shares of Common Stock shall be changed into (or the shares of Common Stock become entitled to receive) the same or a different number of shares of the same or another class or classes of stock or securities of the Company or another entity (other than to the extent the common stock is changed or exchanged to reflect a change in the Company's jurisdiction of incorporation) (collectively, a "Change of Control Transaction");

(B) the sale or transfer in one transaction or a series of related transactions of (i) all or substantially all of the assets of the Company to any Person other than a wholly-owned subsidiary of the Company or (ii) assets of the Company for a purchase price equal to more than 50% of the Equity Value (as defined below) of the Company. For purposes of this clause (B), “Equity Value” shall mean (I) the product of (x) the number of issued and outstanding shares of Common Stock on the date the Company delivers the Major Transaction Notice (defined below) multiplied by (y) the per share closing price of the Common Stock on such date;

(C) any Person or group, other than the Company and its subsidiaries or any employee benefit plan of the Company or its subsidiaries, files a Schedule 13D or Schedule TO (or any successor schedule, form or report) pursuant to the Securities Exchange Act of 1934, as amended (the “Exchange Act”), disclosing that such Person has become the beneficial owner of shares with a majority of the total voting power of all outstanding voting securities that are entitled to vote generally in the election of the Company’s board of directors, unless such beneficial ownership (i) arises solely as a result of a revocable proxy delivered in response to a proxy or consent solicitation made pursuant to the applicable rules and regulations under the Exchange Act, and (ii) is not also then reportable on Schedule 13D (or any successor schedule) under the Exchange Act;

(D) the occurrence of any plan of liquidation, bankruptcy, insolvency, dissolution or winding-up (or the occurrence of any analogous proceeding) affecting the Company; or

(E) the Common Stock ceases to be registered under Section 12 of the Exchange Act.

(ii) Assumption. In connection with a Major Transaction that is to be treated as an Assumption pursuant to Section 5(c)(i), any Person purchasing the Company’s assets or Common Stock, or any successor entity resulting from such Major Transaction (in each case, a “Successor Entity”) shall assume in writing all of the obligations of the Company under this Warrant and the Registration Rights Agreement in accordance with the provisions of this Section 5(c)(ii) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder prior to such Major Transaction (such consent not to be unreasonably withheld or delayed), including an agreement to deliver to each holder of Warrants in exchange for such Warrants a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the Warrants, including, without limitation, representing the appropriate number of shares of the Successor Entity, having similar exercise rights as the Warrants (including but not limited to a similar Exercise Price and similar Exercise Price adjustment provisions based on the price per share or conversion ratio to be received by the holders of Common Stock in the Major Transaction) and similar registration rights as provided by the Registration Rights Agreement, reasonably satisfactory to the Holder. For the avoidance of doubt, the Holder’s reasonable satisfaction referred to in the immediately preceding sentence shall be construed only to apply to confirmation that the warrant and registration rights agreement delivered to the Holder upon an assumption hereunder shall conform to the requirements of this Section 5(c)(ii) and shall not be construed as granting consent rights to the Holder with respect to the decision of the Company to enter into such transaction or to permit the Holder to demand any additional consideration in respect of this Warrant other than as provided herein. Upon the occurrence of any Major Transaction, any Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Major Transaction, the provisions of this Warrant and the Registration Rights Agreement referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of the Major Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise or redemption of this Warrant at any time after the consummation of the Major Transaction, in lieu of the shares of Common Stock (or other securities, cash, assets or other property) issuable upon the exercise of the Warrants prior to such Major Transaction, such shares of capital stock (or their

equivalent) of the Successor Entity, as adjusted in accordance with the provisions of this Warrant. The provisions of this Section shall apply similarly and equally to successive Major Transactions and shall be applied without regard to any limitations on the exercise of this Warrant other than any applicable beneficial ownership limitations. Any assumption of Company obligations under this paragraph shall be referred to herein as an "Assumption"

(iii) Notice; Major Transaction Early Termination Right; Notice of Cashless Major Exercise. At least thirty (30) days prior to the consummation of any Major Transaction, but, in any event, within five (5) Business Days following the first to occur of (x) the date of the public announcement of such Major Transaction if such announcement is made before 4:00 p.m., New York City time, or (y) the day following the public announcement of such Major Transaction if such announcement is made on and after 4:00 p.m., New York City time, the Company shall deliver written notice thereof via facsimile and overnight courier to the Holder (a "Major Transaction Notice"). At any time during the period beginning after the Holder's receipt of a Major Transaction Notice and ending five (5) Trading Days prior to the consummation of such Major Transaction (the "Early Termination Period"), the Holder may require the Company to redeem (an "Early Termination Upon Major Transaction") all or any portion of this Warrant not eligible to be treated as a Cashless Major Exercise (without taking into consideration the 9.985% Cap) by delivering written notice thereof ("Major Transaction Early Termination Notice") to the Company, which Major Transaction Early Termination Notice shall indicate the portion of the principal amount (the "Early Termination Principal Amount") of the Warrant that the Holder is electing to have redeemed. The portion of this Warrant subject to early termination pursuant to this Section 5(c)(iii) (the "Redeemable Shares"), shall be redeemed by the Company at a price (the "Major Transaction Warrant Early Termination Price") payable in cash equal to the "Black Scholes Value" of the Redeemable Shares determined by use of the Black Scholes Option Pricing Model using the criteria set forth in Schedule 1 hereto (the "Black Scholes Value").

To the extent the Holder shall elect to effect a Cashless Major Exercise in respect of a Major Transaction, the Holder shall deliver its Exercise Form in accordance with Section 3(b), within the Early Termination Period.

(iv) Payment of Major Transaction Warrant Early Termination Price. Following the receipt of a Major Transaction Early Termination Notice or a Cashless Major Exercise from the Holder, the Company shall not effect a Major Transaction that is being treated as an early termination or is eligible to be treated as a Cashless Major Exercise unless it obtains the written agreement of the Successor Entity that the payment of the Major Transaction Warrant Early Termination Price shall be made to the Holder concurrently with the consummation of such Major Transaction or issuance of the applicable Exercise Shares shall be made to the Holder immediately prior to the consummation of such Major Transaction, as applicable. The Company shall (i) concurrently upon closing of such Major Transaction, pay the Major Transaction Warrant Early Termination Price to the Holder or, (ii) immediately prior to the closing of such Major Transaction, deliver the applicable Exercise Shares to the Holder, as applicable.

Notwithstanding anything to the contrary in this Section 5, until the Major Transaction Warrant Early Termination Price is paid in full, this Warrant may be exercised, in whole or in part, by the Holder into shares of Common Stock, or in the event the Exercise Date is after the consummation of the Major Transaction, shares of publicly traded common stock (or their equivalent) of the Successor Entity pursuant to Section 5(c). The parties hereto agree that in the event of the Company's early termination of any portion of the Warrant under this Section 5(c), the Holder's damages would be uncertain and difficult to estimate because of the parties' inability to predict future interest rates and the uncertainty of the availability of a suitable substitute investment opportunity for the Holder. Accordingly, any premium due under this Section 5(c) is intended by the parties to be, and shall be deemed, a reasonable estimate of the Holder's actual loss of its investment opportunity and not as a penalty.

For purposes hereof:

"Cash-Out Major Transaction" means a Major Transaction in which the consideration that will be paid to holders of Common Stock in connection with the Major Transaction consists solely of cash.

"Cashless Default Exercise" shall mean an exercise of this Warrant as a "Cashless Default Exercise" in accordance with Section 3(c) and 11(b) hereof.

"Cashless Major Exercise" shall mean an exercise of this Warrant or portion thereof as a "Cashless Major Exercise" in accordance with Section 3(b) and 5(c)(i) hereof.

“Eligible Market” means the over the counter Bulletin Board, the New York Stock Exchange, Inc., the NYSE Arca, the NASDAQ Capital Market, the NASDAQ Global Market, the NASDAQ Global Select Market or the NYSE Alternext U.S.

“Mixed Major Transaction” means a Major Transaction in which the consideration that will be paid to the shareholders of the Company consists partially of cash and partially of securities of a Successor Entity. If the Successor Entity is a Publicly Traded Successor Entity, the percentage of consideration represented by securities of such Successor Entity shall be equal to the percentage that the value of the aggregate anticipated number of shares of the Publicly Traded Successor Entity to be issued to holders of Common Stock of the Company represents in comparison to the aggregate value of all consideration, including cash consideration, in such Mixed Major Transaction, as such values are set forth in any definitive agreement for the Mixed Major Transaction that has been executed at the time of the first public announcement of the Major Transaction or, if no such value is determinable from such definitive agreement, based on the closing market price for shares of the Publicly Traded Successor Entity on its principal securities exchange on the Trading Day preceding the first public announcement of the Mixed Major Transaction. If the Successor Entity is a Private Successor Entity, the percentage of consideration represented by securities of such Successor Entity shall be determined in good-faith by the Company’s Board of Directors.

“Parent Entity” of a Person means an entity that, directly or indirectly, controls the applicable Person and whose common stock or equivalent equity security is quoted or listed on an Eligible Market, or, if there is more than one such Person or Parent Entity, the Person or Parent Entity with the largest public market capitalization as of the date of consummation of a Major Transaction.

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

“Private Successor Entity” means a Successor Entity that is not a Publicly Traded Successor Entity.

“Publicly Traded Successor Entity” means a Successor Entity that is a publicly traded corporation whose common stock is quoted on or listed for trading on an Eligible Market (as defined above).

“Successor Entity” means any Person purchasing the Company’s assets or Common Stock, or any successor entity resulting from such Major Transaction, or if the Warrant is to be exercisable for shares of capital stock of its Parent Entity (as defined above), its Parent Entity.

(d) Exercise Price Adjusted. As used in this Warrant, the term “Exercise Price” shall mean the purchase price per share specified in Section 3(a) of this Warrant, until the occurrence of an event stated in this Section 5 or otherwise set forth in this Warrant, and thereafter shall mean said price as adjusted from time to time in accordance with the provisions of said subsection. No adjustment made pursuant to any provision of this Section 5 shall have the net effect of increasing the Exercise Price in relation to the split adjusted and distribution adjusted price of the Common Stock.

(e) Adjustments: Additional Shares, Securities or Assets. In the event that at any time, as a result of an adjustment made pursuant to this Section 5 or otherwise, Holder shall, upon Exercise of this Warrant, become entitled to receive shares and/or other securities or assets (other than Common Stock) then, wherever appropriate, all references herein to shares of Common Stock shall be deemed to refer to and include such shares and/or other securities or assets; and thereafter the number of such shares and/or other securities or assets shall be subject to adjustment from time to time in a manner and upon terms as nearly equivalent as practicable to the provisions of this Section 5.

(f) Notice of Adjustments. Whenever the Exercise Price is adjusted pursuant to the terms of this Warrant, the Company shall promptly mail to the Holder a notice (an “Exercise Price Adjustment Notice”) setting forth the Exercise Price after such adjustment and setting forth a statement of the facts requiring such adjustment. The Company shall, upon the written request of the Holder (which shall occur no more than once a week), furnish to such Holder a like Warrant setting forth (i) such adjustment or readjustment, (ii) the Exercise Price at the time in effect and (iii) the number of shares of Common Stock and the amount, if any, of other securities or property which at the time would be received upon Exercise of the Warrant. For purposes of clarification, whether or not the

Company provides an Exercise Price Adjustment Notice pursuant to this Section 5(f), upon the occurrence of any event that leads to an adjustment of the Exercise Price, the Holder would be entitled to receive a number of Exercise Shares based upon the new Exercise Price, as adjusted, for exercises occurring on or after the date of such adjustment, regardless of whether the Holder accurately refers to the adjusted Exercise Price in the Exercise Form.

6. Fractional Interests.

No fractional shares or scrip representing fractional shares shall be issuable upon the Exercise of this Warrant, and upon Exercise of this Warrant, Holder may purchase only a whole number of shares of Common Stock. If, on Exercise of this Warrant, Holder would be entitled to a fractional share of Common Stock or a right to acquire a fractional share of Common Stock, such fractional share shall be disregarded and the Company shall make a cash payment to Holder equal to the Exercise Price multiplied by such fraction.

7. Reservation of Shares.

From and after the date hereof, the Company shall at all times reserve for issuance such number of authorized and unissued shares of Common Stock (or other securities substituted therefor as herein above provided) as shall be sufficient for the Exercise of this Warrant and payment of the Exercise Price. If at any time the number of shares of Common Stock authorized and reserved for issuance is below the number of shares sufficient for the Exercise of this Warrant (a "Share Authorization Failure") (based on the Exercise Price in effect from time to time), the Company will promptly take all corporate action necessary to authorize and reserve a sufficient number of shares, including, without limitation, calling a special meeting of stockholders to authorize additional shares to meet the Company's obligations under this Section 7, in the case of an insufficient number of authorized shares, and using its best efforts to obtain stockholder approval of an increase in such authorized number of shares. The Company covenants and agrees that upon the Exercise of this Warrant, all shares of Common Stock issuable upon such Exercise shall be duly and validly issued, fully paid and nonassessable and not subject to preemptive rights, rights of first refusal or similar rights of any Person.

8. Restrictions on Transfer.

(a) Registration or Exemption Required. This Warrant has been issued in a transaction exempt from the registration requirements of the Securities Act by virtue of Regulation D and exempt from state registration or qualification under applicable state laws. None of the Warrant, the Exercise Shares or Failure Payment Shares may be pledged, transferred, sold or assigned except pursuant to an effective registration statement or an exemption to the registration requirements of the Securities Act and applicable state laws including, without limitation, a so-called "4(1) and a half" transaction and in compliance with the provisions of Section 2(e) of this Warrant.

(b) Assignment. Subject to Section 8(a), the Holder may sell, transfer, assign, pledge, or otherwise dispose of this Warrant, in whole or in part (a "Transfer"). Holder shall deliver a written notice to Company, substantially in the form of the Assignment attached hereto as Exhibit B, indicating the Person or Persons to whom the Warrant shall be assigned and the respective number of warrants to be assigned to each assignee. The Company shall effect the assignment within three (3) Business Days (the "Transfer Delivery Period"), and shall deliver to the assignee(s) designated by Holder a Warrant or Warrants of like tenor and terms for the appropriate number of shares to the extent that such Transfer complies with the provisions of this Warrant. This Warrant and the rights evidenced hereby shall inure to the benefit of and be binding upon the successors and assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of all Holders from time to time of this Warrant, and shall be enforceable by any such Holder. For avoidance of doubt, in the event Holder notifies the Company that such sale or transfer is a so called "4(1) and half" transaction, the parties hereto agree that a legal opinion from outside counsel for the Holder delivered to counsel for the Company substantially in the form attached hereto as Exhibit C shall be the only requirement to satisfy an exemption from registration under the Securities Act to effectuate such "4(1) and half" transaction.

9. Noncircumvention.

The Company hereby covenants and agrees that the Company will not, by amendment of its certificate of incorporation, bylaws or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issue or sale of securities, or any other voluntary action, seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all the provisions of this Warrant. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, and (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, subject to Section 5(c)(ii) above.

10. Event of Failure; Definition of Black Scholes Value.

(a) *Definition.*

The occurrence of each of the following shall be considered to be an “Event of Failure.”

(i) a Delivery Failure occurs, where a “Delivery Failure” shall be deemed to have occurred if the Company fails to use its best efforts to deliver Exercise Shares to the Holder within any applicable Delivery Period;

(ii) a Legend Removal Failure occurs, where a “Legend Removal Failure” shall be deemed to have occurred if the Company fails to use its best efforts to issue Exercise Shares without a restrictive legend, or fails to use its best efforts to remove a restrictive legend, when and as required under Section 2(e) hereof;

(iii) Transfer Delivery Failure occurs, where a “Transfer Delivery Failure” shall be deemed to have occurred if the Company fails to use its best efforts to deliver a Warrant within any applicable Transfer Delivery Period; and

(iv) a Registration Failure (as defined below).

For purpose hereof, “Registration Failure” means that (A) the Company fails to use its best efforts to file with the SEC on or before the Filing Deadline (as defined in the Registration Rights Agreement) any Registration Statement required to be filed pursuant to Section 2(a) of the Registration Rights Agreement, (B) the Company fails to use its reasonable commercial efforts to obtain effectiveness with the SEC, prior to the Registration Deadline (as defined in the Registration Rights Agreement), and if such Registration Statement is not so filed prior to the Registration Deadline, as soon as possible thereafter, of any Registration Statement (as defined in the Registration Rights Agreement) that is required to be filed pursuant to Section 2(a) of the Registration Rights Agreement, or fails to use reasonable commercial efforts to keep such Registration Statement current and effective as required in Section 3 of the Registration Rights Agreement, (C) the Company fails to use its best efforts to file any additional Registration Statements required to be filed pursuant to Section 2(a)(ii) of the Registration Rights Agreement on or before the Additional Filing Deadline or fails to use its reasonable commercial efforts to cause such new Registration Statement to become effective on or before the Additional Registration Deadline, and if such effectiveness does not occur within such period, as soon as possible thereafter, (D) the Company fails to use its best efforts to file any amendment to any Registration Statement, or any additional Registration Statement required to be filed pursuant to Section 3(b) of the Registration Rights Agreement within twenty (20) days of the applicable Registration Trigger Date (as defined in the Registration Rights Agreement), or fails to use its reasonable commercial efforts to cause such amendment and/or new Registration Statement to become effective within sixty (60) days of the applicable Registration Trigger Date, and, if such effectiveness does not occur within such period, as soon as possible thereafter, or (E) any Registration Statement required to be filed under the Registration Rights Agreement, after its initial effectiveness and during the Registration Period (as defined in the Registration Rights Agreement), lapses in effect or sales of all of the Registrable Securities (as defined in the Registration Rights Agreement) cannot otherwise be made thereunder (whether by reason of the Company’s failure to amend or supplement the prospectus included therein in accordance with the Registration Rights Agreement, the Company’s failure to use its best efforts file and use reasonable commercial efforts to obtain effectiveness with the SEC of an additional Registration Statement or amended Registration Statement required pursuant to Sections 2(a)(ii) or 3(b) of the Registration Rights Agreement, as applicable, or otherwise).

(b) Failure Payments; Black-Scholes Determination. The Company understands that any Event of Failure (as defined above) could result in economic loss to the Holder. In the event that an Event of Failure occurs, as compensation to the Holder for such loss, the Company agrees to pay (as liquidated damages and not as a penalty) to the Holder an amount payable, at the Company's option, either (i) in cash or (ii) in shares of Common Stock that are valued for these purposes at the Volume Weighted Average Price on the date of such calculation ("Failure Payments"), in each case equal to 15% per annum (or the maximum rate permitted by applicable law, whichever is less) of the Black-Scholes value (as determined below) of the remaining unexercised portion of this Warrant on the date of such Event of Failure (as recalculated on the first Business Day of each month thereafter for as long as Failure Payments shall continue to accrue), which shall accrue daily from the date of such Event of Failure until the Event of Failure is cured, accruing daily (simple interest), provided, however, the Holder shall only receive up to such amount of shares of Common Stock in respect of Failure Payments such that Holder and any other persons or entities whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (including shares held by any "group" of which the Holder is a member, but excluding shares beneficially owned by virtue of the ownership of securities or rights to acquire securities that have limitations on the right to convert, exercise or purchase similar to the limitation set forth herein) shall not collectively beneficially own greater than 9.985% of the total number of shares of Common Stock of the Company then issued and outstanding. For purposes of clarification, it is agreed and understood that Failure Payments shall continue to accrue following any Event of Default until the applicable Default Amount is paid in full.

Notwithstanding the above, in the event that the Company (i) has, by the Filing Deadline (as defined the Registration Rights Agreement) filed a Registration Statement (as defined in the Registration Rights Agreement) covering the number of shares required by the Registration Rights Agreement, and (ii) has responded in writing to any comments to the Registration Statement that the Company has received from the SEC, within fifteen (15) Business Days of such receipt, and nevertheless the SEC has not declared effective a Registration Statement covering the full number of Warrant Shares issuable upon exercise of the Warrants by the Registration Deadline (as defined in the Registration Rights Agreement) then, the Failure Payments attributable to such late Registration Effectiveness shall be reduced from 15% to 12% (calculated as set forth above). The Company shall satisfy any Failure Payments under this Section pursuant to Section 10(c) below. Failure Payments are in addition to any Shares that the Holder is entitled to receive upon Exercise of this Warrant.

For purposes hereof, the "Black-Scholes" value of a Warrant shall be determined by use of the Black Scholes Option Pricing Model using the criteria set forth on Schedule 1 hereto.

