

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

FORM 8-K

CURRENT REPORT

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

Date of Report (Date of earliest event reported): April 30, 2024

bluebird bio, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-35966
(Commission File Number)

13-3680878
(IRS Employer
Identification No.)

**455 Grand Union Boulevard,
Somerville, MA**
(Address of Principal Executive Offices)

02145
(Zip Code)

(339) 499-9300
(Registrant's telephone number, including area code)

Not Applicable
(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 Instructions A.2. below):

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value per share	BLUE	The Nasdaq Stock Market LLC

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

Emerging growth company

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

Item 1.01 Entry into a Material Definitive Agreement.

On April 30, 2024, bluebird bio, Inc. (the “Company”) entered into an amendment (the “Amendment”) to its Loan and Security Agreement (the “LSA”), dated as of March 15, 2024, by and among the Company, the several banks and other financial institutions or entities party thereto, as lenders (collectively, the “Lenders”), and Hercules Capital, Inc., as administrative agent and collateral agent (the “Agent”). The Amendment relates to certain provisions of the LSA that are affected by the Company’s previously announced plan to restate its consolidated financial statements as of and for the year ended December 31, 2022 and unaudited financial information for each of the first three quarters of 2023 and 2022 in its Annual Report on Form 10-K for the year ended December 31, 2023 (the “2023 Form 10-K”). The work required to complete all necessary procedures in connection with the restatements has resulted in a delay in filing the 2023 Form 10-K and is anticipated to result in a delay in filing the Company’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2024 (the “Q1 Form 10-Q”).

Pursuant to the Amendment, the Company, the Agent and the Lenders agreed to, among other things: (i) revised monthly financial reporting metrics required to be provided by the Company to the Lenders for each of the months ending March 31, 2024 through June 30, 2024; and (ii) extension of the deadlines by which the Company must provide to the Lenders financial statements for the year ended December 31, 2023 and for the quarter ended March 31, 2024. Further, the Amendment provides that the Company’s late delivery and filing of the 2023 Form 10-K and the Q1 Form 10-Q shall not be deemed a violation of the Company’s covenant to maintain compliance with applicable law, so long as such documents are filed by the extended deadlines.

The foregoing description of the Amendment does not purport to be complete and is qualified in its entirety by the full text of the LSA and the Amendment, copies of which are filed as Exhibits 10.1 and 10.2 to this Current Report on Form 8-K and incorporated herein by reference.

Forward-Looking Statements

This Current Report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this Current Report that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation statements regarding the Company’s expectations with respect to the filing of the 2023 Form 10-K and Q1 Form 10-Q and its performance of obligations under the LSA. Statements using words such as “expect”, “anticipate”, “believe”, “may”, “will” and similar terms are also forward-looking statements. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause the Company’s actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, the important factors discussed under the caption “Risk Factors” in the Company’s Annual Report on Form 10-K for the year ended December 31, 2022, as updated by its subsequent Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings with the Securities and Exchange Commission. These risks and uncertainties include, but are not limited to, risks related to the Company’s compliance with the LSA, including the risk that operating restrictions under the LSA adversely affect the Company’s ability to conduct its business, the risk that the Company will not achieve milestones required to access future tranches under the LSA, and the risk that the Company will fail to comply with covenants under the LSA, including with respect to required revenue levels, which could result in an event of default. Except as required by law, the Company undertakes no obligations to make any revisions to the forward-looking statements contained in this Current Report or to update them to reflect events or circumstances occurring after the date of this Current Report, whether as a result of new information, future developments or otherwise.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
10.1*†	<u>Loan and Security Agreement, dated as of March 15, 2024, by and among the Company, the several banks and other financial institutions or entities party thereto, as lenders, and Hercules Capital, Inc., as administrative agent and collateral agent.</u>
10.2*†	<u>First Amendment to Loan and Security Agreement, dated as of April 30, 2024, by and among the Company, the several banks and other financial institutions or entities party thereto, as lenders, and Hercules Capital, Inc., as administrative agent and collateral agent.</u>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Annexes, schedules and exhibits have been omitted pursuant to Item 601(b)(2) or 601(a)(5), as applicable, of Regulation S-K. The registrant agrees to furnish supplementally a copy of any omitted attachment to the SEC on a confidential basis upon request.

† Portions of this exhibit (indicated by asterisks) have been omitted in accordance with the rules of the SEC.

SIGNATURES

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

Date: May 3, 2024

bluebird bio, Inc.

By: /s/ Christopher Krawtschuk

Name: Christopher Krawtschuk

Title: *Chief Financial Officer, Principal Financial Officer and
Principal Accounting Officer*

LOAN AND SECURITY AGREEMENT

This LOAN AND SECURITY AGREEMENT (this "Agreement") is made and dated as of March 15, 2024 and is entered into by and among BLUEBIRD BIO, INC., a Delaware corporation ("Company"), and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party hereto (together with Company, individually or collectively, as the context may require, "Borrower"), the several banks and other financial institutions or entities from time to time party hereto as lenders (each, a "Lender", and collectively "Lenders") and HERCULES CAPITAL, INC., a Maryland corporation, in its capacity as administrative agent and collateral agent for itself and Lenders (in such capacity, including any successors or permitted assigns, "Agent").

RECITALS

- A. Borrower has requested Lenders make available to Borrower up to four (4) tranches of term loans in an aggregate principal amount of up to One Hundred Seventy-Five Million Dollars (\$175,000,000) (collectively, the "Term Loans"); and
- B. Lenders are willing to make the Term Loans on the terms and conditions set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, Borrower, Agent and Lenders agree as follows:

SECTION 1. DEFINITIONS AND RULES OF CONSTRUCTION

1.1 Unless otherwise defined herein, the following capitalized terms shall have the following meanings:

"Account Control Agreement(s)" means any agreement entered into by and among Agent, Borrower and a third-party bank or other institution (including a Securities Intermediary) in which Borrower maintains a Deposit Account or an account holding Investment Property and which perfects Agent's first priority security interest in the subject account or accounts.