(c) Payment of Accrued Failure Payments. The Failure Payment Shares representing accrued Failure Payments for each Event of Failure shall be issued and delivered on or before the fifth (5th) Business Day of each month following a month in which Failure Payments accrued. Nothing herein shall limit the Holder's right to pursue actual damages (to the extent in excess of the Failure Payments) for the Company's Event of Failure, and the Holder shall have the right to pursue all remedies available at law or in equity (including a decree of specific performance and/or injunctive relief). Notwithstanding the above, if a particular Event of Failure results in an Event of Default pursuant to Section 11 hereof, then the Failure Payment, for that Event of Failure only, shall be considered to have been satisfied upon payment to the Holder of an amount equal to the greater of (i) the Failure Payment, or (ii) the Default Amount, payable in accordance with Section 11.

(d) Maximum Interest Rate. Nothing contained herein or in any document referred to herein or delivered in connection herewith shall be deemed to establish or require the payment of a rate of interest or other charges in excess of the maximum permitted by applicable law. In the event that the rate of interest or dividends required to be paid or other charges hereunder exceed the maximum permitted by such law, any payments in excess of such maximum shall be credited against amounts owed by the Company to the Holder and thus refunded to the Company.

11. Damages.

(a) Events Of Default. Each of the following events shall be considered to be an "Event of Default," unless waived by the Holder:

(i) Failure To Effect Registration. With respect to all Registration Failures, a Registration Failure occurs and remains uncured for a period of more than sixty (60) days, and such Registration Failure relates solely to the Company's failure to have the Registration Statement declared effective by the Registration Deadline (as defined in

the Registration Rights Agreement) and with respect to a Registration Failure provided in clause (E) of the definition of “Registration Failure”, such Registration Failure occurs and remains uncured for a period of more than sixty (60) days.

(ii) *Failure To Deliver Common Stock.* A Delivery Failure (as defined above) occurs and remains uncured for a period of more than thirty (30) days; or at any time, the Company announces or states in writing that it will not honor its obligations to issue shares of Common Stock to the Holder upon Exercise by the Holder of the Exercise rights of the Holder in accordance with the terms of this Warrant.

(iii) *Legend Removal Failure.* A Legend Removal Failure (as defined above) occurs and remains uncured for a period of thirty (30) days.

(iv) *Major Transaction.* (A) The Company has failed to obtain the written agreement of the Successor Entity as described in Section 5(c)(iv), or (B) with respect to a Major Transaction that is to be treated as an Assumption under the terms hereof, the Company has failed to meet the Assumption requirements of Section 5(c)(ii).

(v) *Transfer Delivery Failure.* A Transfer Delivery Failure (as defined above) occurs and remains uncured for a period of thirty (30) days.

(b) *Mandatory Early Termination.*

(i) *Mandatory Early Termination Amount; Cashless Default Exercise.* If any Events of Default shall occur then, unless waived by the Holder, upon the occurrence and during the continuation of any Event of Default, at the option of the Holder, such option exercisable through the delivery of written notice to the Company by such Holder (the “Default Notice”), the Company shall have the right to terminate the outstanding amount of this Warrant and pay to the Holder (a “Mandatory Early Termination”), in full satisfaction of its obligations hereunder by delivery of a notice to such effect to the Holder within two (2) Business Days following receipt of the Default Notice, an amount payable in cash (the “Mandatory Early Termination Amount” or the “Default Amount”) equal to the Black-Scholes value (as determined in accordance with Section 10(b)) of the remaining unexercised portion of this Warrant on the date of such Default Notice. In the event the Company does not exercise its right to consummate a Mandatory Early Termination, then the Holder shall have the right to exercise this Warrant pursuant to a Cashless Default Exercise in accordance with Section 3(c) above.

The Mandatory Early Termination Amount shall be payable within five (5) Business Days following the date of the applicable Default Notice.

(c) *Liquidated Damages.* The parties hereto acknowledge and agree that the sums payable as Failure Payments or pursuant to a Mandatory Early Termination shall give rise to liquidated damages and not penalties. The parties further acknowledge that (i) the amount of loss or damages likely to be incurred by the Holder is incapable or is difficult to precisely estimate, (ii) the amounts specified bear a reasonable proportion and are not plainly or grossly disproportionate to the probable loss likely to be incurred by the Holder, and (iii) the parties are sophisticated business parties and have been represented by sophisticated and able legal and financial counsel and negotiated this Agreement at arm’s length.

The Default Amount, together with all other amounts payable hereunder, shall immediately become due and payable, all without demand, presentment or notice, all of which hereby are expressly waived, together with all costs, including, without limitation, legal fees and expenses, of collection, and the Holder shall be entitled to exercise all other rights and remedies available at law or in equity.

(d) *Remedies, Other Obligations, Breaches And Injunctive Relief.* The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant, the Facility Agreement and the Registration Rights Agreement, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder may cause irreparable harm to the Holder and that the remedy at law for any such breach may

be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

12. Holder's Early Termination.

(a) *Mechanics of Holder's Early Terminations.* In the event that the Company does not deliver the Major Transaction Warrant Early Termination Price or Default Amount or the Exercise Shares, as applicable, in respect of a Cashless Major Exercise or a Cashless Default Exercise, as the case may be, to the Holder within the time period or as otherwise required pursuant to the terms hereof, at any time thereafter the Holder shall have the option, upon notice to the Company, in lieu of early termination, Cashless Major Exercise or Cashless Default Exercise, as the case may be, to require the Company to promptly return to the Holder all or any portion of this Warrant that was submitted for early termination or exercise. Upon the Company's receipt of such notice, (x) the applicable early termination or exercise, as the case may be, shall be null and void with respect to such applicable portion of this Warrant, (y) the Company shall immediately return this Warrant, or issue a new Warrant to the Holder representing the portion of this Warrant that was submitted for early termination or exercise and (z) the Exercise Price of this Warrant or such new Warrant shall be adjusted to Exercise Price as in effect on the date on which the applicable early termination, default or Exercise Form, as the case may be, is voided. The Holder's delivery of a notice voiding an early termination or exercise and exercise of its rights following such notice shall not affect the Company's obligations to make any payments of Failure Payments which have accrued prior to the date of such notice with respect to the Warrant subject to such notice.

13. Benefits of this Warrant.

Nothing in this Warrant shall be construed to confer upon any person other than the Company and Holder any legal or equitable right, remedy or claim under this Warrant and this Warrant shall be for the sole and exclusive benefit of the Company and Holder.

14. Governing Law.

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

15. Loss of Warrant.

Upon receipt by the Company of evidence of the loss, theft, destruction or mutilation of this Warrant, and (in the case of loss, theft or destruction) of indemnity or security reasonably satisfactory to the Company, and upon surrender and cancellation of this Warrant, if mutilated, the Company shall execute and deliver a new Warrant of like tenor and date.

16. Notice or Demands.

Except as otherwise provided herein, notices or demands pursuant to this Warrant to be given or made by Holder to or on the Company shall be sufficiently given or made if sent by overnight delivery with a nationally recognized overnight courier service, certified or registered mail, return receipt requested, postage prepaid, and addressed, until another address is designated in writing by the Company, to the address set forth in Section 2(a) above. Notices or demands pursuant to this Warrant to be given or made by the Company to or on Holder shall be sufficiently given or made if sent by certified or registered mail, return receipt requested, postage prepaid, and addressed, to the address of Holder set forth in the Company's records, until another address is designated in writing by Holder.

17. Limitation on Issuance of Common Stock.

Notwithstanding anything herein to the contrary, the maximum number of shares of Common Stock issued or issuable pursuant to this Warrant and all other Warrants issued pursuant to Section 2.10 of the Facility Agreement may not exceed 11,178,026 shares of Common Stock (as appropriately adjusted to reflect any stock splits).

[Signature page follows]

IN WITNESS WHEREOF, the undersigned has executed this Warrant as of the

, 2013.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

By: _____

Print Name:

Title:

EXHIBIT A

EXERCISE FORM FOR WARRANT

TO: PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

CHECK THE APPLICABLE BOX:

Cash Exercise or Cashless Exercise

The undersigned hereby irrevocably exercises Warrant Number _____ (the "Warrant") with respect to [_____] shares of Common Stock (the "Common Stock") of Pacific Biosciences of California, Inc., a Delaware corporation (the "Company"), and, if pursuant to a Cashless Exercise, herewith makes payment of the Exercise Price with respect to such shares in full, all in accordance with the conditions and provisions of said Warrant.

[IF APPLICABLE: The undersigned hereby encloses \$ _____ as payment of the Exercise Price. The undersigned hereby represents and warrants that it would qualify as an "Accredited Investor" as defined in Rule 501 of Regulation D under the Securities Act of 1933, as amended (the "Securities Act").]

[IF APPLICABLE: The undersigned hereby agrees to cancel \$ _____ of principal outstanding under Notes of the Company held by the Holder.]

Cashless Major Exercise

The undersigned hereby irrevocably exercises the Warrant with respect to _____ % of the Warrant currently outstanding pursuant to a Cashless Major Exercise in accordance with the terms of the Warrant.

Cashless Default Exercise

The undersigned hereby irrevocably exercises the Warrant pursuant to a Cashless Default Exercise, in accordance with the terms of the Warrant.

1. The undersigned requests that any stock certificates for such shares be issued free of any restrictive legend, if appropriate, and, if requested by the undersigned, a warrant representing any unexercised portion hereof be issued, pursuant to the Warrant in the name of the undersigned and delivered to the undersigned at the address set forth below.

[IF APPLICABLE: The undersigned intends to sell or dispose of such shares within three (3) Trading Days pursuant to a currently effective registration statement.]

2. Capitalized terms used but not otherwise defined in this Exercise Form shall have the meaning ascribed thereto in the Warrant.

Dated: _____

Signature

Print Name

Address

NOTICE

The signature to the foregoing Exercise Form must correspond to the name as written upon the face of the attached Warrant in every particular, without alteration or enlargement or any change whatsoever.

EXHIBIT B

ASSIGNMENT

(To be executed by the registered holder
desiring to transfer the Warrant)

FOR VALUE RECEIVED, the undersigned holder of the attached warrant (the "Warrant") hereby sells, assigns and transfers unto the person or persons below named the right to purchase _____ shares of the Common Stock of Pacific Biosciences of California, Inc., a Delaware corporation, evidenced by the attached Warrant and does hereby irrevocably constitute and appoint _____ attorney to transfer the said Warrant on the books of the Company, with full power of substitution in the premises.

Dated: _____

Signature

Fill in for new registration of Warrant:

Name

Address

Please print name and address of assignee
(including zip code number)

NOTICE

The signature to the foregoing Assignment must correspond to the name as written upon the face of the attached Warrant in every particular, without alteration or enlargement or any change whatsoever.

EXHIBIT C
FORM OF OPINION

, 20

Pacific Biosciences of California, Inc.
1380 Willow Road
Menlo Park, CA 94025

Re: Pacific Biosciences of California, Inc. (the "Company").

Dear Sir:

[] ("["]") intends to transfer Warrants (the "Warrants") of the Company to (" ") without registration under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, we have examined and relied upon the truth of representations contained in an Investor Representation Letter attached hereto and have examined such other documents and issues of law as we have deemed relevant.

Based on and subject to the foregoing, we are of the opinion that the transfer of the Warrants by to may be effected without registration under the Securities Act, provided, however, that the Warrants to be transferred to contain a legend restricting its transferability pursuant to the Securities Act and that transfer of the Warrants is subject to a stop order.

The foregoing opinion is furnished only to and may not be used, circulated, quoted or otherwise referred to or relied upon by you for any purposes other than the purpose for which furnished or by any other person for any purpose, without our prior written consent.

Very truly yours,

, 20

Pacific Biosciences of California, Inc.
1380 Willow Road
Menlo Park, CA 94025

Gentlemen:

(“ ”) has agreed to purchase Warrants (the “Warrants”) of Pacific Biosciences of California, Inc., (the “Company”) from [] (“[]”). We understand that the Warrants are “restricted securities.” We represent and warrant that is a sophisticated institutional investor that would qualify as an “Accredited Investor” as defined in Rule 501 of Regulation D under the Securities Act of 1933, as amended (the “Securities Act”).

represents and warrants as of the date hereof as follows:

1. That it is acquiring the Warrants and the shares of common stock, \$0.001 par value per share underlying such Warrants (the “Exercise Shares”) solely for its account for investment and not with a view to or for sale or distribution of said Warrants or Exercise Shares or any part thereof. also represents that the entire legal and beneficial interests of the Warrants and Exercise Shares is acquiring is being acquired for, and will be held for, its account only;
2. That the Warrants and the Exercise Shares have not been registered under the Securities Act on the basis that no distribution or public offering of the stock of the Company is to be effected. realizes that the basis for the exemption may not be present if, notwithstanding its representations, has a present intention of acquiring the securities for a fixed or determinable period in the future, selling (in connection with a distribution or otherwise), granting any participation in, or otherwise distributing the securities. has no such present intention;
3. That the Warrants and the Exercise Shares must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available. recognizes that the Company has no obligation to register the Warrants, or to comply with any exemption from such registration;
4. That neither the Warrants nor the Exercise Shares may be sold pursuant to Rule 144 adopted under the Securities Act unless certain conditions are met, including, among other things, the existence of a public market for the shares, the availability of certain current public information about Company, the resale following the required holding period under Rule 144 and the number of shares being sold during any three month period not exceeding specified limitations;
5. That it will not make any disposition of all or any part of the Warrants or Exercise Shares in any event unless and until:
 - (i) There is then in effect a registration statement under the Securities Act covering such proposed disposition and such disposition is made in accordance with said registration statement; or
 - (ii) shall have notified the Company of the proposed disposition and, in the case of a sale or transfer in a so called “4(1) and a half” transaction, shall have furnished counsel to the Company with an opinion of counsel, reasonably satisfactory to counsel to the Company.

We acknowledge that the Company will place stop orders with respect to the Warrants and the Exercise Shares, and if a registration statement is not effective, the Exercise Shares shall bear the following restrictive legend:

“THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE SOLD, TRANSFERRED OR ASSIGNED OTHER THAN (1) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER SAID ACT THAT IS EFFECTIVE AT THE TIME OF SUCH TRANSFER, (2) PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER SAID ACT INCLUDING, WITHOUT LIMITATION, PURSUANT TO RULES 144 OR 144A UNDER SAID ACT OR (3) PURSUANT TO A PRIVATE SALE EFFECTED UNDER APPLICABLE FORMAL OR INFORMAL SEC INTERPRETATION OR GUIDANCE, SUCH AS A SO-CALLED “4(1) AND A HALF” SALE.”

“THE SALE, TRANSFER OR ASSIGNMENT OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE TERMS AND CONDITIONS OF A CERTAIN REGISTRATION RIGHTS AGREEMENT DATED AS OF FEBRUARY 5, 2013, AS AMENDED FROM TIME TO TIME, AMONG THE COMPANY AND CERTAIN HOLDERS OF ITS OUTSTANDING SECURITIES. COPIES OF SUCH AGREEMENT MAY BE OBTAINED AT NO COST BY WRITTEN REQUEST MADE BY THE HOLDER OF RECORD OF THIS CERTIFICATE TO THE SECRETARY OF THE COMPANY.”

At any time and from time to time after the date hereof, _____ shall, without further consideration, execute and deliver to [_____] or the Company such other instruments or documents and shall take such other actions as they may reasonably request to carry out the transactions contemplated hereby.

Very truly yours,

Schedule 1

Black-Scholes Value

	<u>Calculation Under Section 5(c)(iii)</u>	<u>Calculation Under Section 10(b) or 11(b)</u>
Remaining Term	Number of calendar days from date of public announcement of the Major Transaction until the last date on which the Warrant may be exercised.	Number of calendar days from date of the Event of Failure until the last date on which the Warrant may be exercised.
Interest Rate	A risk-free interest rate corresponding to the US\$ LIBOR/Swap rate for a period equal to the Remaining Term.	A risk-free interest rate corresponding to the US\$ LIBOR/Swap rate for a period equal to the Remaining Term.
Cost to Borrow	Zero	Zero
Volatility	<p>If the first public announcement of the Major Transaction is made at or prior to 4:00 p.m., New York City time, the historical volatility for the 30 Trading Day period ending on the date of such first public announcement, obtained from the HVT or similar function on Bloomberg, up to a maximum of fifty percent (50%).</p> <p>If the first public announcement of the Major Transaction is made after 4:00 p.m., New York City time, the historical volatility for the 30 Trading Day period ending on the next succeeding Trading Day following the date of such first public announcement, obtained from the HVT or similar function on Bloomberg, up to a maximum of fifty percent (50%).</p>	The historical volatility for the 30 Trading Day period ending on the date of such determination, obtained from the HVT or similar function on Bloomberg.
Stock Price	The closing price of the Common Stock on NASDAQ, or, if that is not the principal trading market for the Common Stock, such principal market on which the Common Stock is traded or listed (the "Closing Market Price") on the trading day immediately preceding the date on which a Major Transaction is consummated.	The volume Weighted Average Price on the date of such calculation.
Dividends	Zero.	Zero.
Strike Price	Exercise Price as defined in section 3(a).	Exercise Price as defined in section 3(a).

FACILITY AGREEMENT

FACILITY AGREEMENT (as amended, restated, modified or otherwise supplemented from time to time, this "Agreement"), dated as of February 5, 2013, between Pacific Biosciences of California, Inc., a Delaware corporation (the "Borrower"), and the lenders set forth on the signature page of this Agreement (the "Lenders" and, together with the Borrower, the "Parties").

WITNESSETH:

WHEREAS, the Borrower wishes to borrow from the Lenders twenty million five hundred thousand Dollars (\$20,500,000) for the purpose described in Section 2.1; and

WHEREAS, the Lenders desire to make loans to the Borrower for such purpose,

NOW, THEREFORE, in consideration of the mutual agreements set forth herein, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

Section 1.1 General Definitions. Wherever used in this Agreement, the Exhibits or the Schedules attached hereto, unless the context otherwise requires, the following terms have the following meanings:

"Affiliate" means, with respect to any Person, any other Person:

- (a) that owns, directly or indirectly, in the aggregate more than 10% of the beneficial ownership interest of such Person;
- (b) that directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, such Person; or
- (c) that directly or indirectly is a general partner, controlling shareholder, or managing member of such Person.

"Agreement Date" means the date of this Agreement.

"Applicable Laws" means all statutes, rules and regulations of the U.S. Food and Drug Administration ("FDA") and of other Governmental Authorities in the United States or elsewhere exercising regulatory authority similar to that of the FDA applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by or on behalf of the Borrower or its Subsidiaries.

"Authorizations" has the meaning set forth in Section 3.1(p).

“Business Day” means a day on which banks are open for business in The City of New York and San Francisco, California.

“Cash and Cash Equivalents” means the amount of cash and cash equivalents and marketable securities shown on the Borrower’s consolidated balance sheet included in the SEC Reports or otherwise made available to the Borrower’s stockholders.

“Code” means the Internal Revenue Code of 1986, as amended, and any Treasury Regulations promulgated thereunder.

“Common Stock” means the common stock, par value \$0.001 per share, of the Borrower.

“Default” means any event which, at the giving of notice, lapse of time or fulfillment of any other applicable condition (or any combination of the foregoing), would constitute an Event of Default.

“Disbursement” has the meaning given to it in Section 2.2.

“Disclosure Schedule” means the disclosure schedule attached to this Agreement.

“Dollars” and the “\$” sign mean the lawful currency of the United States of America.

“Domestic Subsidiary” means a Subsidiary organized under the laws of a jurisdiction located in the United States of America, other than any such Subsidiary substantially all of the assets of which consist of stock in Foreign Subsidiaries that are “controlled foreign corporations” within the meaning of Section 957(a) of the Code.

“Event of Default” has the meaning given to it in Section 5.4.

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

“Excluded Taxes” means with respect to any Lender, (a) income or franchise Taxes imposed on (or measured by) such Lender’s net income by the United States of America, or by the jurisdiction (or any political subdivision thereof) under the laws of which such Lender is organized or incorporated or in which the principal office or applicable lending office of such Lender is located or with which it has a present or former connection (other than any connection arising solely from having executed, delivered, performed its obligations or received payment under, or enforced this Agreement), (b) any branch profits Taxes imposed by the United States of America, or (c) any withholding Tax that is imposed on amounts payable to the Lender under laws in effect at the time the Lender becomes a party to this Agreement (or designates a new lending office) or is directly attributable to such Lender’s failure or inability to comply with Section 2.5(d), except to the extent that the Lender (or its assignor, if any) was entitled, at the time of designation of a new lending office (or assignment), to receive additional amounts from the Borrower with respect to such withholding Tax pursuant to Section 2.5(a) or is legally unable to comply with Section 2.5(d) as a result of any change in law occurring subsequent to the date such Lender becomes a party to this Agreement (or designates a new lending office).

“Final Payment” means such amount as may be necessary to repay the outstanding principal amount of the Notes and any other amounts owing by the Borrower to the Lenders pursuant to the Transaction Documents.

“Final Payment Date” means, subject to Section 2.3(a), the earlier of (i) the date on which the Borrower repays the Notes (together with any other amounts accrued and unpaid under the Transaction Documents) and (ii) the seventh anniversary of the Agreement Date.

“GAAP” means generally accepted accounting principles consistently applied as set forth in the opinions and pronouncements of the Accounting Principles Board and the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board (or agencies with similar functions of comparable stature and authority within the accounting profession).

“Government Authority” means any government, governmental department, ministry, cabinet, commission, board, bureau, agency, tribunal, regulatory authority, instrumentality, judicial, legislative, fiscal, or administrative body or entity, whether domestic or foreign, federal, state or local, having jurisdiction over the matter or matters and Person or Persons in question.

“Hedging Obligations” means all liabilities under take-or-pay or similar arrangements or under any interest rate swaps, caps, floors, collars and other interest hedge or protection agreements, treasury locks, equity forward contracts, currency agreements or commodity purchase or option agreements or other interest or exchange rate or commodity price hedging agreements and any other derivative instruments, in each case, whether the Borrower and its Subsidiaries is liable contingently or otherwise, as obligor, guarantor or otherwise, or in respect of which liabilities the Borrower or its Subsidiaries otherwise assures a creditor against loss.

“Indebtedness” means the following:

- (i) all indebtedness for borrowed money;
- (ii) the deferred purchase price of assets or services (other than payables) which in accordance with GAAP would be shown to be a liability on the balance sheet (or on the liability side of a balance sheet);
- (iii) all guarantees of Indebtedness;
- (iv) the maximum amount of all letters of credit issued or acceptance facilities established for the account of the Borrower and any of its Subsidiaries, including without duplication, all drafts drawn thereunder;
- (v) all capitalized lease obligations (determined in accordance with GAAP on the Agreement Date);
- (vi) all Indebtedness of another Person secured by any Lien on any property of the Borrower or its Subsidiaries, whether or not such Indebtedness has been assumed or is recourse (with the amount thereof, in the case of any such indebtedness that has not been assumed by the Borrower or its Subsidiaries, being measured as the lower of (x) fair market value of such property and (y) the amount of the indebtedness secured);

(vii) the net liability in respect of all Hedging Obligations; and

(viii) indebtedness created or arising under any conditional sale or title retention agreement.

In no event shall the term “Indebtedness” include (a) any indebtedness under any overdraft or cash management facilities or under credit cards or purchase card arrangements so long as any such indebtedness is repaid in full no later than five Business Days following the date on which it was incurred or in the case of such indebtedness in respect of credit or purchase cards, within 60 days of its incurrence, (b) any obligations in respect of a lease properly classified as an operating lease in accordance with GAAP (as in effect on the Agreement Date), (c) any liability for federal, state, local or other taxes not yet delinquent or being contested in good faith and for which adequate reserves have been established to the extent required by GAAP, (d) accrued liabilities in the ordinary course of business or (e) any customer deposits or advance payments received in the ordinary course of business.

“Indemnified Person” has the meaning given to it in Section 6.11.

“Indemnified Taxes” means all Taxes including Other Taxes, other than Excluded Taxes.

“Indemnity” has the meaning given to it in Section 6.11.

“Interest Rate” means 8.75% simple interest per annum.

“IP” and “Intellectual Property” have the respective meanings given to them in Section 3.1(l).

“Lien” means any lien, pledge, preferential arrangement, mortgage, security interest, deed of trust, charge, assignment, hypothecation, title retention, or other encumbrance on or with respect to property or interest in property.

“Loan” means the loan made available by the Lenders to the Borrower pursuant to Section 2.2 in the aggregate amount of twenty million, five hundred thousand Dollars (\$20,500,000) or, as the context may require, the principal amount thereof from time to time outstanding.

“Loss” has the meaning given to it in Section 6.11.

“Major Transaction” has the meaning set forth in the Warrants.

“Majority in Interest” means the Lenders holding Notes representing a majority of the aggregate principal amount of the outstanding Notes.

“Material Adverse Effect” means a material adverse effect on (a) the business, operations, condition (financial or otherwise) or assets of the Borrower and its Subsidiaries,

taken as a whole, (b) the validity or enforceability of any material provision of any Transaction Document, (c) the ability of the Borrower to timely perform the Obligations or (d) the rights and remedies of the Lenders, taken as a whole, under any Transaction Document.

“Milestone” means that Net Sales for the 12 month period from the beginning of the second calendar quarter of 2014 through the first calendar quarter of 2015 are at least \$41 million.

“Net Proceeds” means in connection with any Qualified Financing, the cash proceeds received from such Qualified Financing, net of attorneys’ fees, investment banking fees, accountants’ fees, underwriting discounts and commissions and other out-of-pocket fees and expenses actually incurred in connection therewith.

“Net Sales” means, without duplication, the aggregate gross amount invoiced by or on behalf of the Borrower or any of its Subsidiaries or any direct or indirect assignee or licensee of the Borrower for products sold globally in *bona fide*, arm’s length transactions, less customary deductions determined, without duplication, in accordance with the selling Person’s customary accounting methods as generally and consistently applied for: (i) cash or terms discounts, (ii) sales, use and value added taxes (if and only to the extent included in the gross invoice amount), (iii) reasonable and customary accruals for third party rebates and chargebacks, (iv) returns and (v) recalls.

“Notes” means the Notes issued to the Lenders evidencing the Loan in the form attached hereto as Exhibit A.

“Obligations” means all obligations (monetary or otherwise) of the Borrower arising under or in connection with the Transaction Documents other than the Registration Rights Agreement and the Warrants.

“Organizational Documents” means the Certificate of Incorporation and Bylaws, each as amended to date, of the Borrower or its Subsidiaries, as the context may require.

“Other Taxes” means any and all present or future stamp or documentary taxes or any other excise or property taxes, duties, other charges or similar levies, and all liabilities with respect thereto, together with any interest, fees, additions to tax or penalties applicable thereto (including by reason of any delay in payment) arising from any payment made hereunder or from the execution, delivery, registration or enforcement of, or otherwise with respect to, any Transaction Document.

“Permitted Affiliate Transaction” means (a) transactions between and among the Borrower and any of its Subsidiaries or between and among any Subsidiaries of Borrower, (b) Permitted Distributions (c) indemnification arrangements, employee agreements or arrangements, compensation arrangements (including equity-based compensation) and reimbursement of expenses of current or former officers, employees or directors and (d) compensation, retention, bonus or similar arrangements entered into in the ordinary course of business or approved by the Borrower’s board of directors (or a committee thereof), (e) transactions contemplated by the Transaction Documents, (f) transactions on terms not less favorable to the Borrower or any of its Subsidiaries than could be obtained on an arm’s length

basis from unrelated third parties, (g) transactions, collaborative arrangements, licensing agreements, joint ventures, partnerships and similar business arrangements permitted by Section 5.2(iii) and (h) licenses, customer agreements, vendor agreements and other agreements and arrangements entered into in the ordinary course of business.

“Permitted Distributions” means:

- (i) purchases of capital stock from former employees, consultants and directors pursuant to repurchase agreements or other similar agreements;
- (ii) distributions or dividends consisting solely of the Borrower’s capital stock;
- (iii) distributions of rights under, and purchases for value of any rights distributed, in connection with any stockholder rights plan;
- (iv) purchases of capital stock or options to acquire such capital stock with the proceeds received from a substantially concurrent issuance of capital stock or convertible securities;
- (v) purchases of capital stock pledged as collateral for loans to employees;
- (iv) purchases of capital stock in connection with the exercise of stock options or stock appreciation rights by way of cashless exercise or in connection with the satisfaction of withholding tax obligations;
- (v) purchases of fractional shares of capital stock arising out of stock dividends, splits or combinations or business combinations;
- (vi) the settlement or performance of such Person’s obligations under any warrant, equity derivative transaction, option contract or similar transaction or combination of transactions;
- (vii) in connection with any acquisition, (A) receive or accept the return to the Borrower or any of its Subsidiaries of Capital Stock of the Borrower or any of its Subsidiaries constituting a portion of the purchase price consideration in settlement of indemnification claims or (B) make payments or distributions to dissenting stockholders pursuant to applicable law;
- (viii) other payments (other than dividends), distributions, redemptions, retirements or purchases in an aggregate amount not to exceed \$250,000 in any fiscal year; and
- (ix) dividends and distributions from any Subsidiary of the Borrower to the Borrower or any other Subsidiary.

“Permitted Indebtedness” means Indebtedness existing as of the Agreement Date and set forth in the Disclosure Schedule and:

- (i) the Obligations;

(ii) Indebtedness described under Item (ii) (including any adjustment of purchase price, earnout, indemnification and other similar obligations incurred in an acquisition) under the definition of Indebtedness;

(iii) Indebtedness described Item (v) under the definition of Indebtedness;

(iv) Indebtedness secured by purchase money Liens; provided that such Indebtedness when incurred by the Borrower or any of its Subsidiaries shall not exceed the purchase price of the asset(s) financed;

(v) Indebtedness of any Person acquired or assumed pursuant to an acquisition, provided that such Indebtedness is either (i) not incurred in contemplation of or in connection with such acquisition or (ii) constitutes Indebtedness owing to the seller of the assets acquired in such acquisition;

(vi) Hedging Obligations incurred in the ordinary course of business not for speculative purposes;

(vii) Indebtedness in respect of (i) unsecured letters of credit or bank guaranties in an aggregate outstanding amount not to exceed \$100,000 at any time or (ii) secured letters of credit or bank guaranties;

(viii) Performance bonds, surety bonds, bank guaranties and similar instruments incurred in the ordinary course of business;

(ix) Guarantees with respect to any Permitted Indebtedness;

(x) Indebtedness (i) of the Borrower to any Subsidiary or (ii) of any Subsidiary to Borrower or any other Subsidiary;

(xi) Unsecured Subordinated Indebtedness in an aggregate principal amount at any time outstanding not to exceed \$250,000; provided, however, that such Indebtedness shall not provide for repayments of principal until the Obligations have been paid in full and shall provide for interest at market rates.

(xii) Indebtedness consisting of (A) the financing of insurance premiums or (B) take-or-pay obligations contained in supply agreements;

(xiii) Indebtedness incurred to purchase equipment; and

(xiv) Any refinancings, renewals, extensions, increases or replacements of Indebtedness listed in clauses (ii), (iii), (iv) and (v) so long as no such Indebtedness shall be refinanced for a principal amount in excess of the principal balance outstanding thereon at the time of such refinancing.

“Permitted Liens” means:

(i) Liens existing on the Agreement Date and set forth in the Disclosure Schedule, and any renewals or extensions thereof, provided that the property covered thereby is not increased and any renewal or extension of the obligations secured or benefited thereby is permitted by clause (iii) or (iv) of the definition of Permitted Indebtedness;

(ii) Liens in favor of the Lenders;

(iii) Carriers', warehousemen's mechanics' materialmen's, repairmen's, landlords' and other statutory or common law Liens created by operation of applicable law;

(iv) Liens arising in the ordinary course of business and securing obligations that are not more than 30 days past due or are being contested in good faith by appropriate proceedings;

(v) Liens for taxes, assessments or governmental charges or levies that are (A) not yet due, (B) not yet delinquent for a period of more than 30 days, (C) not subject to penalties for nonpayment or (D) that are being contested in good faith by appropriate proceedings;

(vi) Liens arising from judgments, decrees or attachments in circumstances not constituting an Event of Default;

(vii) Liens in favor of financial institutions arising in connection with the Borrower's or its Subsidiaries' accounts maintained in the ordinary course of the Borrower's and its Subsidiaries' business held at such institutions to secure standard fees for services charged by, but not financing made available by, such institutions;

(viii) Liens securing Indebtedness permitted pursuant to clauses (iii), (iv), (v) and (viii) of the definition of Permitted Indebtedness;

(ix) Lessor Liens;

(x) Pledges or deposits in the ordinary course of business in connection with workers' compensation, unemployment insurance and other social security legislation;

(xi) Deposits to secure (i) the performance of tenders, bids, trade contracts, licenses and leases, statutory obligations, surety bonds, performance bonds, bank guaranties and other obligations of a like nature incurred in the ordinary course of business (including earnest money deposits in respect of any acquisition), or (ii) indemnification obligations relating to any disposition;

(xii) Easements, rights of way, restrictions and other similar encumbrances affecting real property which, in the aggregate, are not substantial in amount, and which do not in any case materially interfere with the ordinary conduct of the business of the applicable Person;

(xiii) Leases, licenses or subleases granted to others not interfering in any material respect with the business of the Borrower and its Subsidiaries;

(xiv) Liens of a collection bank arising under Section 4-210 of the Uniform Commercial Code (or equivalent in foreign jurisdictions) on items in the course of collection;

(xv) Good faith deposits required in connection with any acquisition or letter of intent;

(xvi) To the extent constituting a Lien, escrow arrangements securing indemnification obligations associated with any acquisition;

(xvii) Liens (i) on advances of cash or cash equivalents in favor of the seller of any property to be acquired by the Borrower or any of its Subsidiaries to be applied against the purchase price for such acquisition; provided, that (x) the aggregate amount of such advances of cash or cash equivalents shall not exceed the purchase price of such acquisition and (y) the property is acquired within 90 days following the date of the first such advance so made; and (ii) consisting of an agreement to dispose of any property in a disposition of assets, in each case, solely to the extent such acquisition or disposition, as the case may be, would have been permitted on the date of the creation of such Lien;

(xviii) Deposits as security for contested taxes or contested import or customs duties;

(xix) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods;

(xx) Statutory, common law or contractual Liens of creditor depository institutions or institutions holding securities accounts (including rights of set-off or similar rights and remedies);

(xxi) Any encumbrance or restriction (including put and call arrangements) with respect to the transfer of the equity interests of any joint venture or similar arrangement pursuant to the terms thereof;

(xxii) Liens on the assets of a Person existing at the time such assets are acquired or Person becomes a Subsidiary of the Borrower; provided, however, that any such Lien may not extend to any other assets of the Borrower or any other Subsidiary that is not a direct Subsidiary of such Person; provided further, that any such Lien was not created in anticipation of or in connection with such acquisition;

(xxiii) “march-in” and other rights of the U.S. government pursuant to the Bayh-Dole Act (35 U.S.C. Section 200-212 and 37 C.F.R. 401);

(xxiv) Additional Liens; provided that the Indebtedness or other obligations secured thereby do not exceed \$250,000 in the aggregate outstanding at any time;

(xxv) Liens on cash collateral securing obligations in respect of credit card and/or purchase card arrangements; and

(xxvi) Liens on cash collateral securing reimbursement obligations of the Borrower and its Subsidiaries under letters of credit.

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

“Register” has the meaning set forth in Section 1.4 (b).

“Registration Rights Agreement” means the Registration Rights Agreement, dated as of the Agreement Date, by and among the Borrower and the Lenders, as amended, restated, modified or supplemented from time to time.

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

“SEC Reports” means the annual, quarterly and periodic reports filed by the Borrower with the SEC.

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

“Security Agreement” mean the agreement executed on the Agreement Date pursuant to which the Borrower grants to the Lenders a lien the collateral described therein to secure its obligations under the Transaction Documents (excluding the Warrants and the Registration Rights Agreement).

“Subordinated Indebtedness” is indebtedness incurred by the Borrower subordinated to all of the Obligations (pursuant to a subordination, intercreditor, or other similar agreement in form and substance satisfactory to the Lenders holding a Majority in Interest entered into between the Lenders and the other creditor), on terms acceptable to the Lenders holding a Majority in Interest.

“Subsidiary” or “Subsidiaries” means, as to the Borrower, any entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other persons performing similar functions are at the time directly or indirectly owned by the Borrower.

“**Tax Affiliate**” means (a) the Borrower and its Subsidiaries and (b) any Affiliate of the Borrower with which the Borrower files or is required to file consolidated combined or unitary tax returns.

“**Taxes**” means all present or future taxes, levies, imposts, stamp or other duties, fees, assessments, deductions, withholdings, all other governmental charges, and all liabilities with respect thereto, together with any interest, fees, additions to tax or penalties applicable thereto (including by reason of any delay in payment).

“**Transaction Documents**” means this Agreement, the Notes, the Security Agreement and any other document or instrument delivered in connection with any of the foregoing and dated the Agreement Date or subsequent thereto, whether or not specifically mentioned herein or therein.

“**Warrants**” has the meaning given to it in Section 2.10.

“**Warrant Shares**” has the meaning set forth in Section 3.1(w).

Section 1.2 Interpretation. In this Agreement, unless the context otherwise requires, all words and personal pronouns relating thereto shall be read and construed as the number and gender of the party or parties requires and the verb shall be read and construed as agreeing with the required word and pronoun; the division of this Agreement into Articles and Sections and the use of headings and captions is for convenience of reference only and shall not modify or affect the interpretation or construction of this Agreement or any of its provisions; the words “herein,” “hereof,” “hereunder,” “hereinafter” and “hereto” and words of similar import refer to this Agreement as a whole and not to any particular Article or Section hereof; the words “include,” “including,” and derivations thereof shall be deemed to have the phrase “without limitation” attached thereto unless otherwise expressly stated; references to a specified Article, Exhibit, Section or Schedule shall be construed as a reference to that specified Article, Exhibit, Section or Schedule of this Agreement; and any reference to any of the Transaction Documents means such document as the same shall be amended, restated, supplemented or modified and from time to time in effect.

Section 1.3 Business Day Adjustment. If the day by which a payment is due to be made is not a Business Day, that payment shall be made by the next succeeding Business Day.

Section 1.4

(a) The Borrower or its agent shall record on its books and records the amount of the Loan, the interest rate applicable, all payments of principal and interest thereon and the principal balance thereof from time to time outstanding. Such record shall, absent manifest error, be conclusive evidence of the amount of the Loan made by the Lenders to the Borrower and the interest and payments thereon.

(b) The Borrower or its agent shall establish and maintain at the Borrower's address referred to in Section 6.1, a record of ownership (the "Register") in which the Borrower agrees to register by book entry the interests (including any rights to receive payment hereunder) of each Lender in the Loan, and any assignment of any such interest, and (ii) accounts in the Register in accordance with its usual practice in which it shall record (1) the names and addresses of the Lenders (and any change thereto pursuant to this Agreement), (2) the amount of the Loan and each funding of any participation therein, (3) the amount of any principal or interest due and payable or paid, and (4) any other payment received by the Lenders from the Borrower and its application to the Loan.

(c) Notwithstanding anything to the contrary contained in this Agreement, the Loan (including any Notes evidencing the Loan) is a registered obligation, the right, title and interest of the Lenders and their assignees in and to the Loan shall be transferable only upon notation of such transfer in the Register and no assignment thereof shall be effective until recorded therein. This Section 1.4 shall be construed so that the Loan is at all times maintained in "registered form" within the meaning of Sections 163(f), 871(h)(2) and 881(c)(2) of the Code.

(d) The Borrower and the Lenders shall treat each Person whose name is recorded in the Register as a Lender for all purposes of this Agreement. Information contained in the Register with respect to any Lender shall be available for access by the Borrower or such Lender at any reasonable time and from time to time upon reasonable prior notice.

ARTICLE 2

AGREEMENT FOR THE LOAN

Section 2.1 Use of Proceeds. The proceeds of the Loan will be used for working capital and general corporate purposes.

Section 2.2 Disbursement. Subject to the conditions set forth in Article 4, the Lenders shall advance the Loan to the Borrower in one disbursement (the "Disbursement") on the Agreement Date. The Lenders shall fulfill the Disbursement in accordance with their respective allocations set forth on Schedule 1.

Section 2.3 Payment. Payments on account of the principal amount of the Notes shall be made only as follows: (a) If the Milestone has not been reached, the Borrower shall, at Lender's option and upon notice to the Borrower, pay to the Lenders on each of the third, fourth and fifth anniversaries of the Agreement Date one-third of the initial principal amount of the Notes.

(b) The Borrower shall pay to the Lenders the outstanding principal amount of the Notes on (i) the Final Payment Date, (ii) the date the principal amount of the Notes are declared to be or automatically becomes due and payable following an Event of Default, and (ii) pursuant to the provisions of Section 5.3.

(c) The Notes shall be deemed prepaid and without premium, to the extent a Lender satisfies the payment of the Exercise Price (as such term is defined in the Warrants) through a reduction of the principal amount outstanding under such Lender's Note in accordance with Section 3(a)(i) of the Warrants.

(d) Except as set forth in the next succeeding sentence, each payment shall be applied first, to accrued and unpaid interest and second, to principal and shall be allocated among the Lenders in accordance with their respective allocations set forth on Schedule 1 hereto as such allocations may be revised by the Lenders from time to time. Each payment pursuant to Section 2.3(e) shall be applied first, to accrued and unpaid interest and second, to principal in such allocation, in inverse order of maturity

(e) From and after the date hereof at the election of the Lenders holding a Majority in Interest, Borrower shall apply 25% of the Net Proceeds from any financing that includes, in whole or in part, an equity component, including without limitation, the sale or issuance of Common Stock, Convertible Securities or Options (“Qualified Financings”) to the payment of the Notes. The Borrower shall give notice to the Lenders of a Qualified Financing within 5 days after the consummation thereof. Within 5 days after the receipt of such notice, the Lenders holding a Majority in Interest, in the exercise of their sole discretion, may deliver a notice to the Borrower requiring prepayment of the Notes in accordance with this Section 2.3(e) (a “Prepayment Notice”). Such payment shall be made by the Borrower within five (5) Business Days following the receipt by the Borrower of such Prepayment Notice and shall be applied in accordance with Section 2.3(d).