"ACH Authorization" means the ACH Debit Authorization Agreement in substantially the form of Exhibit H, which account numbers shall be redacted for security purposes if and when filed publicly by Borrower.

"Acquisition" means any transaction or series of related transactions for the direct or indirect (a) acquisition of all or substantially all of the assets of a Person, or of any business, line of business or division or other unit of operation of a Person, (b) acquisition of fifty percent (50%) or more of the Equity Interests of any Person, whether or not involving a merger, consolidation or similar transaction with such other Person, or otherwise causing any Person to become a Subsidiary of Borrower, or (c) acquisition of, or the right to use, develop or sell (in each case, including through licensing (other than Permitted Licenses)), any product, product line or intellectual property of or from any other Person.

"Advance(s)" means a Term Loan Advance.

"Advance Date" means the funding date of any Advance.

"Advance Request" means a request for an Advance submitted by Borrower to Agent in substantially the form of Exhibit A, which account numbers shall be redacted for security purposes if and when filed publicly by Borrower.

“Affiliate” means (a) any Person that directly or indirectly controls, is controlled by, or is under common control with the Person in question, (b) any Person directly or indirectly owning, controlling or holding with power to vote twenty percent (20%) or more of the outstanding voting securities of another Person, or (c) any Person twenty percent (20%) or more of whose outstanding voting securities are directly or indirectly owned, controlled or held by another Person with power to vote such securities. As used in the definition of “Affiliate,” the term “control” means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through ownership of voting securities, by contract or otherwise.

“Agent” has the meaning given to such term in the preamble to this Agreement.

“Agreement” means this Loan and Security Agreement, as amended, restated, amended and restated, supplemented or otherwise modified from time to time.

“Amortization Date” means April 1, 2027; provided however, if the Interest Only Extension Conditions are satisfied, then April 1, 2028.

“Anti-Corruption Laws” means all laws, rules, and regulations of any jurisdiction applicable to Borrower or any of its controlled Affiliates from time to time concerning or relating to bribery or corruption, including without limitation the United States Foreign Corrupt Practices Act of 1977, as amended, the UK Bribery Act 2010 and other similar legislation in any other jurisdictions.

“Anti-Terrorism Laws” means any laws, rules, regulations or orders relating to terrorism or money laundering, including without limitation Executive Order No. 13224 (effective September 24, 2001), the USA PATRIOT Act, the laws comprising or implementing the Bank Secrecy Act, and the laws administered by OFAC.

“Bankruptcy Code” means the federal bankruptcy law of the United States as from time to time in effect, currently as Title 11 of the United States Code. Section references to current sections of the Bankruptcy Code shall refer to comparable sections of any revised version thereof if section numbering is changed.

“Blocked Person” means any Person: (a) listed in the annex to, or is otherwise subject to the provisions of, Executive Order No. 13224, (b) owned or controlled by, or acting for or on behalf of, any Person that is listed in the annex to, or is otherwise subject to the provisions of, Executive Order No. 13224, (c) with which any Lender is prohibited from dealing or otherwise engaging in any transaction by any Anti-Terrorism Law, (d) that commits, threatens or conspires to commit or supports “terrorism” as defined in Executive Order No. 13224, or (e) that is named a “specially designated national” or “blocked person” on the most current list published by OFAC or other similar list.

“Board of Directors” means, with respect to any Person that is a corporation, its board of directors, with respect to any Person that is a limited liability company, its board of managers, board of members or similar governing body, and with respect to any other Person that is another form of a legal entity, such Person’s governing body in accordance with its Organizational Documents.

“Borrower Products” means all products, software, service offerings, technical data or technology currently being designed, manufactured or sold or that are under clinical investigation or development by a Loan Party or which a Loan Party intends to sell, license, or distribute in the future including any products or service offerings under development, collectively, together with all products, software, service offerings, technical data or technology that have been sold, licensed or distributed by a Loan Party since its formation or incorporation, as applicable.

“Borrower’s Books” means Borrower’s or any of its Subsidiaries’ books and records including ledgers, federal, state, local and foreign tax returns, records regarding Borrower’s or its Subsidiaries’ assets or liabilities, the Collateral, business operations or financial condition, and all computer programs or storage or any equipment containing such information.

“Business Day” means any day other than Saturday, Sunday and any other day on which banking institutions in the State of California or the State of New York are closed for business.

“Cash” means all cash, cash equivalents and liquid funds.

“CFC” means a controlled foreign corporation within the meaning of Section 957(a) of the Code.

“Change in Control” means (a) at any time, any “person” or “group” (as such terms are used in Sections 13(d) and 14(d) of Securities Exchange Act of 1934, as amended, but excluding any employee benefit plan of such person or its subsidiaries and any person or entity acting in its capacity as trustee, agent or other fiduciary or administrator of any such plan unless such plan is part of a group)), shall become the “beneficial owner” (as defined in Rules 13(d)-3 and 13(d)-5 under Securities Exchange Act of 1934, as amended), directly or indirectly, of fifty percent (50.0%) or more of the Equity Interests of the Company entitled to vote for members of the Board of Directors of Company (determined on a fully diluted basis); (b) any “change of control”, “fundamental change”, “make-whole fundamental change” or any comparable term under and as defined in any indenture governing any Permitted Convertible Debt Financing has occurred; (c) during any period of twelve (12) consecutive months, a majority of the members of the Board of Directors of Company cease to be composed of individuals (i) who were members of that Board of Directors on the first (1st) day of such period, (ii) whose election or nomination to that Board of Directors was approved by individuals referred to in clause (i) above constituting at the time of such election or nomination at least a majority of that Board of Directors or (iii) whose election or nomination to that Board of Directors was approved by individuals referred to in clauses (i) and (ii) above constituting at the time of such election or nomination at least a majority of that Board of Directors; or (d) at any time, Company shall cease to own and control, of record and beneficially, directly or indirectly, one hundred percent (100.0%) of each class of outstanding stock, partnership, membership, or other ownership interest or other equity securities of each Subsidiary of Company (other than, with respect to any Foreign Subsidiary, any directors’ qualifying shares required to comply with local ownership requirements under applicable law in the jurisdiction of formation or organization of such Foreign Subsidiary) free and clear of all Liens (other than Permitted Liens), except to the extent expressly permitted by Section 7.9.