As used herein, (i) “Options” shall mean warrants or other rights to subscribe for or to purchase options for the purchase of shares of Common Stock, other than any rights or options issued or granted pursuant to any of the Borrower’s equity compensation plans or employee stock purchase plans, or the Warrants, and (ii) “Convertible Securities” shall mean any stock or security (including any debt security) convertible or exchangeable for shares of Common Stock, other than any rights or options issued or granted pursuant to any of the Borrower’s equity compensation plans or employee stock purchase plans, or the Warrants.

(f) Notwithstanding the foregoing, in no event shall either of the following constitute a Qualified Financing: (i) any sale or issuance of Common Stock, Convertible Securities or Options in connection with a Permitted Collaborative Transaction (as defined below) or (ii) the sale or issuance by the Company, in one or more transactions, of up to 15,000,000 shares of Common Stock (as adjusted for any stock split, stock or combination), including the shares issuable upon exercise or conversion of Options or Convertible Securities (as adjusted for any stock split, stock or combination), but excluding for purposes of determining such 15,000,000 shares (x) any shares of Common Stock issued or sold pursuant to any of the Borrower’s equity compensation plans or employee stock purchase plans, (y) any shares of Common Stock, Options and Convertible Securities sold or issued in connection with a Permitted Collaborative Transaction (as defined below) and (z) the Warrants. For purposes herein, “Permitted Collaborative Transaction” means a collaborative arrangement, licensing agreement, joint venture, partnership or similar business arrangement relating primarily to research involving, or development and/or commercial exploitation of, or the right to develop or commercially exploit, the technology, intellectual property or products of the Borrower/Subsidiary and/or the other party or parties thereto, which party or parties must be primarily engaged in the sale of products and/or services into the life sciences, clinical

diagnostics, applied research, public health, forensics, food safety, animal health or manufacturing QC market or any other market applicable to the technology, intellectual property or products of the Borrower/Subsidiary.

Section 2.4 Payments. Payments of any amounts due to the Lenders under this Agreement shall be made in Dollars in immediately available funds prior to 4:00 p.m. New York City time on such date that any such payment is due, at such bank or places as the Lenders shall from time to time designate in writing at least 5 Business Days prior to the date such payment is due. The Borrower shall pay all and any costs (administrative or otherwise) imposed by banks, clearing houses, or any other financial institution, in connection with making any payments under any of the Transaction Documents, except for any costs imposed by the Lenders' banking institutions.

Section 2.5 Taxes, Duties and Fees.

(a) Any and all payments hereunder or under any other Transaction Document shall be made, in accordance with this Section 2.5, free and clear of and without deduction for any and all present or future Taxes except as required by applicable law. If Borrower shall be required by law to deduct any Indemnified Taxes from or in respect of any sum payable hereunder or under any other Transaction Document, (i) the sum payable shall be increased by as much as shall be necessary so that after making all required deductions for Indemnified Taxes (including deductions for Indemnified Taxes applicable to additional sums payable under this Section 2.5) the Lenders shall receive an amount equal to the sum they would have received had no such deductions been made (any and all such additional amounts payable to Lenders shall hereafter be referred to as the "Additional Amounts"), (ii) Borrower shall make such deductions, and (iii) Borrower shall pay the full amount deducted to the relevant taxing or other authority in accordance with applicable law. Within thirty (30) days after the date of any payment of such Taxes, Borrower shall furnish to the applicable Lender the original or a certified copy of a receipt evidencing payment thereof or other evidence of such payment reasonably satisfactory to such Lender.

(b) In addition, Borrower agrees to pay, and authorizes Lenders to pay in its name, all Other Taxes. Within 30 days after the date of any payment of Other Taxes, Borrower shall furnish to Lenders the original or a certified copy of a receipt evidencing payment thereof or other evidence of such payment reasonably satisfactory to the Lenders holding a Majority in Interest.

(c) Borrower shall reimburse and indemnify, within 10 days after receipt of demand therefor, each Lender for all Indemnified Taxes (including all Indemnified Taxes imposed by any jurisdiction on amounts payable under this Section 2.5(c)) paid by such Lender, whether or not such Indemnified Taxes were correctly or legally asserted. A certificate of the applicable Lender(s) setting forth the amounts to be paid thereunder and delivered to Borrower shall be conclusive, binding and final for all purposes, absent manifest error.

(d) Each Lender (other than a Foreign Person (as hereinafter defined)) on or before the Agreement Date shall provide to Borrower a properly completed and executed IRS Form W-9 certifying that such Lender is organized under the laws of the United States. Each

Lender organized under the laws of a jurisdiction outside the United States (a “Foreign Person”) that is entitled to an exemption from or reduction in U.S. withholding tax shall provide Borrower with a properly completed and executed IRS Form W-8ECI, W-8BEN, W-8IMY (including all required attachments) or other applicable form, or any other applicable certificate or document reasonably requested by the Borrower, and, if such Foreign Person is relying on the portfolio interest exception of Section 871(h) or Section 881(c) of the Code (or any successor provision thereto), shall also provide the Borrower with a certificate (the “Portfolio Interest Certificate”) representing that such Foreign Person is not a “bank” for purposes of Section 881(c) of the Code (or any successor provision thereto), is not a 10% holder of the Borrower described in Section 871(h)(3)(B) of the Code (or any successor provision thereto), and is not a controlled foreign corporation receiving interest from a related person (within the meaning of Sections 881(c)(3)(C) and 864(d)(4) of the Code, or any successor provisions thereto). Each Lender shall provide new forms (or successor forms) upon the expiration or obsolescence of any previously delivered forms and shall promptly notify the Borrower of any change in circumstances which would modify or render invalid any claimed exemption or reduction.

(e) If a Lender determines in good faith that it has received a refund from a Government Authority relating to Taxes in respect of which the Borrower paid Additional Amounts or made a payment pursuant to Section 2.5(c), such Lender shall promptly pay such refund to the Borrower, net of all out-of-pocket expense (including any Taxes imposed thereon) of such Lender incurred in obtaining such refund, provided that the Borrower, upon the request of such Lender, agrees to repay the amount paid over to the Borrower (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) to such Lender if such Lender is required to repay such refund to such Governmental Authority. Nothing in this Section shall require any Lender to disclose any information it deems confidential (including, without limitation, its tax returns) to any Person, including Borrower.

(f) For the avoidance of doubt, the provisions of this Section 2.5 shall not apply to payments on or under the Warrants or Warrant Shares.

Section 2.6 Costs, Expenses and Losses. If, as a result of any failure by the Borrower to pay any sums due under this Agreement on the due date therefor (after the expiration of any applicable grace periods), the Lenders shall incur costs, expenses and/or losses, by reason of the liquidation or redeployment of deposits from third parties, the Borrower shall pay to the Lenders upon request by the Lenders, the amount of such costs, expenses and/or losses within fifteen (15) days after receipt by it of a certificate from the Lenders setting forth in reasonable detail such costs, expenses and/or losses, along with supporting documentation. For the purposes of the preceding sentence, “costs, expenses and/or losses” shall include, without limitation, any interest paid or payable to carry any unpaid amount and any loss, premium, penalty or expense which may be incurred in obtaining, liquidating or employing deposits of or borrowings from third parties in order to make, maintain or fund the Loan or any portion thereof.

Section 2.7 Interest. The outstanding principal amount of the Notes shall bear interest at the Interest Rate (calculated on the basis of the actual number of days elapsed in each quarter). Interest shall be paid quarterly in arrears commencing on April 1, 2013 and on the first Business Day of each January, April, July and October thereafter (each, an “Interest Payment Date”).

Section 2.8 Interest on Late Payments. Without limiting the remedies available to the Lenders under the Transaction Documents or otherwise, to the maximum extent permitted by applicable law, if the Borrower fails to make a required payment of principal or interest with respect to the Loan when due the Borrower shall pay, in respect of such principal and interest at the rate per annum equal to the Interest Rate plus ten percent (10%) for so long as such payment remains outstanding. Such interest shall be payable on demand.

Section 2.9 Fee. On the Agreement Date, the Borrower shall pay to such entity affiliated with the Lenders as the Lenders shall direct a fee of \$500,000.

Section 2.10 Delivery of Warrants.

(a) On the date hereof, the Borrower shall issue to the Lenders warrants to purchase an aggregate of 5,500,000 shares of Common Stock in substantially the form set forth on Exhibit D-1 hereto (the "Warrants") at an initial Exercise Price of \$2.63.

(b) All Warrants issued pursuant to this Section 2.10 shall be allocated among the Lenders as set forth on Schedule 1.

Section 2.11 AHYDO Catch-Up Provision. Notwithstanding anything in this Agreement to the contrary, commencing with the first "accrual period" (as defined under Treas. Reg. Sec. 1.1272-1(b)(1)(ii)) ending after the fifth anniversary of the Agreement Date, and each accrual period thereafter, Borrower shall, in respect of any Note, pay in cash, on or before the end of such accrual period, both the stated interest due and payable as set forth herein and any accrued and unpaid "original issue discount" (determined in accordance with Treas. Reg. Secs. 1.1273-1 and 1.1272-1) with respect to such Note if, but only to the extent that, the aggregate amount of such original issue discount that has accrued and has not been paid in cash from the Agreement Date through the end of such accrual period (treating any payments made pursuant to Section 2.3(a) and Section 2.3(e) of this Agreement as a payment of original issue discount to the full extent required under Treas. Reg. Sec. 1.1275-2(a)) exceeds the product of the "issue price" (as defined in Treas. Reg. Sec. 1.1273-2(a)(1)) of such Note and the "yield to maturity" (determined in accordance with Treas. Reg. Sec. 1.1272-1(b)) on such Note.

ARTICLE 3

REPRESENTATIONS AND WARRANTIES

Section 3.1 Representations and Warranties of the Borrower. The Borrower represents and warrants as of the Agreement Date that except as set forth in the Disclosure Schedule or the SEC Reports:

(a) The Borrower is conducting its business in compliance with its Organizational Documents, which are in full force and effect with no defaults outstanding thereunder.

(b) No Default or Event of Default (or any other default or event of default, however described) has occurred under any of the Transaction Documents.

(c) The Borrower (i) is capable of paying its debts as they fall due, is not unable and has not admitted its inability to pay its debts as they fall due, (ii) is not bankrupt or insolvent and (iii) has not taken action, and no such action has been taken by a third party, for the Borrower's winding up, dissolution, or liquidation or similar executory or judicial proceeding or for the appointment of a liquidator, custodian, receiver, trustee, administrator or other similar officer for the Borrower or any or all of its assets or revenues.

(d) No Lien exists on the Borrower's assets, except for Permitted Liens.

(e) The Borrower's obligation to make any payment under this Agreement (together with all charges in connection therewith) is absolute and unconditional, and there exists no right of setoff or recoupment, counterclaim, cross-claim or defense of any nature whatsoever to any such payment.

(f) No Indebtedness of the Borrower exists other than Permitted Indebtedness.

(g) The Borrower is validly existing as a corporation in good standing under the laws of Delaware. The Borrower has full power and authority to own its properties and conduct its business as currently conducted, and is duly qualified to do business as a foreign entity and is in good standing in each jurisdiction in which the conduct of its business makes such qualification necessary and in which the failure to so qualify or be in good standing would not have a Material Adverse Effect.

(h) There is not pending or, to the knowledge of the Borrower, threatened in writing, any action, suit or other proceeding before any Governmental Authority (a) to which the Borrower is a party or (b) which has as the subject thereof any assets owned by the Borrower. To the knowledge of the Borrower, there are no current or pending, legal, governmental or regulatory enforcement actions, suits or other proceedings to which the Borrower or any of its assets is subject.

(i) Each of the Transaction Documents has been duly authorized, executed and delivered by the Borrower, and constitutes a valid, legal and binding obligation of the Borrower enforceable in accordance with its terms, except as such enforceability may be limited by (i) applicable insolvency, bankruptcy, reorganization, moratorium or other similar laws affecting creditors' rights generally, (ii) by equitable principles (regardless of whether enforcement is sought in equity or at law), (iii) rules of law governing specific performance, injunctive relief or other equitable remedies and by general principles of equity, and (iv) by applicable laws and principles of public policy in the case of indemnification provisions. The execution, delivery and performance of the Transaction Documents by the Borrower and the consummation of the transactions therein contemplated will not (A) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, or, result in the creation or imposition of any Lien (other than the Lien in favor of the Lenders) upon any assets of the Borrower pursuant to, any agreement to which the Borrower is a party or by which the Borrower is bound or to which any of the assets of the Borrower is subject, (B) result in any violation of or conflict with the provisions of the Organizational Documents of the Borrower or (C) result in the violation of any law or any judgment, order, rule, regulation or decree of any Governmental Authority applicable to the Borrower, except, in the case of clause (C) above, for

any such conflict, breach or violation that would not have a Material Adverse Effect. No consent, approval, authorization or order of, or registration or filing with any Governmental Authority is required for the execution, delivery and performance of any of the Transaction Documents or for the consummation by the Borrower of the transactions contemplated hereby except for such registrations and filings in connection with the issuance of the Warrants and Warrant Shares pursuant the Transaction Documents that are necessary to comply with federal and state securities laws, rules and regulations, such registrations and filings contemplated by the Registration Rights Agreement and filings contemplated by the Security Agreement. The Borrower has the corporate power and authority to enter into the Transaction Documents and to consummate the transactions contemplated under the Transaction Documents.

(j) The Borrower holds, and is operating in compliance in all material respects with, all material franchises, grants, authorizations, licenses, permits, easements, consents, certificates and orders of any Governmental Authority (collectively, "Necessary Documents") required for the conduct of its business and all Necessary Documents are valid and in full force and effect; and to its knowledge, the Borrower has not received written notice of any revocation or modification of any of the Necessary Documents, which revocation, modification or non-renewal, individually or in the aggregate, would result in a Material Adverse Effect, and the Borrower has no reason to believe that any of the Necessary Documents will not be renewed in the ordinary course. The Borrower is in compliance in all material respects with all applicable federal, state, local and foreign laws, regulations, orders and decrees applicable to the conduct of its business.

(k) The Borrower has good and marketable title to all of its assets free and clear of all Liens except Permitted Liens. The property held under lease by the Borrower is held under valid, subsisting and enforceable leases with only such exceptions with respect to any particular lease as do not interfere in any material respect with the conduct of the business of the Borrower.

(l) The Borrower owns, possesses, licenses or has the right to use pursuant to a valid and enforceable written license, implied license or other legally enforceable right, or could obtain on commercially reasonable terms, all of the Intellectual Property (as defined below) that is necessary for the conduct of its business as currently conducted (the "IP") except as would not reasonably be expected to have a Material Adverse Effect. To the knowledge of the Borrower the material IP owned by the Borrower that is registered with or issued by a Governmental Authority is valid and enforceable and there is no outstanding, pending, or, to the knowledge of the Borrower, threatened in writing, action, suit, other proceeding or claim by any third person challenging or contesting the validity, scope, use, ownership, enforceability, or other rights of the Borrower in or to any IP and the Borrower has not received any written notice regarding any such action, suit, or other proceeding. To the knowledge of the Borrower, the Borrower has not infringed or misappropriated any material intellectual property rights of others. To the knowledge of the Borrower, there is no pending or threatened in writing action, suit, other proceeding or claim by others that the Borrower infringes upon, violates or uses the Intellectual Property rights of others without authorization; and the Borrower has not received any written notice regarding, any such action, suit, other proceeding or claim. The Borrower is not a party to or bound by any options, licenses, or agreements with respect to IP other than licenses entered into in the ordinary course of business. The term "Intellectual Property" as used herein means (i)

all patents, patent applications, patent disclosures and inventions (whether patentable or unpatentable and whether or not reduced to practice), (ii) all trademarks, service marks, trade dress, trade names, slogans, logos, and corporate names and Internet domain names, together with all of the goodwill associated with each of the foregoing, (iii) copyrights, copyrightable works, and licenses, (iv) registrations and applications for registration for any of the foregoing, (v) computer software (including but not limited to source code and object code), data, databases, and documentation thereof, (vi) trade secrets and other confidential information, (vii) other intellectual property, and (viii) copies and tangible embodiments of the foregoing (in whatever form and medium).

(m) The Borrower is not in violation in any material respect of the Organizational Documents of the Borrower, or in breach of or otherwise in default under, and no event has occurred which, with notice or lapse of time or both, would constitute such breach or other default in the performance of any agreement or condition contained in any agreement under which it may be bound, or to which any of its assets is subject, except for such breaches or defaults as would not have a Material Adverse Effect.

(n) All federal, state, local and foreign income and franchise and other material Tax returns, reports and statements (collectively, the "Tax Returns") required to be filed by any Tax Affiliates have been filed with the appropriate Governmental Authorities, all such Tax Returns are true and correct in all material respects, and all Taxes, assessments and other governmental charges and impositions reflected therein and all other material Taxes, assessments and other governmental charges otherwise due and payable have been paid prior to the date on which any liability may be added thereto for non-payment thereof except for those contested in good faith by appropriate proceedings diligently conducted and for which adequate reserves are maintained on the books of the appropriate Tax Affiliate in accordance with GAAP. As of the Agreement Date, no material Tax Return is under audit or examination by any Governmental Authority, and no notice of any audit or examination or any assertion of any material claim for Taxes has been given or made in writing by any Governmental Authority. Each Tax Affiliate has properly withheld all material amounts required to be withheld by such Tax Affiliate from its respective employees for all periods in full and complete compliance with the Tax, social security and unemployment withholding provisions of applicable law and such withholdings have been timely paid to the respective Governmental Authorities. No Tax Affiliate has participated in a "reportable transaction" within the meaning of Treasury Regulation Section 1.6011-4(b) or has been a member of an affiliated, combined or unitary group other than the group of which a Tax Affiliate is the common parent.

(o) The Borrower has not granted rights to develop, manufacture, produce, assemble, distribute, license, market or sell its products to any other Person except in the ordinary course of business and is not bound by any agreement that affects the exclusive right of the Borrower to develop, manufacture, produce, assemble, distribute, license, market or sell its products except in the ordinary course of business.

(p) The Borrower: (A) is in compliance in all material respects with all Applicable Laws; (B) does not have any pending warning letter or other correspondence or notice from the FDA or any correspondence or notice from any other Governmental Authority alleging or asserting noncompliance with any Applicable Laws or any licenses, certificates,

approvals, clearances, authorizations, permits and supplements or amendments thereto required by any Applicable Laws (together, the “Authorizations”); (C) possesses and complies in all material respects with the Authorizations, which are valid and in full force and effect except where the failure to possess or comply with any Authorization thereto would not result in a Material Adverse Effect; (D) has not received written notice that any Governmental Authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorization and has not received any written notice that any Governmental Authority is considering such action, in each case except as would not have a Material Adverse Effect; (E) has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations, except as would not have a Material Adverse Effect; and (F) has not, either voluntarily or involuntarily, initiated, conducted, or issued or caused to be initiated, conducted or issued, any recall, market withdrawal or replacement, safety alert, post-sale warning, “dear doctor” letter, or other notice or action relating to the alleged lack of safety or efficacy of any product or any alleged product defect or violation and, to the Borrower’s knowledge, no third party has initiated, conducted or intends to initiate any such notice or action, in each case that except as would not have a Material Adverse Effect.

(q) The Borrower conducts no preclinical or clinical trials.

(r) The financial statements of the Borrower included in its Annual Report on Form 10-K for the fiscal year ended December 31, 2011 and in its Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, June 30 and September 30, 2012 together with the related notes fairly present in all material respects the financial condition of the Borrower as of the dates indicated and the results of operations and changes in cash flows for the periods therein specified in conformity with GAAP consistently applied throughout the periods involved, subject, in the case of unaudited financial statements, to year-end adjustments; and, except as disclosed in such financial statements, there are no material off-balance sheet arrangements or any other relationships with unconsolidated entities or other persons, that may have a material current or, to the Borrower’s knowledge, material future effect on the Borrower’s financial condition, results of operations, liquidity, capital expenditures, capital resources or significant components of revenue or expenses.

(s) The Borrower 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 GAAP 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.