“Charter” means, with respect to any Person, such Person’s incorporation, formation or equivalent documents, as in effect from time to time.

“Closing Date” means the date of this Agreement.

“Code” means the U.S. Internal Revenue Code of 1986, as amended.

“Collateral Claim” means any and all present and future “claims” (used in its broadest sense, as contemplated by and defined in Section 101(5) of the Bankruptcy Code, but without regard to whether such claim would be disallowed under the Bankruptcy Code) of a Lender now or hereafter arising or existing under or relating to this Agreement and related Loan Documents, whether joint, several, or joint and several, whether fixed or indeterminate, due or not yet due, contingent or non-contingent, matured or unmatured, liquidated or unliquidated, or disputed or undisputed, whether under a guaranty or a letter of credit, and whether arising under contract, in tort, by law, or otherwise, any interest or fees thereon (including interest or fees that accrue after the filing of a petition by or against Borrower under the Bankruptcy Code, irrespective of whether allowable under the Bankruptcy Code), any costs of Enforcement Actions, including reasonable attorneys’ fees and costs, and any prepayment or termination premiums.

“Common Stock” means the Common Stock, \$0.01 par value per share, of Company.

“Company IP” means any and all of the following, as they exist in and throughout the United States: (a) Current Company IP; (b) improvements, continuations, continuations-in-part, divisions, provisionals or any substitute applications, any patent issued with respect to any of the Current Company IP, any patent right claiming the composition of matter of, or the method of making or using, the Borrower Products in the United

States, any reissue, reexamination, renewal or patent term extension or adjustment (including any supplementary protection certificate) of any such patent, and any confirmation patent or registration patent or patent of addition based on any such patent; (c) trade secrets or trade secret rights, including any rights to unpatented inventions, know-how, show-how, operating manuals, confidential or proprietary information, research in progress, algorithms, data, databases, data collections, designs, processes, procedures, methods, protocols, materials, formulae, drawings, schematics, blueprints, flow charts, models, strategies, prototypes, techniques, and the results of experimentation and testing, including samples, in each case, as specifically related to any research, development, manufacture, production, use, commercialization, marketing, importing, storage, transport, offer for sale, distribution or sale of the Borrower Products; (d) any and all IP Ancillary Rights specifically relating to any of the foregoing; and (e) regulatory filings, submissions and approvals related to any research, development, manufacture, production, use, commercialization, marketing, importing, storage, transport, offer for sale, distribution or sale of the Borrower Products and all data provided in any of the foregoing.

“Compliance Certificate” means a certificate in the form attached hereto as Exhibit E.

“Contingent Obligation” means, as applied to any Person, any direct or indirect liability, contingent or otherwise, of that Person with respect to (i) any Indebtedness, lease (excluding operating leases of real property), dividend, letter of credit or other obligation of another Person, including any such obligation directly or indirectly guaranteed, endorsed, co-made or discounted or sold with recourse by that Person, or in respect of which that Person is otherwise directly or indirectly liable; (ii) any obligations with respect to undrawn letters of credit, corporate credit cards or merchant services issued for the account of that Person; and (iii) all obligations arising under any interest rate, currency or commodity swap agreement, interest rate cap agreement, interest rate collar agreement, or other agreement or arrangement designated to protect a Person against fluctuation in interest rates, currency exchange rates or commodity prices; provided, however, that the term “Contingent Obligation” shall not include endorsements for collection or deposit in the ordinary course of business. The amount of any Contingent Obligation shall be deemed, without duplication of the primary obligation, to be an amount equal to the stated or determined amount of the primary obligation in respect of which such Contingent Obligation is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by such Person in good faith; provided, however, that such amount shall not in any event exceed the maximum amount of the obligations under the guarantee or other support arrangement. For the avoidance of doubt, no Permitted Bond Hedge Transaction or Permitted Warrant Transaction will be considered a Contingent Obligation of Company.

“Copyright License” means any written agreement granting any right to use any Copyright or Copyright registration, now owned or hereafter acquired by Borrower or in which Borrower now holds or hereafter acquires any interest.

“Copyrights” means all copyrights, whether registered or unregistered, held pursuant to the laws of the United States of America, any State thereof, or of any other country.

“Default” means any event, circumstance or condition that has occurred or exists, that would, with the passage of time or the requirement that notice be given or both, become an Event of Default.

“Deposit Accounts” means any “deposit accounts”, as such term is defined in the UCC, and includes any checking account, savings account, or certificate of deposit.

“Disqualified Equity Interests” means any Equity Interests that, by their terms (or by the terms of any security or other Equity Interests into which they are convertible or for which they are exchangeable), or upon the happening of any event or condition (a) mature (excluding any maturity as the result of an optional redemption by the issuer thereof) or are mandatorily redeemable (other than solely for Qualified Equity Interests) pursuant to a sinking fund obligation or otherwise, (b) are redeemable at the option of the holder thereof (other than solely for Qualified Equity Interests), in whole or in part, (c) provide for scheduled payments of dividends in cash or cash equivalents (other than solely for Qualified Equity Interests), or (d) are or become convertible into or exchangeable for Indebtedness or any other Equity Interests that would constitute Disqualified Equity Interests, in each case of the

foregoing clauses (a) through (d), prior to the date that is one hundred eighty (180) days after the Term Loan Maturity Date (other than (i) following repayment in full of the Secured Obligations (other than contingent or indemnification obligations not then due) or (ii) upon a “change in control” or “asset sale”; provided that any payment required pursuant to this clause (ii) is subject to the prior repayment in full of the Secured Obligations (other than contingent or indemnification obligations not then due); provided, however, that if such Equity Interests are issued to any employee or to any plan for the benefit of employees of the Borrower or the Subsidiaries or by any such plan to such employees, such Equity Interests shall not constitute Disqualified Equity Interests solely because they may be required to be repurchased by the Borrower or any Subsidiary in order to satisfy applicable statutory or regulatory obligations or as a result of such employee’s termination, death or disability).

“Division” means, in reference to any Person which is an entity, the division of such Person into two (2) or more separate Persons, with the dividing Person either continuing or terminating its existence as part of such division, including, without limitation, as contemplated under Section 18-217 of the Delaware Limited Liability Company Act for limited liability companies formed under Delaware law, Section 17-220 of the Delaware Revised Uniform Limited Partnership Act for limited partnerships formed under Delaware law, or any analogous action taken pursuant to any other applicable law with respect to any corporation, limited liability company, partnership or other entity.

“Domestic Subsidiary” means any Subsidiary organized under the laws of the United States of America, any State thereof, the District of Columbia, or any other jurisdiction within the United States of America.

“Due Diligence Fee” means Seventy-Five Thousand Dollars (\$75,000), which fee has been paid to and received by Agent prior to the Closing Date, and shall be deemed fully earned on such date regardless of the early termination of this Agreement.

“EBITDA” means, with respect to any Person for any period, (a) Net Income for such period, plus (b) without duplication and to the extent deducted in the calculation of Net Income, (i) Interest Expense for such period, plus (ii) total depreciation expense for such period, plus (iii) total amortization expense for such period, plus (iv) income tax expense for such period, minus (c) the sum, without duplication of the amounts for such period, but solely to the extent increasing Net Income for such period, of (i) any credit for United States federal income taxes or other income taxes for such period, plus (ii) if applicable, expenses related to capital leases associated with manufacturing contracts for such period, to the extent such expenses are not already included in Net Income, plus (iii) any one-time business development proceeds or other revenue not linked to product sales.

“Enforcement Action” means, with respect to any Lender and with respect to any Collateral Claim of such Lender or any item of Collateral in which such Lender has or claims a security interest lien or right of offset, any action, whether judicial or nonjudicial, to repossess, collect, accelerate, offset, recoup, give notification to third parties with respect to, sell, dispose of, foreclose upon, give notice of sale, disposition, or foreclosure with respect to, or obtain equitable or injunctive relief with respect to, such Collateral Claim or Collateral. The filing, or the joining in the filing, by any Lender of an involuntary bankruptcy or Insolvency Proceeding against Borrower also is an Enforcement Action.

“Equity Interests” means, with respect to any Person, the capital stock, partnership or limited liability company interest, or other equity securities or equity ownership interests of such Person; provided that “Equity Interests” shall not include at any time (i) Permitted Convertible Debt until such Permitted Convertible Debt has been converted pursuant to the terms thereof, (ii) other debt securities that are or by their terms may be convertible or exchangeable into or for such Equity Interests until such debt securities have been converted or exchanged pursuant to the terms thereof or (iii) any Permitted Warrant Transaction until any Equity Interests have been issued pursuant to the terms thereof.

“ERISA” means the Employee Retirement Income Security Act of 1974, as amended, and the regulations promulgated thereunder.

“Excluded Account” means any of the following accounts which are designated as such in writing to Agent as of the Closing Date or, with respect to any account opened after the Closing Date, in the next Compliance Certificate delivered after such account is opened: (i) accounts used exclusively to maintain cash collateral subject to a Permitted Lien, (ii) any payroll, payroll taxes or other employee wage and benefits account, provided that the aggregate balance of all such accounts shall not exceed the amount of all payroll, payroll taxes or related wage or benefit payments required to be made in the two (2) next payroll periods (and such additional amounts as may be required by any applicable law or financial institution with respect to such account), and (iii) any zero balance account.

“Excluded Subsidiaries” means (a) all Foreign Subsidiaries and Foreign Subsidiary Holding Companies; provided that in each of the foregoing cases, (i) the Excluded Subsidiary Condition is satisfied with respect to such Subsidiary, and (ii) no Excluded Subsidiary owns any Intellectual Property that is material in the good faith determination of Agent (it being understood that an Excluded Subsidiary may license Intellectual Property on a non-exclusive basis), and (b) the MSC Subsidiary.

“Excluded Subsidiary Condition” means, as of the last day of each fiscal quarter for which the most recent quarterly financial statements were delivered in accordance with Section 7.1, (a) the aggregate revenues (under GAAP, but excluding any revenue recognized in connection with cost reimbursement from Company or any Subsidiary thereof) of all Excluded Subsidiaries does not exceed three percent (3.00%) of the consolidated revenues (under GAAP, but excluding any revenue recognized in connection with cost reimbursement from Company or any Subsidiary thereof) of Borrower and its Subsidiaries; and (b) the value of the total assets of all Excluded Subsidiaries does not exceed three percent (3.00%) of the consolidated total assets of Borrower and its Subsidiaries.

“FDA” means the U.S. Food and Drug Administration or any successor thereto.

“FDA Good Manufacturing Practices” means the applicable requirements and standards set forth in the Food, Drug, and Cosmetic Act, 21 U.S.C. Section 301 et seq. and its implementing regulations (“FDCA”).

“FDA Laws” means all applicable guidelines, policies and Requirements of Law administered, implemented, enforced or issued by FDA or any comparable governmental authority.