(t) (i) To the knowledge of the Borrower, no “prohibited transaction” as defined under Section 406 of ERISA or Section 4975 of the Code, or any individual or class exemption issued and not exempt under ERISA Section 408 and the regulations and published interpretations thereunder has occurred with respect to any Employee Benefit Plan, except as for such transaction that would not have a Material Adverse Effect, (ii) at no time within the last

seven (7) years has the Borrower or any ERISA Affiliate maintained, sponsored, participated in, contributed to or has or had any liability or obligation in respect of any Employee Benefit Plan subject to Section 302 of ERISA, Title IV of ERISA, or Section 412 of the Code or any “multiemployer plan” as defined in Section 3(37) of ERISA or any multiple employer plan for which the Borrower or any ERISA Affiliate has incurred or could reasonably be expected to incur liability under Section 4063 or 4064 of ERISA, (iii) no Employee Benefit Plan represents any current or future liability for retiree health, retiree life insurance, or other retiree welfare benefits except as may be required by the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or similar state or local law, (iv) each Employee Benefit Plan is and has been operated in compliance with its terms and all applicable laws, including but not limited to ERISA and the Code, except for such failures to comply that would not have a Material Adverse Effect, (v) no event has occurred (including a “reportable event” as such term is defined in Section 4043 of ERISA) and no condition exists that would subject the Borrower or any ERISA Affiliate to any tax, fine, lien, penalty or liability imposed by ERISA, the Code or other applicable law, except for any such tax, fine, lien, penalty or liability that would not, individually or in the aggregate, have a Material Adverse Effect, (vi) the Borrower does not maintain any Foreign Benefit Plan that could reasonably be expected to give rise to a material liability or material obligation for the Borrower, and (vii) the Borrower does not have any obligations under any collective bargaining agreement. As used in this clause (t), “Employee Benefit Plan” means any material “employee benefit plan” within the meaning of Section 3(3) of ERISA, including, without limitation, all stock purchase, stock option, stock-based severance, employment, change-in-control, medical, disability, fringe benefit, bonus, incentive, deferred compensation, employee loan and all other employee benefit plans, agreements, programs, policies or other arrangements, whether or not subject to ERISA, under which (A) any current or former employee, director or independent contractor of the Borrower or any of its Subsidiaries has any present or future right to benefits and which are contributed to, sponsored by or maintained by the Borrower or any of its respective Subsidiaries or (B) the Borrower or any of its Subsidiaries has had or has any present or future obligation or liability; “ERISA” means the Employee Retirement Income Security Act of 1974, as amended; “ERISA Affiliate” means any member of the Borrower’s controlled group as defined in Code Section 414 (b), (c), (m) or (o); and “Foreign Benefit Plan” means any Employee Benefit Plan established, maintained or contributed to outside of the United States of America or which covers any employee working or residing outside of the United States.

(u) The Borrower has no Subsidiaries other than as set forth on the Disclosure Schedule.

(v) Subsequent to December 31, 2012, the Borrower has not declared or paid any dividends or made any distribution of any kind with respect to its capital stock; and there has not been 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 any issuance of options, warrants, convertible securities or other rights to purchase the capital stock, of the Borrower, except as such transactions may have occurred under the Borrower’s equity compensation plans and/or employee stock purchase plan.

(w) All of the issued and outstanding shares of capital stock of the Borrower are duly authorized and validly issued, fully paid and nonassessable, have been issued in

compliance with all federal and state and foreign securities laws, were not issued in violation of or subject to any preemptive rights or other rights to subscribe for or purchase securities that have not been waived in writing; the Warrants and the shares of Common Stock issuable upon exercise of the Warrants (the "Warrant Shares"), have been duly authorized and the Warrant Shares when issued, delivered and paid for in accordance with the terms of the Warrants, will have been validly issued and will be fully paid and nonassessable. There are no preemptive rights or other rights to subscribe for or to purchase, or any restriction upon the voting or transfer of any shares of Common Stock, pursuant to the Borrower's Organizational Documents or any agreement to which the Borrower or any of its Subsidiaries is a party or by which the Borrower or any of its Subsidiaries is bound. All of the issued and outstanding shares of capital stock of each of the Borrower's Subsidiaries have been duly and validly authorized and issued and are fully paid and nonassessable, and the Borrower or its Subsidiaries owns of record and beneficially, free and clear of any claims, Liens, proxies, or equities, all of the issued and outstanding shares of such stock. There are no options, warrants, agreements, contracts or other rights in existence to purchase or acquire from the Borrower or any Subsidiary of the Borrower any shares of the capital stock of the Borrower or any Subsidiary of the Borrower, except for such options or rights issued pursuant to the Borrower's equity compensation plans and/or employee stock purchase plan and the Warrants.

(x) No Subsidiary of the Borrower conducts any material part of the business conducted by the Borrower and each of its Subsidiaries taken as a whole.

Section 3.2 Borrower Acknowledgment. The Borrower acknowledges that it has made the representations and warranties referred to in Section 3.1 in connection with the Lenders entering into the Transaction Documents and that the Lenders have entered into the Transaction Documents on the basis of, and in full reliance on, each of such representations and warranties.

Section 3.3 Representations and Warranties of the Lenders. Each Lender represents and warrants to the Borrower as of the Agreement Date that:

(a) It is acquiring the Warrants and the Warrant Shares solely for its account for investment, not as an agent or nominee, and not with a view to or for resale in connection with any distribution of the Warrants or Warrant Shares or any part thereof.

(b) The Warrants and the Warrant Shares have not been registered under the Securities Act on the basis that no distribution or public offering of the stock of the Borrower is to be effected. It realizes that the basis for the exemptions may not be present if, notwithstanding its representations, such Lender has a present intention of acquiring the securities for a fixed or determinable period in the future, selling (in connection with a distribution or otherwise), granting any participation in, or otherwise distributing the securities. None of the Lenders has such present intention.

(c) The Warrants and the Warrant Shares must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption for such registration is available.

(d) Neither the Warrants nor the Warrant Shares may be sold pursuant to Rule 144 adopted under the Securities Act unless certain conditions are met.

(e) Lender will not make any disposition of all or any part of the Warrants or Warrant Shares:

(i) Until there is then in effect a registration statement under the Securities Act covering such proposed disposition and such disposition is made in accordance with said registration statement; or

(ii) Unless pursuant to an exemption from registration under the Securities Act, including pursuant to Rules 144 or 144A (and the Borrower agrees that it will not require an opinion of counsel with respect to transactions under Rule 144 or Rule 144A of the Securities Act); or

(iii) Unless pursuant to a private sale effected under applicable formal or informal SEC interpretation or guidance, such as a so-called “4(1) and a half” sale pursuant to a legal opinion provided by Lender to the Borrower in the form annexed as Exhibit C to the Warrants.

(f) It understands and agrees that all certificates evidencing the shares to be issued to the Lenders upon exercise of the Warrants may bear a legend as set forth in the Warrants.

(g) Such Lender is an “accredited investor” as defined in Regulation D promulgated under the Securities Act.

(h) Such Lender is duly organized and validly existing under the laws of the jurisdiction of its formation.

(i) Each Transaction Document to which it is a party has been duly authorized, executed and delivered by such Lender and constitutes the valid and legally binding obligation of such Lender, enforceable in accordance with its terms, except as such enforceability may be limited by (i) applicable insolvency, bankruptcy, reorganization, moratorium or other similar laws affecting creditors’ rights generally, and (ii) applicable equitable principles (whether considered in a proceeding at law or in equity).

(j) Such Lender has full power and authority to make the Disbursement and to enter into and perform its other obligations under each of the Transaction Documents and carry out the other transactions contemplated thereby.

(k) Such Lender (A) has had reasonable opportunity to ask questions of and receive answers from Borrower concerning the Transaction Documents, (B) has been permitted access, to such Lender’s satisfaction, to the SEC Reports, and (C) understands that the entry into the Transaction Documents and the investment in the securities issued thereunder is subject to risks as stated in the risk factors disclosed in the SEC Reports or as otherwise may be applicable to similar investments and acknowledges that it has had an opportunity to review, and upon review, fully understands such risk factors.

ARTICLE 4

CONDITIONS OF DISBURSEMENT

Section 4.1 Conditions to the Disbursement. The obligation of the Lenders to make the Disbursement shall be subject to the fulfillment of the following conditions:

- (a) The Lenders shall have received executed counterparts of the Transaction Documents from the Borrower, a certificate as to Organizational Documents, resolutions, incumbency and an opinion of its counsel reasonably acceptable to the Lenders;
- (b) All actions required to be taken by the Borrower pursuant to Section 2.10 shall have been taken;
- (c) The Borrower shall have executed and delivered to the Lenders the Registration Right Agreement; and
- (d) No Default or Event of Default has occurred or would result from the Disbursement.

ARTICLE 5

PARTICULAR COVENANTS AND EVENTS OF DEFAULT

Section 5.1 Affirmative Covenants. Unless the Lenders holding a Majority in Interest of the Notes shall otherwise agree:

(i) The Borrower shall and shall cause its Subsidiaries to maintain its existence and qualify and remain qualified to do its business as currently conducted, except in each case (a) where the failure to so maintain such qualification would not reasonably be expected to have a Material Adverse Effect or (b) any Subsidiary may merge, liquidate or dissolve into another Subsidiary; provided that if any such event constitutes a Major Transaction and the Lenders holding a Majority in Interest do not exercise the put right provided for in Section 5.3, then the provisions of this Section 5.1(i) shall not have any force or effect with respect to such event.

(ii) The Borrower shall and shall cause its Subsidiaries to comply in all material respects with all Applicable Laws, except where the necessity of compliance therewith is contested in good faith by appropriate proceedings or where the failure to comply would not have a Material Adverse Effect.

(iii) The Borrower shall obtain and shall cause its Subsidiaries to make and keep in full force and effect all licenses, certificates, approvals, registrations, clearances, authorizations and permits required to conduct their businesses, except where the failure to do so would not have a Material Adverse Effect.

(iv) The Borrower shall promptly notify the Lenders of the occurrence of (i) any Default or Event of Default and (ii) any claims, litigation, arbitration, mediation or administrative or regulatory proceedings that are instituted against the Borrower or any of its Subsidiaries that could reasonably be expected to have a Material Adverse Effect provided that such notice shall be given concurrently with public disclosure of any such event.

(v) The Borrower shall maintain Cash and Cash Equivalents on the last day of each calendar quarter of not less than \$2 million.

(vi) If the Borrower is not required to file reports pursuant to Sections 13 or 15(d) of the Exchange Act, the Borrower will provide to the Lenders quarterly financial statements for itself and its Subsidiaries within 45 days after the end of each quarter, and audited annual financial statements within 120 days after the end of each year prepared in accordance with GAAP with a report thereon by the Borrower's independent certified public accountants. If the Borrower is required to file such reports, the Borrower will timely file with the SEC (subject to appropriate extensions made under Rule 12b-25 of the Exchange Act) any annual reports, quarterly reports and other periodic reports required to be filed pursuant to Section 13 or 15(d) of the Exchange Act, and the Borrower and its Subsidiaries will provide to the Lenders copies of all documents, reports, financial data and other information not containing any material non-public information that the Lenders may reasonably request.

(vii) The Borrower shall not conduct a material part of its business conducted by the Borrower and its Subsidiaries taken as a whole, in whole or in part, through any Subsidiary other than a Domestic Subsidiary unless such Subsidiary executes and delivers to the Lenders a guaranty of the Obligations in a form satisfactory to the Lenders and, if requested by the Lenders, a security agreement in the form of the Security Agreement.

Section 5.2 Negative Covenants. Unless the Lenders holding a Majority in Interest of the Notes shall otherwise agree:

(i) The Borrower shall not and shall not permit any Subsidiary to (a) liquidate, provided that a Subsidiary may liquidate or merge into the Borrower or any other Subsidiary, or dissolve (unless, in any such case, such Subsidiary ceases to own any operating assets or conduct business), or (b) consummate any merger or consolidation, unless (x) the Borrower or a Subsidiary is the surviving corporation; provided that if any such event constitutes a Major Transaction and the Lenders holding a Majority in Interest do not exercise the put right provided for in Section 5.3, then the provisions of this Section 5.2(i) shall not have any force or effect with respect to such event.

(ii) The Borrower shall not establish any Domestic Subsidiary that conducts any material part of the business conducted by the Borrower and its Subsidiaries taken as a whole unless such Domestic Subsidiary executes and delivers to the Lenders a guaranty of the Obligations in a form reasonably satisfactory to the Lenders holding a Majority in Interest and the Borrower and, if requested by the Lenders, a security agreement in the form of the Security Agreement.

(iii) The Borrower shall not and shall not permit any Subsidiary to (i) enter into any partnership, joint venture, syndicate, pool, profit-sharing or

royalty agreement or other combination or engage in any such transaction with an Affiliate of the Borrower in its capacity as such (other than Permitted Affiliate Transactions), in each case whereby its income or profits are, or might be, shared with another Person other than a Subsidiary except that the Borrower and/or any Subsidiary may enter into any collaborative arrangements, licensing agreements, joint ventures, partnerships and similar business arrangements relating to research involving, or development and/or commercial exploitation of, or the right to develop or commercially exploit, the technology, intellectual property or products of the Borrower/Subsidiary and/or the other party or parties thereto (including, without limitation, arrangements that involve the assignment or licensing of any existing or newly developed Intellectual Property under such arrangements or arrangements in respect of funding research and development in exchange for future distribution rights in a strategic arrangement), including any such arrangements whereby its income or profits are or might be shared with any other Person, (ii) enter into any management contract or similar arrangement whereby a substantial part of its business is managed by another Person (other than the Borrower or any Subsidiary), (iii) distribute, or permit the distribution of, any of its assets, including its intangibles, to any Affiliate of the Borrower (in its capacity as such) or any shareholder of the Borrower (in its capacity as such) or any equityholder of an Affiliate (in its capacity as such) except for Permitted Distributions and Permitted Affiliate Transactions or (iv) license or lease any of its assets except (a) in connection with any arrangements described in part (i) of this paragraph and (b) licenses or leases entered into in the ordinary course of business.

(iv) The Borrower shall not and shall not permit any Subsidiary to (a) create, incur or suffer any Lien upon any of its assets, except Permitted Liens or (b) assign, sell, transfer or otherwise dispose of, any Transaction Document, or its rights and obligations thereunder, except to the Borrower or a Subsidiary.

(v) The Borrower shall not and shall not permit any Subsidiary to create, incur, assume, guarantee or remain liable with respect to any Indebtedness, other than Permitted Indebtedness.

Section 5.3 Major Transaction. The Borrower shall give the Lenders notice of a Major Transaction at least 30 days prior to the consummation of such transaction but in any event not later than 5 Business Days following the first public announcement thereof. Within 5 days after the receipt of such notice the Lenders holding a Majority in Interest, in the exercise of their sole discretion, may deliver a notice to the Borrower (the "Put Notice"), that the Final Payment shall be due and payable simultaneously with the consummation of such Major Transaction. If the Lenders deliver a Put Notice, then simultaneously with consummation of such Major Transaction, the Borrower shall make the Final Payment to the Lenders.

Section 5.4 General Acceleration Provision upon Events of Default. If one or more of the events specified in this Section 5.4 shall have happened and be continuing beyond the applicable cure period (each, an "Event of Default"), the Lenders, by written notice to the Borrower, may declare the principal of, and accrued and unpaid interest on, the Notes or any part

of any of them (together with any other amounts accrued or payable under the Transaction Documents) to be, and the same shall thereupon become, immediately due and payable, without any further notice and without any presentment, demand, or protest of any kind, all of which are hereby expressly waived by the Borrower, and take any further action available at law or in equity, including, without limitation, the sale of the Loan and all other rights acquired in connection with the Loan:

(a) The Borrower shall have failed to make payment of (i) principal under the Notes when due or (ii) any interest under the Notes when due and such failure shall have continued for five (5) Business Days.

(b) The Borrower shall have failed to comply with the due observance or performance of any covenant contained in this Agreement, the Security Agreement or the Notes (other than the covenants described in (a) above), and such failure shall not have been cured by the Borrower within 30 days after receiving written notice of such failure from the Lenders.

(c) Any representation or warranty made by the Borrower in any Transaction Document shall have been incorrect, false or misleading as of the date it was made.

(d) (i) The Borrower shall generally be unable to pay its debts as such debts become due, or shall admit in writing its inability to pay its debts as they come due or shall make a general assignment for the benefit of creditors; (ii) the Borrower shall declare a moratorium on the payment of its debts; (iii) the commencement by the Borrower of proceedings to be adjudicated bankrupt or insolvent, or the consent by it to the commencement of bankruptcy or insolvency proceedings against it, or the filing by it of a petition or answer or consent seeking reorganization, intervention or other similar relief under any applicable law, or the consent by it to the filing of any such petition or to the appointment of an intervenor, receiver, liquidator, assignee, trustee, sequestrator (or other similar official) of all or substantially all of its assets; (iv) the commencement against the Borrower of a proceeding in any court of competent jurisdiction under any bankruptcy or other applicable law (as now or hereafter in effect) seeking its liquidation, winding up, dissolution, reorganization, arrangement, adjustment, or the appointment of an intervenor, receiver, liquidator, assignee, trustee, sequestrator (or other similar official), and any such proceeding shall continue undismissed, or any order, judgment or decree approving or ordering any of the foregoing shall continue unstayed or otherwise in effect, for a period of ninety (90) days; or (v) any other event shall have occurred which under any applicable law would have an effect analogous to any of those events listed above in this subsection.

(e) One or more judgments against the Borrower or any Subsidiary or attachments against any of their respective property not covered by insurance in an amount individually or in the aggregate in excess of \$250,000, remain(s) unpaid, unstayed on appeal, undischarged, unbonded or undismissed for a period of 30 days from the date of entry of such judgment.

(f) Any authorization necessary for the execution, delivery or performance by the Borrower of any Transaction Document or for the validity or enforceability of any of the Obligations under any Transaction Document is not given or is withdrawn or ceases to remain in full force or effect.

(g) The validity of any Transaction Document shall be contested by the Borrower, or any treaty, law, regulation, communiqué, decree, ordinance or policy of any jurisdiction shall purport to render any material provision of any Transaction Document invalid or unenforceable or shall purport to prevent or materially delay the performance or observance by the Borrower of the Obligations.

(h) There is a failure to perform any agreement to which the Borrower of any Subsidiary is a party resulting in a right by a third party to accelerate the maturity of any Indebtedness for borrowed money in an amount in excess of \$250,000

(i) So long as the Lenders hold the Warrants, the occurrence of an Event of Default (as such term is defined in the Warrants).

Section 5.5 Automatic Acceleration on Dissolution or Bankruptcy. Notwithstanding any other provisions of this Agreement, if an Event of Default under Section 5.4(d) shall occur, the principal of the Notes (together with any other amounts accrued or payable under this Agreement) shall thereupon become immediately due and payable without any presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Borrower.

Section 5.6 Recovery of Amounts Due. If any amount payable hereunder is not paid as and when due, the Borrower hereby authorizes the Lenders to proceed, to the fullest extent permitted by applicable law, without prior notice, by right of set-off, banker's lien or counterclaim, against any moneys or other assets of the Borrower to the full extent of all amounts payable to the Lenders.

ARTICLE 6

MISCELLANEOUS

Section 6.1 Notices. Any notices required or permitted to be given under the terms hereof shall be sent by certified or registered mail (return receipt requested) or delivered personally or by courier (including a recognized overnight delivery service) or by facsimile or by electronic mail and shall be effective five (5) days after being placed in the mail, if mailed by regular United States mail, or upon receipt, if delivered personally or by courier (including a recognized overnight delivery service) or by facsimile, or when read by electronic mail (sender shall have received a "read by recipient" confirmation) in each case addressed to a party. The addresses for such communications shall be:

If to the Borrower:

1380 Willow Road
Menlo Park, CA 94025
Attn: Stephen Moore
Email: smoore@pacificbiosciences.com

With copy to:

Wilson Sonsini Goodrich & Rosati, PC
650 Page Mill Road
Palo Alto, CA 94304
Fax: 650-493-6811
Email: dpetkanics@wsgr.com
Attn: Donna Petkanics

If to the Lenders:

Deerfield Management Company, L.P.
780 Third Avenue, 37th Floor
New York, NY 10017
Fax: 212-599-3075
Email: dclark@deerfield.com
Attn: David J. Clark

With a copy to:

Katten Muchin Rosenman LLP
575 Madison Avenue
New York, New York 10022
Fax: (212) 940-8776
Email: mark.fisher@kattenlaw.com
Attn: Mark I. Fisher, Esq.

Section 6.2 Waiver of Notice. Whenever any notice is required to be given to the Lenders or the Borrower under the any of the Transaction Documents, a waiver thereof in writing signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice.

Section 6.3 Reimbursement of Legal and Other Expenses. If any amount owing to the Lenders under any Transaction Document shall be collected through enforcement of this Agreement, any Transaction Document or restructuring of the Loan in the nature of a work-out, settlement, negotiation, or any process of law, or shall be placed in the hands of third Persons for collection, the Borrower shall pay (in addition to all monies then due in respect of the Loan or otherwise payable under any Transaction Document) reasonable attorneys' and other reasonable fees and out-of-pocket expenses incurred by the Lenders in respect of such collection.