“Federal Health Care Program Laws” means collectively, federal Medicare or federal or state Medicaid statutes, Sections 1128, 1128A or 1128B of the Social Security Act (42 U.S.C. §§ 1320a-7, 1320a-7a, 1320a-7b and 1320a-7h), the federal TRICARE statute (10 U.S.C. § 1071 et seq.), the civil False Claims Act of 1863 (31 U.S.C. § 3729 et seq.), criminal false claims statutes (e.g., 18 U.S.C. §§ 287 and 1001), the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. § 3801 et seq.), HIPAA, or related regulations or other Requirements of Law that directly or indirectly govern drug manufacturers, or relationships among health care providers, suppliers, distributors, manufacturers and patients, and the pricing, sale and reimbursement of health care items or services including the collection and reporting requirements, and the processing of any applicable rebate, chargeback or adjustment, under applicable rules and regulations relating to the Medicaid Drug Rebate Program (42 U.S.C. § 1396r-8) and any state supplemental rebate program, Medicare average sales price reporting (42 U.S.C. § 1395w-3a), the Public Health Service Act (42 U.S.C. § 256b), the VA Federal Supply Schedule (38 U.S.C. § 8126) or under any state pharmaceutical assistance program or U.S. Department of Veterans Affairs agreement, and any successor government programs.

“Foreign Subsidiary” means a Subsidiary other than any Domestic Subsidiary.

“Foreign Subsidiary Holding Company” means any Domestic Subsidiary that owns (directly or indirectly) no material assets other than Equity Interests (or Equity Interests and debt interests) of one or more (a) CFCs or (b) other Foreign Subsidiary Holding Companies.

“GAAP” means generally accepted accounting principles in the United States of America, as in effect from time to time.

“Governmental Approval” means any consent, authorization, approval, order, license, franchise, permit, certificate, accreditation or registration issued, granted or allowed by any Governmental Authority.

“Governmental Authority” means any applicable federal, state, municipal, national or other government, governmental department, commission, board, bureau, court, agency or instrumentality or political subdivision thereof (including the FDA) or any entity or officer exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to any government or any court, in each case whether associated with a state or locality of the United States, the United States, or a foreign government.

“Gross Profit” means, for any period, Borrower’s total revenue (as determined in accordance with GAAP) solely from the sale of LYFGENIA, ZYNTEGLO and SKYSONA (which may include royalty income, profit sharing, or sales-based milestone revenue recognized in accordance with GAAP, but which shall not include any upfront or non-sales-based milestone payments under business development or licensing transactions), minus total cost of goods sold (as determined in accordance with GAAP), measured with respect to such period as of the date of the most recently delivered monthly financial statements in accordance with Section 7.1(a).

“Guarantor” means any Subsidiary of Borrower that enters into a Guaranty.

“Guaranty” means a guaranty with respect to the Secured Obligations, in form and substance satisfactory to Agent that may be entered into from time to time, as the same may from time to time be amended, restated, modified or otherwise supplemented.

“Hedge Agreement” means any interest rate, currency or commodity swap agreement, interest rate cap agreement, interest rate collar agreement, fuel or mineral or other commodity hedge or exchange agreement or any other agreement or arrangement entered into for non-speculative purposes designated to protect a Person against fluctuation in interest rates currency exchange rates, commodity or mineral prices.

“Immaterial Acquisition” means any Acquisition other than a Material Acquisition.

“Indebtedness” means, without duplication, (a) all indebtedness for borrowed money or the deferred purchase price of property or services (excluding trade credit, purchase orders or similar indebtedness entered into in the ordinary course of business), including reimbursement and other obligations with respect to surety bonds and letters of credit, (b) all obligations evidenced by notes, bonds, debentures or similar instruments, (c) all capital lease obligations, (d) all obligations to purchase, redeem, retire or defease Disqualified Equity Interests, (e) “earnouts” (to the extent treated as liabilities on the balance sheet in accordance with GAAP), purchase price adjustments, profit sharing arrangements, deferred purchase money amounts and similar payment obligations or continuing obligations of any nature arising out of purchase and sale contracts, (f) obligations arising under bonus, deferred compensation, incentive compensation or similar arrangements (other than those arising in the ordinary course of business), (g) non-contingent obligations to reimburse any bank or Person in respect of amounts paid under a letter of credit, banker’s acceptance or similar instrument, and (h) all Contingent Obligations. For the avoidance of doubt, no Permitted Bond Hedge Transaction or Permitted Warrant Transaction will be considered Indebtedness of Borrower.

“Initial Facility Charge” means Seven Hundred Fifty Thousand Dollars (\$750,000), which is payable to Lenders in accordance with Section 4.1(i).

“Insolvency Proceeding” means any proceeding by or against any Person under the United States Bankruptcy Code, or any other bankruptcy, liquidation, moratorium, receivership, or insolvency law, including assignments for the benefit of creditors, compositions, extensions generally with its creditors, or proceedings seeking reorganization, administration, arrangement, receivership or other similar relief proceedings in the applicable jurisdiction from time to time in effect and affecting the rights of creditors generally.

“Intellectual Property” means all of Borrower’s Copyrights; Trademarks; Patents; Licenses; trade secrets and inventions; mask works; Borrower’s applications therefor and reissues, extensions, or renewals thereof; and Borrower’s goodwill associated with any of the foregoing, together with Borrower’s rights to sue for past, present and future infringement of Intellectual Property and the goodwill associated therewith.

“Intellectual Property Security Agreement” means the Intellectual Property Security Agreement dated as of the Closing Date among the applicable Loan Parties and Agent, as the same may from time to time be amended, restated, modified or otherwise supplemented.

“Interest Expense” means for any Person in any fiscal period, interest expense (whether cash or non-cash) of such Person, determined on a consolidated basis and in accordance with GAAP for such period.

“Interest Only Extension Conditions” means satisfaction of each of the following events: (a) no Default or Event of Default shall have occurred and be continuing; and (b) Borrower shall have achieved the Performance Milestone.

“Investment” means (a) any direct or indirect ownership of Equity Interests of or in any Person, (b) any loan, advance or capital contribution to any Person, or (c) any Acquisition.

“IP Ancillary Rights” means, with respect to any Copyright, Trademark, Patent, software, trade secrets or trade secret rights, including any rights to unpatented inventions, know-how, show-how and operating manuals, all income, royalties, proceeds and liabilities at any time due or payable or asserted under or with respect to any of the foregoing or otherwise with respect thereto, including all rights to sue or recover at law or in equity for any past, present or future infringement, misappropriation, dilution, violation or other impairment thereof, and, in each case, all rights to obtain any other intellectual property right ancillary to any Copyright, Trademark, Patent, software, trade secrets or trade secret rights.

“IRS” means the U.S. Internal Revenue Service.

“Joinder Agreements” means for each Subsidiary required to join as a Borrower or as a Guarantor pursuant to Section 7.13, a completed and executed Joinder Agreement in substantially the form attached hereto as Exhibit F (or such other form as may be agreed by Agent in its sole discretion).

“License” means any Copyright License, Patent License, Trademark License or other Intellectual Property license of rights or interests.

“Lien” means any mortgage, deed of trust, pledge, hypothecation, assignment for security, security interest, encumbrance, levy, lien or charge of any kind, whether voluntarily incurred or arising by operation of law or otherwise, against any property, any conditional sale or other title retention agreement, and any lease in the nature of a security interest.

“Loan” means the Advances made under this Agreement.

“Loan Documents” means this Agreement, the promissory notes (if any), the ACH Authorization, the Account Control Agreements, any Joinder Agreement, all UCC Financing Statements, any Guaranty, any Warrant, the Pledge Agreement, the Intellectual Property Security Agreement, and any other documents executed in connection with the Secured Obligations or the transactions contemplated hereby, as the same may from time to time be amended, modified, supplemented or restated.

“Loan Party” means Borrower or any Guarantor.

“Market Capitalization” means, for any given date of determination, an amount equal to (a) the average of the daily volume weighted average price of Company’s Common Stock as reported for each of the five

(5) Trading Days preceding such date of determination *multiplied by* (b) the total number of issued and outstanding shares of Company's Common Stock that are issued and outstanding on the date of the determination and listed on the Principal Stock Exchange, subject to appropriate adjustment for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

“Market Disruption Event” means any of the following events: (a) any suspension of, or limitation imposed on, trading by the Principal Stock Exchange in shares of Common Stock during any period or periods aggregating one hour or longer and whether by reason of movements in price exceeding limits permitted by the Principal Stock Exchange or otherwise relating to the Common Stock; or (b) the failure to open of the Principal Stock Exchange on which the Common Stock is traded or the closure of the Principal Stock Exchange prior to its respective scheduled closing time for the regular trading session on such day (without regard to after hours or other trading outside the regular trading session hours).

“Material Acquisition” means any Acquisition for which the total acquisition consideration paid or incurred, or to be paid or incurred, with respect thereto, including any earn-outs with respect thereto and the amount of Permitted Indebtedness assumed, is greater than or equal to Two Million Dollars (\$2,000,000).

“Material Adverse Effect” means a material adverse effect upon: (i) the business, operations, properties, assets or financial condition of the Loan Parties and their respective Subsidiaries taken as a whole; or (ii) the ability of Borrower (as a whole) to perform or pay the Secured Obligations in accordance with the terms of the Loan Documents, or the ability of Agent or Lenders to enforce any of its rights or remedies with respect to the Secured Obligations; or (iii) the Collateral or Agent's Liens on the Collateral or the priority of such Liens; except, in the case of this clause (iii), as a result of Agent's failure to maintain possession of any possessory collateral delivered to it under the Loan Documents or file UCC continuation statements or amendments.

“Material Agreement” means (a) any material license, agreement or other contractual agreement which would be required to be disclosed in Company's public filings, and (b) any license, agreement or other contractual arrangement, the termination of which could reasonably be expected to result in a Material Adverse Effect, individually or in the aggregate.

“Material Regulatory Liabilities” means (a) any liabilities arising from the violation of Public Health Laws, Federal Health Care Program Laws, and other applicable comparable Requirements of Law, or from any non-routing terms, conditions of or requirements imposed relative to any Registrations (including costs of actions required under applicable FDA Laws and Federal Health Care Program Laws, or necessary to remedy any violation of any terms or conditions applicable to any Registrations), including, but not limited to, withdrawal of approval, recall, revocation, suspension, import detention and seizure of any Borrower Product, and (b) any loss of recurring annual revenues as a result of any loss, suspension or limitation of any Registrations, which, in the case of the foregoing clauses (a) and (b), exceed Three Million Five Hundred Thousand Dollars (\$3,500,000) individually or in the aggregate, or could reasonably be expected to have a Material Adverse Effect.

“Maximum Term Loan Amount” means One Hundred Seventy-Five Million and No/100 Dollars (\$175,000,000).

“MSC Investment Conditions” means that Borrower maintains Qualified Cash in an amount equal to or greater than the lesser of (i) one hundred and twenty five percent (125%) of the aggregate outstanding Secured Obligations (inclusive of any Prepayment Charge and End of Term Charge that would be due and owing if the outstanding Loans were prepaid at the time of measurement) or (ii) one hundred percent (100%) of the consolidated Cash of Borrower and its Subsidiaries (other than Cash held in an Excluded Account), unless compliance with the foregoing conditions are waived in writing from time to time by Agent (in its sole discretion) with respect to specified periods.

“MSC Subsidiary” means bluebird bio Securities Corporation, a wholly-owned Subsidiary incorporated in the Commonwealth of Massachusetts for the purpose of holding Investments as a Massachusetts

security corporation under 830 CMR 63.38B.1 of the Massachusetts tax code and applicable regulations (as the same may be amended, modified or replaced from time to time).

“Net Income” means, for any Person in any fiscal period, the net income (or loss) of such Person for the relevant period, determined on a consolidated basis in accordance with GAAP.

“Net Product Revenue” means Borrower’s net product revenue (as determined in accordance with GAAP) solely from the sale of LYFGENIA, ZYNTEGLO and SKYSONA (which may include royalty income, profit sharing, or sales-based milestone revenue recognized in accordance with GAAP, but which shall not include any upfront or non-sales-based milestone payments under business development or licensing transactions).

“Non-Disclosure Agreement” means that certain Mutual Confidentiality Agreement by and between bluebird bio, Inc. and Hercules Capital, Inc. dated as of October 6, 2023.