Section 6.4 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York applicable to contracts made and to be performed in such State. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, employees or agents) may be commenced non-exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the non-exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of

Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. The parties hereby waive all rights to a trial by jury.

Section 6.5 Successors and Assigns. This Agreement shall bind and inure to the respective successors and assigns of the Parties, except that Borrower may not assign or otherwise transfer all or any part of its rights under the Transaction Documents without the prior written consent of the Lenders; provided that the Borrower may assign or transfer all or any part of its rights under the Transaction Documents without the prior written consent of the Lenders in connection with a Major Transaction if the Lenders holding a Majority in Interest do not exercise the put right provided for in Section 5.3.

Section 6.6 Entire Agreement. The Transaction Documents contain the entire understanding of the Parties with respect to the matters covered thereby and supersede any and all other written and oral communications, negotiations, commitments and writings with respect thereto. The provisions of this Agreement may be waived, modified, supplemented or amended only by an instrument in writing signed by the authorized officer of each the Borrower and Lenders holding a Majority in Interest.

Section 6.7 Severability. If any provision of this Agreement shall be invalid, illegal or unenforceable in any respect under any law, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. The Parties shall endeavor in good faith negotiations to replace the invalid, illegal or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provision.

Section 6.8 Counterparts. This Agreement may be executed in several counterparts, and by each Party on separate counterparts, each of which and any photocopies and facsimile copies thereof shall be deemed an original, but all of which together shall constitute one and the same agreement.

Section 6.9 Survival.

(a) This Agreement and all agreements, representations and warranties made in the Transaction Documents, and in any document, certificate or statement delivered pursuant thereto or in connection therewith shall be considered to have been relied upon by the other Parties and shall survive the execution and delivery of this Agreement and the making of the Loan hereunder regardless of any investigation made by any such other Party or on its behalf, and shall continue in force until all amounts payable under the Transaction Documents shall have been fully paid in accordance with the provisions thereof, and the Lenders shall not be deemed to

have waived, by reason of making the Loan, any Event of Default that may arise by reason of such representation or warranty proving to have been false or misleading, notwithstanding that the Lenders may have had notice or knowledge of any such Event of Default or may have had notice or knowledge that such representation or warranty was false or misleading at the time the Disbursement was made.

(b) The obligations of the Borrower under Section 1.4 and the obligations of the Borrower and the Lenders under this Article 6 shall survive and remain in full force and effect regardless of the consummation of the transactions contemplated hereby, the repayment of the Loan, or the termination of this Agreement or any provision hereof.

Section 6.10 Waiver. Neither the failure of, nor any delay on the part of, any Party in exercising any right, power or privilege hereunder, or under any other Transaction Document, shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege hereunder, or under any other Transaction Document, preclude other or further exercise thereof or the exercise of any other right, power or privilege; nor shall any waiver of any right, power, privilege or default hereunder, or under any other Transaction Document, constitute a waiver of any other right, power, privilege or default or constitute a waiver of any default of the same or of any other term or provision. No course of dealing and no delay in exercising, or omission to exercise, any right, power or remedy accruing to the Lenders upon any default under this Agreement, or any other agreement shall impair any such right, power or remedy or be construed to be a waiver thereof or an acquiescence therein; nor shall the action of the Lenders in respect of any such default, or any acquiescence by it therein, affect or impair any right, power or remedy of the Lenders in respect of any other default. All rights and remedies herein provided are cumulative and not exclusive of any rights or remedies otherwise provided by law.

Section 6.11 Indemnity.

(a) The Parties shall, at all times, indemnify and hold each other (the "Indemnity") and each of their respective directors, partners, officers, employees, agents, counsel and advisors (each, an "Indemnified Person") harmless in connection with any losses, damages, liabilities, penalties, or other expenses resulting from claims from third parties arising out of, or relating to, this Agreement or the Security Agreement or the use or intended use of the Loan other than in accordance with this Agreement, which an Indemnified Person may incur or to which an Indemnified Person may become subject (each, a "Loss"). The Indemnity shall not apply to the extent that a court or arbitral tribunal with jurisdiction over the subject matter of the Loss, and over the Lenders or the Borrower, as applicable, and such other Indemnified Person that had an adequate opportunity to defend its interests, determines that such Loss resulted from the gross negligence or willful misconduct of the Indemnified Person, which determination results in a final, non-appealable judgment or decision of a court or tribunal of competent jurisdiction. The Indemnity is independent of and in addition to any other agreement of any Party under any Transaction Document to pay any amount to the Lenders or the Borrower, as applicable, and any exclusion of any obligation to pay any amount under this subsection shall not affect the requirement to pay such amount under any other section hereof or under any other agreement. None of the Parties shall have any liability (whether direct or indirect, in contract, tort or otherwise) under the Indemnity except to the extent of direct (as opposed to special, indirect, consequential or punitive) damages determined in a final, nonappealable judgment by a court of competent jurisdiction.

(b) Promptly after receipt by an Indemnified Person under this Section 6.11 of notice of the commencement of any action (including any governmental action), such Indemnified Person shall, if a Loss in respect thereof is to be made against any Party (the “**Indemnifying Person**”) under this Section 6.11, deliver to the Indemnifying Person a written notice of the commencement thereof, and the Indemnifying Person shall have the right to participate in, and, to the extent the Indemnifying Person so desires, to assume control of the defense thereof with counsel mutually satisfactory to the Indemnifying Person and the Indemnified Person, as the case may be.

(c) An Indemnified Person shall have the right to retain its own counsel with the reasonable fees and expenses to be paid by the Indemnifying Person, if, in the reasonable opinion of counsel for the Indemnifying Person, the representation by such counsel of the Indemnified Person and the Indemnifying Person would be inappropriate due to actual or potential differing interests between such Indemnified Person and any other party represented by such counsel in such proceeding. Notwithstanding the foregoing, the Indemnifying Person shall pay for only one separate legal counsel for the Indemnified Persons, and such legal counsel shall be selected by the Indemnifying Person. The failure to deliver written notice to the Indemnifying Person within a reasonable time of the commencement of any such action shall not relieve the Indemnifying Person of any liability to the Indemnified Person under this Section 6.11, except to the extent that the Indemnifying Person is actually prejudiced in its ability to defend such action. The indemnification required by this Section 6.11 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as such expense, loss, damage or liability is incurred and is due and payable.

(d) Without prejudice to the survival of any other agreement of any of the Parties hereunder, the agreements and the obligations of the Parties contained in this Section 6.11 shall survive the termination of each other provision hereof and the payment of all amounts payable to the Lenders hereunder.

Section 6.12 No Usury. The Transaction Documents are hereby expressly limited so that in no contingency or event whatsoever, whether by reason of acceleration or otherwise, shall the amount paid or agreed to be paid to the Lenders for the Loan exceed the maximum amount permissible under applicable law. If from any circumstance whatsoever fulfillment of any provision hereof, at the time performance of such provision shall be due, shall involve transcending the limit of validity prescribed by law, then, ipso facto, the obligation to be fulfilled shall be reduced to the limit of such validity, and if from any such circumstance the Lenders shall ever receive anything which might be deemed interest under applicable law, that would exceed the highest lawful rate, such amount that would be deemed excessive interest shall be applied to the reduction of the principal amount owing on account of the Loan, or if such deemed excessive interest exceeds the unpaid balance of principal of the Loan, such deemed excess shall be refunded to the Borrower. All sums paid or agreed to be paid to the Lenders for the Loan shall, to the extent permitted by applicable law, be deemed to be amortized, prorated, allocated and spread throughout the full term of the Loan until payment in full so that the deemed rate of interest on account of the Loan is uniform throughout the term thereof. The terms and provisions of this Section shall control and supersede every other provision of this Agreement and the Notes.

Section 6.13 Further Assurances. From time to time, the Borrower shall perform any and all acts and execute and deliver to the Lenders such additional documents as may be necessary or as reasonably requested by the Lenders to carry out the purposes of any Transaction Document or to preserve and protect the Lenders' rights as contemplated therein.

Section 6.14 Independent Transaction Documents. Each Transaction Document constitutes an independent agreement between the parties thereto (the "Transaction Parties") and no Transaction Document shall be construed so as to affect the rights of the Transaction Parties to their rights and remedies under another Transaction Document.

[SIGNATURE PAGE FOLLOWS]

BORROWER:

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

By: /s/ Susan K. Barnes
Name: Susan K. Barnes
Title: Executive Vice President and
Chief Financial Officer

LENDERS:

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

**DEERFIELD SPECIAL SITUATIONS INTERNATIONAL MASTER
FUND, L.P.**

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

SCHEDULE 1

<u>LENDER</u>		<u>ALLOCATION OF DISBURSEMENT, PREPAYMENTS AND WARRANTS</u>
Deerfield Special Situations International Master Fund, L.P.	\$	1,867,500 501,037 Warrants
Deerfield Special Situations Fund, L.P.	\$	2,632,500 706,280 Warrants
Deerfield Private Design Fund II, L.P.	\$	7,456,000 2,000,390 Warrants
Deerfield Private Design International II, L.P.	\$	8,544,000 2,292,293 Warrants

DISCLOSURE SCHEDULE

Permitted Indebtedness

None

Permitted Liens

Pacific Biosciences of California, Inc.:

<u>Secured Party</u>	<u>Original UCC-1 File No.</u>	<u>Jurisdiction</u>	<u>Collateral</u>
Air Liquide industrial U.S. LP	12 7330541935 (filed 09/25/2012)	California	Equipment
Wells Fargo Foothill	20100153761 (filed 1/15/2010)	Delaware	Equipment

Representations and Warranties (Section 3.1)

Foreign Benefit Plans (Section 3.1(s))

Benefit pension plan sponsored by Pacific Biosciences UK Ltd., currently administered by Scottish Widows PLC

Subsidiaries (Section 3.1(t))

Pacific Biosciences International LLC [including Taiwan Registered Office]

Pacific Biosciences UK Ltd.

Pacific Biosciences Germany GmbH

Pacific Biosciences Canada Limited

PacBio Singapore PTE. Limited

Pacific Biosciences Japan GK

Exhibit A

FOR PURPOSES OF SECTION 1272, 1273 AND 1275 OF THE CODE, THIS NOTE IS BEING ISSUED WITH ORIGINAL ISSUE DISCOUNT. BORROWER WILL PROVIDE PROMPTLY TO ANY LENDER, UPON WRITTEN REQUEST, THE ISSUE DATE, ISSUE PRICE, AMOUNT OF ORIGINAL ISSUE DISCOUNT, AND YIELD TO MATURITY WITH RESPECT TO SUCH LENDER'S NOTE. ANY SUCH WRITTEN REQUEST SHOULD BE MADE TO PACIFIC BIOSCIENCES OF CALIFORNIA, INC., 1380 WILLOW ROAD, MENLO PARK, CA 94025, ATTENTION: [TITLE ONLY].

PROMISSORY NOTE

February 2013

FOR VALUE RECEIVED, Pacific Biosciences of California, Inc., a Delaware corporation (the "Maker"), by means of this Promissory Note (this "Note"), hereby unconditionally promises to [] (the "Payee"), a principal amount equal to [], in lawful money of the United States of America and in immediately available funds, on the dates provided in the Facility Agreement.

This Note is a "Note" referred to in the Facility Agreement dated as of February [], 2013 between the Maker, the Payee and the other parties thereto (as amended, restated, modified and supplemented and in effect from time to time, the "Facility Agreement"), with respect to the Loan made by the Payee thereunder. Capitalized terms used herein and not expressly defined in this Note shall have the respective meanings assigned to them in the Facility Agreement.

This Note shall bear interest on the principal amount hereof pursuant to the provisions of the Facility Agreement.

The Maker shall make all payments to the Payee of interest and principal under this Note in the manner provided in and otherwise in accordance with the Facility Agreement. The outstanding principal amount of this Note shall be due and payable in full on the Maturity Date.

If default (beyond any applicable grace period) is made in the punctual payment of principal or any other amount under this Note in accordance with the Facility Agreement, or if any other Event of Default has occurred and is continuing, this Note shall, at the Payee's option exercised at any time upon or after the occurrence and during the continuance of any such payment default or other Event of Default and in accordance with the applicable provisions of the Facility Agreement, become immediately due and payable.

All payments of any kind due to the Payee from the Maker pursuant to this Note shall be made in the full face amount thereof. Subject to the terms of the Facility Agreement, all such payments will be free and clear of, and without deduction or withholding for, any present or future taxes. The Maker shall pay all and any costs (administrative or otherwise) imposed by the Maker's banks, clearing houses, or any other financial institution, in connection with making any payments hereunder.

The Maker shall pay all costs of collection, including, without limitation, all reasonable, documented legal expenses and attorneys' fees, paid or incurred by the Payee in collecting and enforcing this Note.

Other than those notices required to be provided by Payee to Maker under the terms of the Facility Agreement, the Maker and every endorser of this Note, or the obligations represented hereby, expressly waives presentment, protest, demand, notice of dishonor or default, and notice of any kind with respect to this Note and the Facility Agreement or the performance of the obligations under this Note and/or the Facility Agreement. No renewal or extension of this Note or the Facility Agreement, no release of any Person primarily or secondarily liable on this Note or the Facility Agreement, including the Maker and any endorser, no delay in the enforcement of payment of this Note or the Facility Agreement, and no delay or omission in exercising any right or power under this Note or the Facility Agreement shall affect the liability of the Maker or any endorser of this Note.

No delay or omission by the Payee in exercising any power or right hereunder shall impair such right or power or be construed to be a waiver of any default, nor shall any single or partial exercise of any power or right hereunder preclude the full exercise thereof or the exercise of any other power or right. The provisions of this Note may be waived or amended only in a writing signed by the Maker and the Payee. This Note may be prepaid in whole or in part in accordance with the provisions of the Facility Agreement.

This Note, and any rights of the Payee arising out of or relating to this Note, may, at the option of the Payee, be enforced by the Payee in the courts of the United States of America located in the Southern District of the State of New York or in any other courts having jurisdiction. For the benefit of the Payee, the Maker hereby irrevocably agrees that any legal action, suit or other proceeding arising out of or relating to this Note may be brought in the courts of the State of New York or of the United States of America for the Southern District of New York, and hereby consents that personal service of summons or other legal process may be made as set forth in Section 6.1 of the Facility Agreement, which service the Maker agrees shall be sufficient and valid. The Maker hereby waives any and all rights to demand a trial by jury in any action, suit or other proceeding arising out of or relating to this Note or the transactions contemplated by this Note.

This Note shall be governed by, and construed in accordance with, the laws of the State of New York applicable to contracts made and to be performed in such State.

[Signature page follows]

IN WITNESS WHEREOF, an authorized representative of the Maker has executed this Note as of the date first written above.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

By: _____
Name:
Title

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT (this “Agreement”), dated as of February 5, 2013, by and among Pacific Biosciences of California, Inc., a Delaware corporation (the “Company”), and those lenders set forth on Schedule 1 to the Facility Agreement (as defined below) (each individually, a “Lender” and together, the “Lenders”).

WHEREAS:

A. In connection with the Facility Agreement by and among the parties hereto of even date herewith (the “Facility Agreement”), the Company has agreed, upon the terms and subject to the conditions contained therein, to issue and sell to the Lenders Warrants (as defined below) in the amount described in the Facility Agreement, where each of the Warrants is exercisable into shares of the Company’s common stock, \$0.001 value per share (the “Common Stock”), each upon the terms and conditions and subject to the limitations and conditions set forth in the Warrants, all subject to the terms and conditions of the Facility Agreement; and

B. To induce the Lenders to execute and deliver the Facility Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the “Securities Act”), and applicable state securities laws,

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

1. DEFINITIONS.

a. As used in this Agreement, the following terms shall have the following meanings:

(i) “Additional Filing Deadline” means, with respect to any Registration Statements that may be required pursuant to Section 2(a)(ii), (a) the first date or time that such Registrable Securities may then be included in a Registration Statement if such Registration Statement is required because the SEC shall have notified the Company in writing that certain Registrable Securities were not eligible for inclusion on a previously filed Registration Statement, or (b) if such additional Registration Statement is required for a reason other than as described in (a) above, the twentieth (20th) day following the date on which the Company first knows that such additional Registration Statement is required; provided, however, if the Additional Filing Deadline would otherwise fall more than forty-five (45) days, but less than ninety-one (91) days, after the end of the Company’s most recent fiscal year and the Company is unable to comply with the Additional Filing Deadline solely as a result of the unavailability of audited financial statements for such fiscal year, the Additional Filing Deadline shall be extended until the first business day following the earlier to occur of (a) the deadline (without regard to any extensions that may be permitted by Rule 12b-25 under the Exchange Act) for filing by the Company of an annual report on Form 10-K containing such financial statements with the SEC and (b) the date on which the Company files an annual report on Form 10-K containing such financial statements with the SEC.

(ii) “Additional Registration Deadline” means, with respect to any additional Registration Statement(s) that may be required to be filed pursuant to Section 2(a)(ii), the thirtieth (30th) day following (a) the first date or time that such Registrable Securities may then be included in a Registration Statement if such Registration Statement is required because the SEC shall have notified the Company in writing that certain Registrable Securities were not eligible for inclusion on a previously filed Registration Statement, or (b) if such additional Registration Statement is required for a reason other than as described in (a) above, the fortieth (40th) day following the date on which the Company first knows that such additional Registration Statement(s) is required; provided, however, if the applicable Additional Filing deadline is extended due to the proviso contained in Section 1(a)(i) above, then such Additional Registration Deadline shall be extended until the thirtieth (30th) or fortieth (40th) day, as the case may be, following the Additional Filing Deadline, as so extended, and provided, further, that if, following the filing date but before the

date that the Additional Registration Statement is declared effective by the SEC, the Company is unable to file a pre-effective amendment to the Additional Registration Statement that is required in order to cause such Additional Registration Statement to become effective because such amendment would otherwise be filed more than forty-five (45) days, but less than ninety-one (91) days, after the end of the Company's last fiscal year and the audited financial statements for such year are unavailable, the Additional Registration Deadline shall be the date that is the later of (a) thirty (30) days after the earlier of (1) the deadline (without regard to any extensions that may be permitted by Rule 12b-25 under the Exchange Act) for filing by the Company of an annual report on Form 10-K containing such financial statements with the SEC and (2) the date on which the Company files an annual report on Form 10-K containing such financial statements with the SEC, and (b) sixty (60) days after the Registration Statement is filed.

(iii) "Buyer" means any Lender and any transferee or assignee who agrees to become bound by the provisions of this Agreement in accordance with Section 10 hereof.

(iv) "Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder, and any successor statute.

(v) "Filing Deadline" means, (1) for the Registration Statement required to be filed pursuant to Section 2(a)(i), the date that is forty-five (45) calendar days following the date the Warrant is issued and, (2) in the case of Section 2(a)(ii), means the Additional Filing Deadline; provided however, if the Filing Deadline (other than the deadline referred to in clause (1) of this definition) would otherwise fall more than forty-five (45) days, but less than ninety-one (91) days, after the end of the Company's most recent fiscal year and the Company is unable to comply with the Filing Deadline solely as a result of the unavailability of audited financial statements for such fiscal year, the Filing Deadline shall be extended until the first business day following the earlier to occur of (a) the deadline (without regard to any extensions that may be permitted by Rule 12b-25 under the Exchange Act) for filing by the Company of an annual report on Form 10-K containing such financial statements with the SEC and (b) the date on which the Company files an annual report on Form 10-K containing such financial statements with the SEC.

(vi) "Investors' Rights Agreement" means the Company's Fifth Amended and Restated Investors' Rights Agreement, dated as of June 16, 2010, by and among the Company and the parties listed therein.

(vii) "IRA Holders" means the holders of IRA Registrable Securities.

(ix) "IRA Registrable Securities" has the meaning ascribed to the term "Registrable Securities" under the Investors' Rights Agreement.

(x) "Person" means and includes any natural person, partnership, joint venture, corporation, trust, limited liability company, limited company, joint stock company, unincorporated organization, government entity or any political subdivision or agency thereof, or any other entity.

(xi) "Registration Deadline" shall mean, other than for purposes of the Registration Statements required under Section 2(a)(ii), the earlier of (i) the date that is ninety (90) days after the date that the applicable Registration Statement is actually filed or (ii) the date that is ninety (90) days after the applicable Filing Deadline and, with respect to any Registration Statements required to be filed under Section 2(a)(ii), the Additional Registration Deadline.

(xii) "Warrant(s)" means the warrants issued by the Company pursuant to the Facility Agreement.

(xiii) "Register," "Registered," and "Registration" refer to a registration effected by preparing and filing a Registration Statement or Statements in compliance with the Securities Act and pursuant to Rule 415 under the Securities Act or any successor rule providing for offering securities on a continuous basis, and the declaration or ordering of effectiveness of such Registration Statement by the United States Securities and Exchange Commission (the "SEC").

(xiv) "Registrable Securities," for a given Registration, means (a) any shares of Common Stock (the "Warrant Shares") issued or issuable upon exercise of or otherwise pursuant to the Warrants (without giving effect to any

limitations on exercise set forth in the Warrants), (b) any shares of capital stock issued or issuable as a dividend on or in exchange for or otherwise with respect to any of the foregoing, (c) any additional shares of Common Stock issuable in connection with any anti-dilution provisions in the Warrants, (d) any other shares of Common Stock issuable pursuant to the terms of the Facility Agreement, the Warrants or this Registration Rights Agreement, and (d) any shares of capital stock issued or issuable upon any stock split, dividend or other distribution, recapitalization or similar event with respect to the foregoing. Securities will cease to be Registrable Securities when (A) they have been effectively registered under the Securities Act and disposed of in accordance with the registration statement covering them; (B) they have been distributed to the public pursuant to Rule 144 under the Securities Act; or (C) they have been otherwise transferred and new certificates for them not bearing a restrictive legend have been issued by the Company and the Company shall not have any “stop transfer” instructions in effect.

(xv) “Registration Statement(s)” means a registration statement(s) of the Company under the Securities Act required to be filed hereunder.

2. REGISTRATION.

a. MANDATORY REGISTRATION. (i) Following the date on which the Warrants are issued pursuant to the Facility Agreement (the “Issuance Date”), the Company shall use its best efforts to prepare, and, on or prior to the applicable Filing Deadline (as defined above) file with the SEC a Registration Statement (the “Mandatory Registration Statement”) on Form S-3 (or, if Form S-3 is not then available, on such form of Registration Statement as is then available to effect a registration of the Registrable Securities, subject to the consent of the Buyers, which consent will not be unreasonably withheld) covering the resale of the Registrable Securities issued on the Issuance Date which Registration Statement, to the extent allowable under the Securities Act and the rules and regulations promulgated thereunder (including Rule 416), shall state that such Registration Statement also covers such indeterminate number of additional shares of Common Stock as may become issuable upon exercise of or otherwise pursuant to the Warrants to prevent dilution resulting from stock splits, stock dividends, stock issuances or similar transactions. The number of shares of Common Stock initially included in such Registration Statement shall be no less than the aggregate number of Warrant Shares that are then issuable upon exercise of or otherwise pursuant to the Warrants issued on the Issuance Date, without regard to any limitation on the Buyers’ ability to exercise the Warrants, respectively. Each Registration Statement (and each amendment or supplement thereto, and each request for acceleration of effectiveness thereof) shall be provided to and subject to the approval, with respect to information regarding the Buyers and their plan of distribution, which shall not be unreasonably withheld or delayed, of the Buyers and their counsel prior to its filing or other submission.

(ii) If for any reason the SEC does not permit all of the Registrable Securities to be included in the Registration Statement filed pursuant to Section 2(a)(i) above, or for any other reason any Registrable Securities are not then included in a Registration Statement filed under this Agreement, then the Company shall prepare, and, as soon as practicable but in no event later than the Additional Filing Deadline, file with the SEC an additional Registration Statement covering the resale of all Registrable Securities not already covered by an existing and effective Registration Statement for an offering to be made on a continuous basis pursuant to Rule 415 of the Securities Act.

b. PIGGY-BACK REGISTRATIONS. If at any time prior to the expiration of the Registration Period (as hereinafter defined) the Company shall determine to file with the SEC a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its securities (other than debt securities or securities being registered on Form S-4 or Form S-8 or their then equivalents relating to equity securities to be issued solely in connection with any acquisition of any entity or business, an exchange offer, or equity securities issuable in connection with stock option, employee stock purchase or other employee benefit plans), the Company shall send to each Buyer written notice of such determination and, if within fifteen (15) days after the effective date of such notice, the Buyer shall so request in writing, the Company shall include in such Registration Statement all or any part of such Buyer’s Registrable Securities the Buyer requests to be registered, except that if, in connection with any underwritten public offering for the account of the Company, the managing underwriter(s) thereof shall impose a limitation on the number of Registrable Securities or IRA Registrable Securities which may be included in the Registration Statement because, in such underwriter(s)’ judgment, marketing or other factors dictate such limitation is necessary to facilitate public distribution, then the Company shall be obligated to include in such Registration Statement only such limited portion of the Registrable Securities and IRA Registrable Securities with respect to which the Buyer and IRA Holders has requested inclusion hereunder as the underwriter shall permit;

PROVIDED, HOWEVER, that the Company shall not exclude any Registrable Securities or IRA Registrable Securities unless the Company has first excluded all outstanding securities to be sold for the account of any holder other than the Company of its Common Stock, the holders of which are not entitled by contract to inclusion of such securities in such Registration Statement or are not entitled to pro rata inclusion with the Registrable Securities or IRA Registrable Securities; and

PROVIDED, FURTHER, HOWEVER, that, after giving effect to the immediately preceding proviso, any exclusion of Registrable Securities and IRA Registrable Securities shall be made pro rata with holders of other securities having the contractual right to include such securities in the Registration Statement other than holders of securities entitled to inclusion of their securities in such Registration Statement by reason of demand registration rights. No right to registration of Registrable Securities under this Section 2(b) shall be construed to limit any registration required under Section 2(a) hereof. If an offering in connection with which a Buyer is entitled to registration under this Section 2(b) is an underwritten offering, then such Buyer shall, unless otherwise agreed by the Company, offer and sell such Registrable Securities in an underwritten offering using the same underwriter or underwriters and, subject to the provisions of this Agreement and the underwriting agreement in such offering, on the same terms and conditions as other shares of Common Stock included in such underwritten offering (including, without limitation, execution of an agreement with the managing underwriter or placement agent limiting the sale or distribution such Buyer may make of shares of Common Stock or any securities convertible or exchangeable or exercisable for such shares of the Company, except as part of such registration). Notwithstanding anything to the contrary set forth herein, the registration rights of the Buyer pursuant to this Section 2(b) shall only be available in the event the Company fails to timely file, obtain effectiveness or maintain effectiveness of any Registration Statement to be filed pursuant to Section 2(a) in accordance with the terms of this Agreement.

3. OBLIGATIONS OF THE COMPANY. In connection with the registration of the Registrable Securities, the Company shall have the following obligations:

a. The Company shall prepare promptly, and file with the SEC, as soon as practicable after the Issuance Date (but no later than the Filing Deadline), a Registration Statement with respect to the number of Registrable Securities provided in Section 2(a), and thereafter use its reasonable commercial efforts to cause each such Registration Statement relating to Registrable Securities to become effective as soon as possible after such filing, but in any event shall use its reasonable commercial efforts to cause each such Registration Statement relating to Registrable Securities to become effective no later than the Registration Deadline, and shall keep the Registration Statement current and effective pursuant to Rule 415 of the Securities Act at all times until such date as is the earlier of (i) the date on which all of the Registrable Securities for such Registration Statement have been sold and (ii) the date on which all of the Registrable Securities for such Registration Statement (in the reasonable opinion of counsel to the Buyers) may be immediately sold to the public without registration or restriction (including without limitation as to volume by each holder thereof) under the Securities Act (the "Registration Period"), which Registration Statement (including any amendments or supplements thereto and prospectuses contained therein), shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein not misleading (except that such provision shall not apply to any information provided by a Buyer or any transferee of a Buyer pursuant to Section 4(a)).

b. The Company shall use its best efforts to prepare and file with the SEC such amendments (including post-effective amendments) and supplements to each Registration Statement and the prospectus used in connection with each Registration Statement as may be necessary to keep each Registration Statement current and effective at all times during the Registration Period, and, during such period, comply with the provisions of the Securities Act with respect to the disposition of all Registrable Securities of the Company covered by each Registration Statement until such time as all of such Registrable Securities have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof as set forth in each Registration Statement. In the event that on any Trading Day (as defined below) (the "Registration Trigger Date") the number of shares available under the Registration Statements filed pursuant to this Agreement are insufficient to cover all of the Registrable Securities issued or issuable upon exercise of or otherwise pursuant to the Warrants, including, without limitation, any additional shares of Common Stock issued in connection with any anti-dilution provisions contained in the Warrants, without giving effect to any limitations on the Buyers' ability to exercise the Warrants, the Company shall

amend the Registration Statements, or file a new Registration Statement (on the short form available therefore, if applicable), or both, so as to cover the total number of Registrable Securities so issued or issuable (without giving effect to any limitations on exercise contained in the Warrants or limitations on conversion or exercise) as of the Registration Trigger Date as soon as practicable, but in any event within thirty (30) days after the Registration Trigger Date (based on the Exercise Price (as defined in the Warrants) of the Warrants, and other relevant factors on which the Company reasonably elects to rely, provided, however, if such date would otherwise fall more than 45 days, but less than 91 days, after the end of the Company's most recent fiscal year and the Company is unable to file by such date solely as a result of the unavailability of audited financial statements for such fiscal year, the amendment and/or new Registration Statement shall be filed no later than the first business day following the earlier to occur of (a) the deadline (without regard to any extensions that may be permitted by Rule 12b-25 under the Exchange Act) for filing by the Company of an annual report on Form 10-K containing such financial statements with the SEC and (b) the date on which the Company files an annual report on Form 10-K containing such financial statements with the SEC, and the Company shall use its reasonable commercial efforts to cause such amendment and/or new Registration Statement to become effective within sixty (60) days of the date such amendment and/or Registration Statement is filed. Subject to the immediately preceding proviso, the Company shall use its reasonable commercial efforts to cause such amendment and/or new Registration Statement to become effective as soon as practicable following the filing thereof, but in any event the Company shall use its reasonable commercial efforts to cause such amendment and/or new Registration Statement to become effective within sixty (60) days of the Registration Trigger Date or as promptly as practicable in the event the Company is required to increase its authorized shares. "Trading Day" shall mean any day on which the Common Stock is traded for any period on the NASDAQ Global Select Market, or on the principal securities exchange or other securities market on which the Common Stock is then being traded.

c. The Company shall furnish to each Buyer and its legal counsel (i) promptly after the same is prepared and publicly distributed, filed with the SEC, or received by the Company, one copy of each Registration Statement and any amendment thereto, each preliminary prospectus and prospectus and each amendment or supplement thereto, and, in the case of a Registration Statement referred to in Section 2(a), each letter written by or on behalf of the Company to the SEC or the staff of the SEC, and each item of correspondence from the SEC or the staff of the SEC, in each case relating to such Registration Statement (other than any portion of any thereof which contains information for which the Company has sought confidential treatment), and (ii) such number of copies of a prospectus, including a preliminary prospectus, and all amendments and supplements thereto and such other documents as a Buyer may reasonably request in order to facilitate the disposition of the Registrable Securities owned by such Buyer, although the Company may determine in its reasonable judgment to provide any such copies in electronic form only. The Company will immediately notify the Buyers by facsimile of the effectiveness of each Registration Statement or any post-effective amendment. The Company will respond to any and all comments received from the SEC as soon as reasonably practicable, with a view towards causing each Registration Statement or any amendment thereto to be declared effective by the SEC as soon as practicable and shall file an acceleration request as soon as practicable, but no later than five (5) business days, following the resolution or clearance of all SEC comments or, if applicable, following notification by the SEC that any such Registration Statement or any amendment thereto will not be subject to review, provided, however, that if during such period, the Company is unable to file such acceleration request because such acceleration request would otherwise be filed more than forty-five (45), but less than ninety-one (91) days, after the end of the Company's most recent fiscal year and the audited financial statements for such fiscal year are unavailable at such time, such obligation to file an acceleration request shall be extended until the first business day following the earlier of (a) the deadline (without regard to any extensions that may be permitted by Rule 12b-25 under the Exchange Act) for filing by the Company of an annual report on Form 10-K containing such financial statements with the SEC and (b) the date on which the Company files an annual report on Form 10-K containing such financial statements with the SEC.

d. The Company shall use its reasonable best efforts to (i) register and qualify, in any jurisdiction where registration and/or qualification is required, the Registrable Securities covered by the Registration Statements under such other securities or "blue sky" laws of such jurisdictions in the United States as the Buyers shall reasonably request, (ii) prepare and file in those jurisdictions such amendments (including post-effective amendments) and supplements to such registrations and qualifications as may be necessary to maintain the effectiveness thereof during the Registration Period, (iii) take such other actions as may be necessary to maintain such registrations and qualifications in effect at all times during the Registration Period, and (iv) take all other actions reasonably necessary or advisable to qualify the Registrable Securities for sale in such jurisdictions; provided, however, that the

Company shall not be required in connection therewith or as a condition thereto to (x) qualify to do business in any jurisdiction where it would not otherwise be required to qualify but for this Section 3(d), (y) subject itself to general taxation in any such jurisdiction, or (z) file a general consent to service of process in any such jurisdiction.

e. As promptly as practicable after becoming aware of such event, the Company shall notify each Buyer of the happening of any event, of which the Company has knowledge, as a result of which the prospectus included in any Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and use its best efforts promptly to prepare a supplement or amendment to any Registration Statement to correct such untrue statement or omission, and deliver such number of copies of such supplement or amendment to each Buyer as such Buyer may reasonably request.

f. The Company shall use its reasonable best efforts to prevent the issuance of any stop order or other suspension of effectiveness of any Registration Statement, and, if such an order is issued, to obtain the withdrawal of such order at the earliest possible moment and to notify each Buyer who holds Registrable Securities being sold (or, in the event of an underwritten offering, the managing underwriters) of the issuance of such order and the resolution thereof.

g. The Company shall permit a single firm of counsel designated by the Buyers to review such Registration Statement and all amendments and supplements thereto (as well as all requests for acceleration or effectiveness thereof), at Buyers' own cost, a reasonable period of time prior to their filing with the SEC (not less than three (3) business days but not more than eight (8) business days) and not file any documents in a form to which such counsel reasonably objects and will not request acceleration of such Registration Statement without prior notice to such counsel.

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

i. The Company shall use its reasonable best efforts to cause all the Registrable Securities covered by each Registration Statement to be listed on each securities exchange on which securities of the same class or series issued by the Company are then listed, if any, if the listing of such Registrable Securities is then permitted under the rules of such exchange, and, if listed on a national exchange, to arrange for at least two market makers to register with Financial Industry Regulatory Authority, Inc. ("FINRA") as such with respect to such Registrable Securities.

j. The Company shall provide a transfer agent and registrar, which may be a single entity, for the Registrable Securities not later than the effective date of the Registration Statement.

k. The Company shall cooperate with each Buyer who holds Registrable Securities being offered and the managing underwriter or underwriters as reasonably requested by them with respect to an applicable Registration Statement, if any, to facilitate the timely preparation and delivery of certificates (not bearing any restrictive legends) representing Registrable Securities to be offered pursuant to such Registration Statement and enable such certificates to be in such denominations or amounts, as the case may be, as the managing underwriter or underwriters, if any, or the Buyer may reasonably request and registered in such names as the managing underwriter or underwriters, if any, or the Buyer may request, and, within five (5) business days after a Registration Statement which includes Registrable Securities is ordered effective by the SEC, the Company shall deliver, and shall cause legal counsel selected by the Company to deliver, to the transfer agent for the Registrable Securities (with copies to each Buyer) an appropriate instruction and an opinion of such counsel in the form required by the transfer agent in order to issue the Registrable Securities free of restrictive legends.

l. At the reasonable request of a Buyer, the Company shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to a Registration Statement and any prospectus used in connection with the Registration Statement as may be necessary in order to change the plan of distribution set forth in such Registration Statement.

m. The Company shall not, and shall not agree to, allow the holders of any securities of the Company to include any of their securities in any Registration Statement under Section 2(a) hereof or any amendment or supplement thereto under Section 3(b) hereof without the consent of the Buyers. In addition, the Company shall not offer any securities for its own account or the account of others in any Registration Statement under Section 2(a) hereof or any amendment or supplement thereto under Section 3(b) hereof without the consent of the Buyers.

n. The Company shall take all other reasonable actions necessary to expedite and facilitate disposition by the Buyers of Registrable Securities pursuant to a Registration Statement.

o. The Company shall comply with all applicable laws related to a Registration Statement and offering and sale of securities and all applicable rules and regulations of governmental authorities in connection therewith (including, without limitation, the Securities Act and the Exchange Act and the rules and regulations promulgated by the SEC).

p. If required by the Financial Industry Regulatory Authority, Inc. Corporate Financing Department, the Company shall promptly effect a filing with FINRA pursuant to FINRA Rule 5110 with respect to the public offering contemplated by resales of securities under the Registration Statement (an "Issuer Filing"), and pay the filing fee required by such Issuer Filing. The Company shall use commercially reasonable efforts to pursue the Issuer Filing until FINRA issues a letter confirming that it does not object to the terms of the offering contemplated by the Registration Statement.

4. OBLIGATIONS OF THE BUYER. In connection with the registration of the Registrable Securities, each Buyer shall have the following obligations:

a. It shall be a condition precedent to the obligations of the Company to complete the registration pursuant to this Agreement with respect to the Registrable Securities of a Buyer that such Buyer shall furnish to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required to effect the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request. At least five (5) business days prior to the first anticipated filing date of a Registration Statement, the Company shall notify each Buyer of the information the Company requires from such Buyer. Any such information shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein not misleading.

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

c. In the event of an underwritten offering pursuant to Section 2(b) in which any Registrable Securities are to be included, the Buyer agrees to enter into and perform the Buyer's obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the managing underwriter of such offering and take such other actions as are reasonably required in order to expedite or facilitate the disposition of the Registrable Securities, unless the Buyer has notified the Company in writing of the Buyer's election to exclude all of the Buyer's Registrable Securities from such Registration Statement.

d. Each Buyer agrees that, upon receipt of any notice from the Company of the happening of any event of the kind described in Section 3(e) or 3(f), the Buyer will immediately discontinue disposition of Registrable Securities pursuant to the Registration Statement covering such Registrable Securities until the Buyer's receipt of the copies of the supplemented or amended prospectus contemplated by Section 3(e) or 3(f) and, if so directed by the Company, the Buyer shall deliver to the Company (at the expense of the Company) or destroy (and deliver to the Company a certificate of destruction) all copies in the Buyer's possession, of the prospectus covering such Registrable Securities current at the time of receipt of such notice.

5. REGISTRATION FAILURE. In the event of a Registration Failure (as defined in the Warrants), the Buyers shall be entitled to Failure Payments (as defined in the Warrants) and such other rights as set forth in the Warrants.

6. EXPENSES OF REGISTRATION. All reasonable expenses, other than underwriting discounts and commissions, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualification fees, printers and accounting fees, and the fees and disbursements of counsel for the Company (but not including fees and disbursements for counsel for any Buyer) shall be borne by the Company.

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

a. The Company will indemnify, hold harmless and defend (i) each Buyer, (ii) the directors, officers, partners, managers, members, employees, agents and each Person who controls any Buyer within the meaning of the Securities Act or the Exchange Act, if any, (iii) any underwriter (as defined in the Securities Act) for each Buyer in connection with an underwritten offering pursuant to Section 2(b) hereof, and (iv) the directors, officers, partners, employees and each Person who controls any such underwriter within the meaning of the Securities Act or the Exchange Act, if any (each, an "Indemnified Person"), against any joint or several losses, claims, damages, liabilities or expenses (collectively, together with actions, proceedings or inquiries by any regulatory or self-regulatory organization, whether commenced or threatened, in respect thereof, "Claims") to which any of them may become subject insofar as such Claims arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact in a Registration Statement or the omission or alleged omission to state therein a material fact required to be stated or necessary to make the statements therein not misleading; (ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary prospectus if used prior to the effective date of such Registration Statement, or contained in the final prospectus (as amended or supplemented, if the Company files any amendment thereof or supplement thereto with the SEC) or the omission or alleged omission to state therein any material fact necessary to make the statements made therein, in light of the circumstances under which the statements therein were made, not misleading; or (iii) any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any other law, including, without limitation, any state securities law, or any rule or regulation thereunder relating to the offer or sale of the Registrable Securities (the matters in the foregoing clauses (i) through (iii) being, collectively, "Violations"). The Company shall reimburse the Indemnified Person, promptly as such expenses are incurred and are due and payable, for any reasonable legal fees or other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 7(a) shall not apply (A)(i) to a Claim arising out of or based upon a Violation to the extent that such Violation occurs in reliance upon and in conformity with information furnished in writing to the Company by any Indemnified Person for use in connection with the preparation of such Registration Statement or any such amendment thereof or supplement thereto, or (ii) to the extent due to the failure of any Buyer to timely deliver any prospectus, including any corrected prospectus, timely made available by the Company pursuant to Section 3(d) hereto; or (B) to any amounts paid in settlement of any Claim effected without the prior written consent of the Company, which consent shall not be unreasonably withheld. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Buyer pursuant to Section 10.

b. Promptly after receipt by an Indemnified Person under this Section 7 of notice of the commencement of any action (including any governmental action), such Indemnified Person shall, if a Claim in respect thereof is to be made against the Company under this Section 7, deliver to the Company a written notice of the commencement thereof, and the Company shall have the right to participate in, and, to the extent the Company so desires, to assume control of the defense thereof with counsel mutually satisfactory to the Company and the Indemnified Person, as the case may be.