“OFAC” means the U.S. Department of Treasury Office of Foreign Assets Control.

“OFAC Lists” means, collectively, the Specially Designated Nationals and Blocked Persons List maintained by OFAC pursuant to Executive Order No. 13224, 66 Fed. Reg. 49079 (Sept. 25, 2001) and/or any other list of terrorists or other restricted Persons maintained pursuant to any of the rules and regulations of OFAC or pursuant to any other applicable Executive Orders.

“Organizational Documents” means with respect to any Person, such Person’s Charter, and (a) if such Person is a corporation, its bylaws, (b) if such Person is a limited liability company, its limited liability company agreement (or similar agreement), and (c) if such Person is a partnership, its partnership agreement (or similar agreement), each of the foregoing with all current amendments or modifications thereto.

“Patent License” means any written agreement granting any right with respect to any invention on which a Patent is in existence or a Patent application is pending, in which agreement Borrower now holds or hereafter acquires any interest.

“Patents” means all letters patent of, or rights corresponding thereto, in the United States of America or in any other country, all registrations and recordings thereof, and all applications for letters patent of, or rights corresponding thereto, in the United States of America or any other country.

“Perfection Certificate” means a completed certificate entitled “Perfection Certificate”, dated as of the Closing Date, delivered by Company to Agent and Lenders, signed by Company.

“Performance Milestone” means the first date on or prior to January 30, 2027 on which Borrower shall have satisfied the following conditions: (a) Borrower has achieved no later than the period ending December 31, 2026 (i) Gross Profit of at least One Hundred Ten Million Dollars (\$110,000,000), and (ii) at least One Dollar (\$1) of EBITDA, in each case, measured on a trailing six-month basis as of the last day of the month for which the most recent monthly financial statements were delivered in accordance with Section 7.1(a) and subject to verification by Agent in its reasonable discretion (including supporting documentation requested by Agent), and (b) no Default or Event of Default shall have occurred and is continuing.

“Permitted Acquisition” means any Acquisition, in each case which does not cause the focus of Borrower’s or its Subsidiaries’ operations (when taken as a whole) to be located outside of the United States of America, which is conducted in accordance with the following requirements:

(a) such acquisition is of a business or Person or product engaged in a line of business reasonably related to that of Borrower or its Subsidiaries;

(b) if such Acquisition is structured as a stock acquisition, then the Person so acquired shall either (i) become a wholly-owned Subsidiary of Borrower or of a Subsidiary and Borrower shall comply, or cause such Subsidiary (other than directors' qualifying shares and investments by foreign nationals mandated by applicable Requirements of Law) to comply, with Section 7.13(as applicable) or (ii) such Person shall be merged with and into a Loan Party (with such Loan Party being the surviving entity);

(c) if such Acquisition is structured as the acquisition or in-licensing of assets, such assets shall be acquired or in-licensed by a Loan Party or a newly-organized wholly-owned Subsidiary (in which event such Subsidiary shall comply with Section 7.13 (as applicable), and shall be free and clear of Liens other than Permitted Liens;

(d) Borrower shall have delivered to Agent (i) with respect to any Material Acquisition, not less than ten (10) nor more than forty five (45) days prior to the date of such Material Acquisition (or such different period as to which Agent may agree in its sole discretion), notice of such Material Acquisition together with pro forma projected financial information, copies of all draft material documents relating to such Material Acquisition, and historical financial statements for such acquired entity, division or line of business (to the extent applicable), in each case in form reasonably satisfactory to Agent and demonstrating compliance as of such date with the covenants set forth in Section 7.21 (to the extent applicable) on a pro forma basis as if the Material Acquisition occurred on the first day of the most recent measurement period for which financial statements have been delivered pursuant to Section 7.1(b) and (ii) with respect to any Immaterial Acquisition, no later than ten (10) days after the date of such Immaterial Acquisition (or such different period as to which Agent may agree in its sole discretion), notice of such Immaterial Acquisition together with copies of all material documents related to such Immaterial Acquisition and such other information as Agent may reasonably request;

(e) both immediately before and after such Acquisition no Default or Event of Default shall have occurred and be continuing; and

(f) acquisition consideration shall (i) solely be in the form of Company's Common Stock or (ii) shall not be greater than (A) Five Million Dollars (\$5,000,000) for all such Acquisitions during any fiscal year or (B) Ten Million Dollars (\$10,000,000) for all such Acquisitions from and after the Closing Date.

"Permitted Bond Hedge Transaction" means any call or capped call option (or substantively equivalent derivative transaction) relating to Company's Common Stock (or other securities or property following a merger event or other change of the Common Stock of Company) purchased by Company in connection with the issuance of any Permitted Convertible Debt Financing; provided, that the purchase price for any Permitted Bond Hedge Transaction, less the proceeds received by the Company from the sale of any Permitted Warrant Transaction, does not exceed the net proceeds received by the Company from the sale of the Permitted Convertible Debt issued in connection with the Permitted Bond Hedge Transaction.

"Permitted Convertible Debt Financing" means issuance by Company of Indebtedness that is convertible into a fixed number (subject to customary anti-dilution adjustments, "make-whole" increases and other customary changes thereto) of shares of Common Stock of the Company (and cash in lieu of fractional shares) (or other securities or property following a merger event or other change of the Common Stock of the Company), cash or any combination thereof (with the amount of such cash or such combination determined by reference to the market price of such Common Stock or such other securities) in an aggregate principal amount of not more than Two Hundred Fifty Million Dollars (\$250,000,000) ("Permitted Convertible Debt"); provided that such convertible notes shall (a) both immediately prior to and immediately after giving effect (including pro forma effect) thereto, no Default or Event of Default shall exist or result therefrom, (b) have no scheduled amortization or otherwise require payment of principal prior to, or have a scheduled maturity date, earlier than, one hundred eighty (180) days after the Term Loan Maturity Date (it being understood that neither (x) any offer to purchase such Indebtedness as a result of a "change of control", "fundamental change", "make-whole fundamental change" or any comparable term under and as defined in any indenture governing any Permitted Convertible Debt, (y) any early conversion of such Indebtedness in accordance with the terms thereof, nor (z) any redemption of such Indebtedness upon satisfaction of