PROVIDED, HOWEVER, that an Indemnified Person shall have the right to retain its own counsel with the reasonable fees and expenses to be paid by the Company, if, in the reasonable opinion of counsel for the Buyer, the representation by such counsel of the Indemnified Person and the Company would be inappropriate due to actual or

potential differing interests between such Indemnified Person and any other party represented by such counsel in such proceeding. The Company shall pay for only one separate legal counsel for the Indemnified Persons, and such legal counsel shall be selected by Buyers. The failure to deliver written notice to the Company within a reasonable time of the commencement of any such action shall not relieve the Company of any liability to the Indemnified Person under this Section 7, except to the extent that the Company is actually prejudiced in its ability to defend such action.

c. Each Buyer will indemnify, hold harmless and defend (i) the Company, and (ii) the directors, officers, partners, managers, members, employees, or agents of the Company, if any (each, a "Company Indemnified Person"), against any Claims to which any of them may become subject insofar as such Claims arise out of or are based upon any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any other law, including, without limitation, any state securities law, or any rule or regulation thereunder relating to the offer or sale of the Registrable Securities, which occurs due to the inclusion by the Company in a Registration Statement of false or misleading information about a Buyer, where such information was furnished in writing to the Company by such Buyer for the purpose of inclusion in such Registration Statement. Notwithstanding anything herein to the contrary, the indemnity agreement contained in this Section 7(c) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Buyers, which consent shall not be unreasonably withheld or delayed; and provided, further, however, that a Buyer shall be liable under this Section 7(c) for only that amount of an Indemnity Claim as does not exceed the net amount of proceeds received by such Buyer as a result of the sale of Registrable Securities pursuant to such Registration Statement.

d. Promptly after receipt by a Company Indemnified Person under this Section 7 of notice of the commencement of any action (including any governmental action), such Company Indemnified Person shall, if a Claim in respect thereof is to be made against a Buyer under this Section 7, deliver to such Buyer a written notice of the commencement thereof, and such Buyer shall have the right to participate in, and, to the extent such Buyer so desires, to assume control of the defense thereof with counsel mutually satisfactory to such Buyer and the Company Indemnified Person, as the case may be.

PROVIDED, HOWEVER, that a Company Indemnified Person shall have the right to retain its own counsel with the reasonable fees and expenses to be paid by the Buyer, if, in the reasonable opinion of counsel for the Company, the representation by such counsel of the Company Indemnified Person and the Buyer would be inappropriate due to actual or potential differing interests between the Company Indemnified Person and any other party represented by such counsel in such proceeding. A Buyer shall pay for only one separate legal counsel for the Company Indemnified Persons, and such legal counsel shall be selected in the reasonable judgment of the Company.

e. The indemnification required by this Section 7 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as such expense, loss, damage or liability is incurred and is due and payable.

8. CONTRIBUTION. To the extent any indemnification by the Company or any Buyer is prohibited or limited by law, each of the Company and each Buyer agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 7 to the fullest extent permitted by law, based upon a comparative fault standard.

9. REPORTS UNDER THE 1934 ACT. With a view to making available to the Buyers the benefits of Rule 144 promulgated under the Securities Act or any other similar rule or regulation of the SEC that may at any time permit the Buyers to sell securities of the Company to the public without registration the Company agrees to:

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

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

c. so long as the Buyers own Registrable Securities, promptly upon request, furnish to the Buyers (i) a written statement by the Company that it has complied with the reporting requirements of the Securities Act and the

Exchange Act as required for applicable provisions of Rule 144, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company and (iii) such other information as may be reasonably requested to permit the Buyers to sell such securities pursuant to Rule 144 without registration.

10. ASSIGNMENT OF REGISTRATION RIGHTS. The rights under this Agreement shall be automatically assignable by each Buyer to any transferee of all or any portion of the Registrable Securities if: (i) the Buyer agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company within a reasonable time after such assignment, (ii) the Company is, within a reasonable time after such transfer or assignment, furnished with written notice of (a) the name and address of such transferee or assignee, and (b) the securities with respect to which such registration rights are being transferred or assigned, and (iii) at or before the time the Company receives the written notice contemplated by clause (ii) of this sentence, the transferee or assignee agrees in writing with the Company to be bound by all of the provisions contained herein. In the event that the Company receives notice from a Buyer in writing that it has transferred all or any portion of its Registrable Securities pursuant to this Section, the Company shall have at least ten (10) days to file any amendments or supplements necessary to keep a Registration Statement current and effective pursuant to Rule 415 of the Securities Act, and the commencement date of any Event of Failure (as defined in the Warrants) or Event of Default (as defined in the Warrants) under the Warrants caused thereby will be extended by ten (10) days plus the period of any additional delay caused by the failure of the Buyer and the transferee to provide any information requested by the Company of the type set forth in Section 4(a).

11. AMENDMENT OF REGISTRATION RIGHTS. Provisions of this Agreement may be amended and the observance thereof may be waived (either generally or in a particular instance and either retroactively or prospectively), only with written consent of the Company and the holders of a majority in interest of then-outstanding Registrable Securities; *provided, however*, that if any waiver or amendment to the provisions of Section 2(b) of this Agreement materially and adversely affects the registration rights of the IRA Holders and does not materially and adversely affect the registration rights of the Buyers in the same manner, then such waiver or amendment shall require the consent of the IRA Holders holding at least a majority of the IRA Registrable Securities then held by all IRA Holders; *provided, further*, that if any waiver or amendment to the Investors' Rights Agreement materially and adversely affects the registration rights of the Buyers and does not materially and adversely affect the registration rights of the IRA Holders in the same manner, then such waiver or amendment shall require the consent of the Buyers holding at least a majority of the Registrable Securities then held by all Buyers. Any amendment or waiver effected in accordance with this Section 11 shall be binding upon each of the Buyers and the Company.

12. MISCELLANEOUS.

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

b. Any notices required or permitted to be given under the terms hereof shall be sent by certified or registered mail (return receipt requested) or delivered personally or by courier (including a recognized overnight delivery service) or by facsimile and shall be effective five days after being placed in the mail, if mailed by regular United States mail, or upon receipt, if delivered personally or by courier (including a recognized overnight delivery service) or by facsimile, in each case addressed to a party. The addresses for such communications shall be:

If to the Company:

Pacific Biosciences of California, Inc.
1380 Willow Road
Menlo Park, CA 94025
Fax: (650) 644-0348
Attn: Stephen Moore

With copy to:

Wilson Sonsini Goodrich & Rosati
650 Page Mill Road
Palo Alto, CA 94304
Fax: (650) 493-6811
Attn: Donna M. Petkanics, Esq.

If to a Buyer:

c/o Deerfield Mgmt, L.P.
780 Third Avenue, 37th Floor
New York, New York 10017
Fax: (212) 599-1248
Attn: James E. Flynn

With a copy to:

Katten Muchin Rosenman LLP
575 Madison Avenue
New York, New York 10022
Fax: (212) 940-8776
Attn: Mark I. Fisher, Esq.
Elliot Press, Esq.

Each party shall provide notice to the other party of any change in address.

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

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

e. This Agreement, the Warrants and the Facility Agreement (including all schedules and exhibits thereto) constitute the entire agreement among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement, the Warrants and the Facility Agreement supersede all prior agreements and understandings among the parties hereto with respect to the subject matter hereof and thereof.

f. Subject to the requirements of Section 10 hereof, this Agreement shall inure to the benefit of and be binding upon the successors and assigns of each of the parties hereto.

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

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

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

j. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Buyers by vitiating the intent and purpose of the transactions contemplated hereby. Accordingly, the Company acknowledges that the remedy at law for breach of its obligations hereunder will be inadequate and agrees, in the event of a breach or threatened breach by the Company of any of the provisions hereunder, that the Buyers shall be entitled, in addition to all other available remedies in law or in equity, to an injunction or injunctions to prevent or cure breaches of the provisions of this Agreement and to enforce specifically the terms and provisions hereof, without the necessity of showing economic loss and without any bond or other security being required.

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

l. In the event that any provision of this Agreement is invalid or unenforceable under any applicable statute or rule of law, then such provision shall be deemed inoperative to the extent that it may conflict therewith and shall be deemed modified to conform with such statute or rule of law. Any provision hereof which may prove invalid or unenforceable under any law shall not affect the validity or enforceability of any other provision hereof.

m. In the event a Buyer shall sell or otherwise transfer any of such holder's Registrable Securities, each transferee shall be allocated a pro rata portion of the number of Registrable Securities included in a Registration Statement for such transferor.

n. There shall be no oral modifications or amendments to this Agreement. This Agreement may be modified or amended only in writing.

o. This Agreement shall terminate and be of no further force or effect upon the date that is eight (8) years from the date hereof.

[Remainder of page left intentionally blank]

[Signature page follows]

IN WITNESS WHEREOF, the undersigned Buyers and the Company have caused this Registration Rights Agreement to be duly executed as of the date first written above.

COMPANY:

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

By: /s/ Susan K. Barnes
Name: Susan K. Barnes
Title: Executive Vice President and
Chief Financial Officer

BUYERS:

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS INTERNATIONAL MASTER FUND, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

[Signature Page to Registration Rights Agreement]

SECURITY AGREEMENT

This Security Agreement (as amended, restated, modified or otherwise supplemented from time to time, this “**Agreement**”), dated as of February 5, 2013, is entered into between **Pacific Biosciences of California, Inc.**, a Delaware corporation (“**Obligor**”), in favor of the entities identified as secured parties on the signature page of this Agreement (together, the “**Secured Party**”).

WITNESSETH:

WHEREAS, Obligor has entered into a Facility Agreement, dated as of the date hereof (as amended, restated, modified or otherwise supplemented from time to time, the “**Facility Agreement**”), with the Secured Party;

NOW, THEREFORE, in consideration of the mutual agreements set forth herein, Obligor and the Secured Party agree as follows:

1. Grant of Security Interest.

(a) To secure payment and performance of the Obligations, Obligor hereby grants to Secured Party a security interest in all property and interests in property of Obligor, whether now owned or hereafter acquired or existing, and wherever located (the “**Collateral**”), including, without limitation, the following (the “**Security Interest**”):

- (i) all Accounts;
- (ii) all Receivables;
- (iii) all Equipment;
- (iv) all General Intangibles;
- (v) all Inventory;
- (vi) all Intellectual Property;
- (vii) all Investment Property; and
- (viii) all proceeds and products of the foregoing.

(b) Notwithstanding anything herein to the contrary, in no event shall the Security Interest granted hereunder attach to, and the Collateral shall not include, (i) any asset of the Obligor to the extent that and for so long as the grant of a security interest therein is prohibited by (A) any applicable law, rule, regulation, statute or order of any Governmental Authority or

(B) any contractual restriction in effect as of the date hereof, (ii) more than 65% of the issued and outstanding voting equity interests of any Foreign Subsidiary, (iii) any contract or agreement to which the Obligor is a party or any of its rights or interests thereunder if and for so long as the grant of such Security Interest shall constitute or result in (A) the unenforceability of any right of the Obligor therein or (B) in a breach or termination pursuant to the terms of, or a default under, any such contract or agreement (other than to the extent that any such term would be rendered ineffective pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the New York UCC or any other applicable law or principles of equity); provided, however, that such Security Interest shall attach immediately at such time as the condition causing such unenforceability shall be remedied and, to the extent severable, shall attach immediately to any portion of such contract or agreement that does not result in any of the consequences specified in subclauses (A) or (B) of this clause (iii), including any proceeds of such contract or agreement, (iv) any trust accounts, payroll accounts and escrow accounts maintained by the Obligor, and (v) any asset or property that is subject to a purchase money Lien or Lien securing any capital lease obligations permitted under the Facility Agreement to the extent that the documents relating to such purchase money Lien or capital lease obligations would not permit such asset or property to be subject to the security interests created hereby.

(c) Obligor (i) represents and warrants to Secured Party that, except as permitted by the following clause (ii), there is no agreement in effect on the date hereof that prohibits the creation of the Security Interest and (ii) covenants not to enter into any such agreement other than (i) restrictions or conditions imposed by any agreement relating to secured Indebtedness (or other secured obligations) permitted by the Facility Agreement if such restrictions or conditions apply only to the property or assets permitted to secure such Indebtedness (or other secured obligations, as the case may be) and the products and proceeds thereof, (ii) customary restrictions and conditions contained in agreements relating to any assets pending such sale; provided that such restrictions apply only to the assets that are to be sold and such sale is permitted under the Facility Agreement, (iii) customary provisions in leases, licenses and other agreements restricting the assignment thereof or the subletting of the premises subject thereto, (iv) customary provisions in joint venture agreements or similar arrangements (so long as such restrictions apply only to the assets of the applicable joint venture or other Person that is the subject of such arrangement), (v) the Transaction Documents, (vi) restrictions on cash or other deposits or net worth imposed by customers or lessors or required by insurance, surety or bonding companies under contracts entered into in the ordinary course of business, and (vii) encumbrances or restrictions arising or existing by reason of applicable law or any applicable rule, regulation, order, permit or grant.

2. **Definitions.** Capitalized terms used in this Agreement and not otherwise defined herein have the meanings specified in the Facility Agreement. All terms defined in the New York UCC and not defined herein have the meanings specified therein.

“**New York UCC**” means the Uniform Commercial Code as from time to time in effect in the State of New York.

3. **Notices.** Any notices required or permitted to be given under the terms hereof shall be sent by certified or registered mail (return receipt requested) or delivered personally or by courier (including a recognized overnight delivery service) or by facsimile or by electronic mail and shall be effective five (5) days after being placed in the mail, if mailed by regular United States mail, or upon receipt, if delivered personally or by courier (including a recognized overnight delivery service) or by facsimile, or when read by electronic mail (sender shall have received a “read by recipient” confirmation) in each case addressed to a party. The addresses for such communications shall be:

For the Obligor:

1380 Willow Road
Menlo Park, CA 94025
Attention: Stephen Moore
Email: smoore@pacificbiosciences.com

with a courtesy copy to:

Wilson Sonsini Goodrich & Rosati, PC
650 Page Mill Road
Palo Alto, CA 94304
Facsimile: 650-493-6811
Email: dpetkanics@wsgr.com
Attn: Donna Petkanics

For the Secured Party

Deerfield Management Company
780 Third Avenue, 37th Floor
New York, New York 10017
Attention: James E. Flynn
Facsimile: (212) 573-8111

with a courtesy copy to:

Katten Muchin Rosenman LLP
575 Madison Avenue
New York, New York 10022-2585
Attention: Mark Fisher
Facsimile: (212) 894-5877

4. General.

(a) This Agreement shall bind and inure to the respective successors and assigns of the Obligor and the Secured Party, except that the Obligor may not assign or otherwise transfer all or any part of its rights under the this Agreement without the prior written consent of the Secured Party.

(b) This Agreement, taken together with the other Transaction Documents, contains the entire understanding of the Parties with respect to the matters covered thereby and supersede any and all other written and oral communications, negotiations, commitments and writings with respect thereto. The provisions of this Agreement may be waived, modified, supplemented or amended only by an instrument in writing signed by the authorized officer of each Party.

(c) All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York applicable to contracts made and to be performed in such State.

(d) This Agreement may be executed in several counterparts, and by each party on separate counterparts, each of which and any photocopies and facsimile copies thereof shall be deemed an original, but all of which together shall constitute one and the same agreement.

(e) (i) This Agreement, the Security Interest and all other security interests granted hereby shall terminate when all the Obligations (other than contingent obligations not yet accrued and payable) have been paid in full.

(ii) Upon any sale or other transfer by Obligor of any Collateral that is permitted under the Facility Agreement, or upon the effectiveness of any written consent to the release of the security interest granted hereby in any Collateral pursuant to the Facility Agreement, the security interest in such Collateral shall be automatically released.

(iii) In connection with any termination or release pursuant to clause (i) or (ii) of this Section 4(e), the Lenders shall execute and deliver to the Obligor, at the Obligor's expense, all documents that the Obligor shall reasonably request to evidence such termination or release of its obligations or the Security Interests in its Collateral.

(f) If any provision contained in this Agreement shall be invalid, illegal or unenforceable in any respect under any law, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. The Parties shall endeavor in good faith negotiations to replace the invalid, illegal or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provision.

[Signature page follows]

IN WITNESS WHEREOF, each of the Parties hereto has caused this Agreement to be executed and delivered by its duly authorized officer on the date first set forth above.

OBLIGOR:

PACIFIC BIOSCIENCES OF CALIFORNIA, INC

By: /s/ Susan K. Barnes
Name: Susan K. Barnes
Title: Executive Vice President and
Chief Financial Officer

SECURED PARTIES:

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

**DEERFIELD SPECIAL SITUATIONS INTERNATIONAL MASTER
FUND, L.P.**

By: Deerfield Mgmt, L.P., its General Partner
By: J.E. Flynn Capital LLC, its General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

Pacific Biosciences Completes \$20.5 Million Debt Financing

Menlo Park, Calif., February 5, 2013 (GLOBE NEWSWIRE)—Pacific Biosciences of California, Inc. (Nasdaq:PACB) provider of the PacBio® RS High Resolution Genetic Analyzer, today announced that it has entered into an agreement with entities affiliated with Deerfield Management Company, L.P. (Deerfield), a leading healthcare investment organization and significant Pacific Biosciences stockholder, pursuant to which Deerfield provided Pacific Biosciences with \$20.5 million in debt financing.

“We are pleased that Deerfield, one of our largest shareholders, appreciates the potential in our business and is continuing to support us through this funding commitment,” stated Mike Hunkapiller, Chairman and CEO of Pacific Biosciences. “We believe this financing puts us in a stronger position to continue to drive the adoption of our Single Molecule, Real-Time (SMRT®) Sequencing technology and products.”

Under the terms of the agreement, Pacific Biosciences issued senior secured promissory notes in the aggregate principal amount of \$20.5 million. The notes, which have a maximum seven year term, will accrue interest at a rate of 8.75% per annum, payable quarterly in arrears. In addition, Pacific Biosciences issued Deerfield seven year warrants to purchase 5.5 million shares of its common stock with an exercise price of \$2.63 per share. Deerfield received a transaction fee of \$0.5 million at the time of funding. For additional information on the terms of these agreements, please refer to the current report on Form 8-K that Pacific Biosciences filed with the Securities and Exchange Commission, which includes copies of the agreements related to this transaction and this press release as exhibits.

“As long-term equity holders, we continue to believe that Pacific Biosciences’ SMRT Sequencing technology brings unique value to biological research,” commented James Flynn, General Partner at Deerfield. “We believe that Pacific Biosciences’ products can have a significant impact on human health, and Deerfield is pleased to support the company in achieving that goal.”

This announcement is neither an offer to sell nor a solicitation to buy any of the foregoing securities, nor shall there be any offer, solicitation or sale of the securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.

The securities have not been registered under the Securities Act of 1933, as amended (Securities Act) or any state securities laws, and may not be offered or sold in the United States absent registration or the availability of an exemption from the registration requirements of the Securities Act and applicable state securities laws.

For more information, please visit www.pacb.com.

About Pacific Biosciences

Pacific Biosciences of California, Inc. (Nasdaq:PACB) offers the PacBio® RS High Resolution Genetic Analyzer to help scientists solve genetically complex problems. Based on its novel Single Molecule, Real-Time (SMRT®) technology, the company's products enable: targeted sequencing to more comprehensively characterize genetic variations; *de novo* genome assembly to more fully identify, annotate and decipher genomic structures; and DNA base modification identification to help characterize epigenetic regulation and DNA damage. By providing access to information that was previously inaccessible, Pacific Biosciences enables scientists to increase their understanding of biological systems.

About Deerfield

Deerfield is a leading investment management firm, committed to advancing healthcare through investment, information and philanthropy.

For more information, please visit www.deerfield.com

Forward-Looking Statements

This press release contains forward-looking statements relating to Pacific Biosciences' business, including its future prospects, expected use of the proceeds of the debt financing, ability to drive adoption of its Single Molecule, Real-Time (SMRT®) Sequencing technology and products, and the value and impact its products may have on biological research and human health. You should not place undue reliance on these forward-looking statements because they involve known and unknown risks, uncertainties and other factors that are, in some cases, beyond Pacific Biosciences' control and that could cause actual outcomes to differ materially from those in the forward-looking statements. Factors that could materially affect actual outcomes can be found in Pacific Biosciences' filings with the Securities and Exchange Commission, including the most recently filed Quarterly Report on Form 10-Q, including those listed under the caption "Risk Factors." Pacific Biosciences expressly disclaims any intent or obligation to update these forward-looking statements, except as required by law.

CONTACT: Pacific Biosciences:

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Pacific Biosciences

650.521.8450

ir@pacificbiosciences.com

Source: Pacific Biosciences of California, Inc.