a condition related to the stock price of the Company's Common Stock, in each case, shall violate the restriction of this clause (b)), (c) be unsecured or, if secured, then subordinated to the Secured Obligations pursuant to terms satisfactory to Agent in its sole discretion, (d) not be guaranteed by any Subsidiary of Company that is not also a Loan Party, (e) shall be Indebtedness of Company and not of any Subsidiary thereof, and (f) if secured, shall specifically designate this Agreement and all Secured Obligations as "designated senior indebtedness" or similar term so that the subordination terms referred to in clause (c) of this definition specifically refer to such notes as being subordinated to the Secured Obligations pursuant to such subordination terms.

"Permitted Indebtedness" means:

- (i) Indebtedness of Borrower in favor of any Lender or Agent arising under this Agreement or any other Loan Document;
- (ii) Indebtedness existing and contemplated on the Closing Date which is disclosed in Schedule 1A;
- (iii) Indebtedness of up to Five Hundred Thousand Dollars (\$500,000) outstanding at any time secured by a Lien described in clause (vii) of the defined term "Permitted Liens," provided such Indebtedness does not exceed the cost of the Equipment, software or other Intellectual Property financed with such Indebtedness, plus the amount of any fees, costs and expenses incurred in connection therewith;
- (iv) Indebtedness incurred in the ordinary course of business with unsecured or cash collateralized corporate credit cards in an aggregate outstanding amount not to exceed Two Million Five Hundred Thousand Dollars (\$2,500,000) at any time;
- (v) Indebtedness that also constitutes a Permitted Investment or is secured by a Permitted Lien;
- (vi) Subordinated Indebtedness;
- (vii) reimbursement obligations in connection with letters of credit that are at any time outstanding (which may be secured by Cash) and issued on behalf of Borrower or a Subsidiary in an amount not to exceed One Million Dollars (\$1,000,000);
- (viii) [reserved];
- (ix) other unsecured Indebtedness in an amount not to exceed Five Hundred Thousand Dollars (\$500,000) at any time outstanding;
- (x) intercompany Indebtedness of any Loan Party owing to another Loan Party or of any non-Loan Party owing to another non-Loan Party;
- (xi) the Permitted Convertible Debt;
- (xii) Indebtedness (if any), to the extent characterized as such, of the Company incurred pursuant to the Permitted Receivables Factoring Arrangement;
- (xiii) Indebtedness incurred as a result of endorsing negotiable instruments in the ordinary course of business;
- (xiv) Contingent Obligations of any Subsidiary or any Loan Party with respect to obligations of a Loan Party (provided that the primary obligations are not prohibited under this Agreement);

(xv) obligations under any agreement to provide cash management services in the ordinary course of business, including treasury, depositary, overdraft, debit card, electronic funds transfer and other cash management arrangements;

(xvi) Indebtedness in an amount not to exceed One Hundred Thousand Dollars (\$100,000) incurred in the ordinary course of business, in each case, arising from the honoring by a bank or other financial institution of a check, draft or similar instrument inadvertently drawn against insufficient funds in the ordinary course of business; and

(xvii) extensions, refinancings and renewals of any items of Permitted Indebtedness, provided that the principal amount is not increased (except by an amount equal to unpaid accrued interest and premiums or penalties thereon, and fees, costs and expenses in connection with the refinanced debt and fees, commissions, costs and expenses (including upfront fees, original issue discount and initial yield payments) incurred in connection with the incurrence of such refinancing indebtedness) or the terms modified to impose materially more burdensome terms upon Borrower or its Subsidiary, as the case may be, and subject to any limitations on the aggregate amount of such Indebtedness.

“Permitted Investment” means:

(i) Investments existing on the Closing Date which are disclosed in Schedule 1B;

(ii) (a) marketable direct obligations issued or unconditionally guaranteed by the United States of America or any agency or any State thereof maturing within one year from the date of acquisition thereof currently having a rating of at least A-2 or P-2 from either Standard & Poor’s Corporation or Moody’s Investors Service, (b) commercial paper maturing no more than one year from the date of creation thereof and currently having a rating of at least A-2 or P-2 from either Standard & Poor’s Corporation or Moody’s Investors Service, (c) certificates of deposit issued by any bank with assets of at least Five Hundred Million Dollars (\$500,000,000) maturing no more than one year from the date of investment therein, (d) money market accounts, and (e) Investments pursuant to the investment policy that has been provided to Agent prior to the Closing Date or any investment policy that has been approved by Agent;

(iii) repurchases of stock of Borrower from present or former employees, directors, or consultants of Borrower or any of its Subsidiaries under the terms of applicable repurchase agreements in an aggregate amount not to exceed Two Hundred Fifty Thousand Dollars (\$250,000) in any fiscal year, provided that no Event of Default has occurred and is continuing or would result from giving effect to the repurchases;

(iv) Investments accepted in connection with Permitted Transfers and guarantees permitted by the definition of Permitted Indebtedness;

(v) Investments (including debt obligations) received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the ordinary course of the Loan Parties’ business;

(vi) Investments consisting of notes receivable of, or prepaid royalties and other credit extensions, to customers and suppliers who are not Affiliates, in the ordinary course of business, provided that this subsection (vi) shall not apply to Investments of any Loan Party in any Subsidiary of a Loan Party;

(vii) Investments consisting of loans to employees, officers or directors relating to the purchase of capital stock of Company pursuant to employee stock purchase plans or other similar agreements approved by Company’s Board of Directors;

(viii) Investments consisting of travel advances and employee relocation loans in the ordinary course of business not to exceed One Hundred Thousand Dollars (\$100,000) in the aggregate;

(ix) (a) Investments in another Loan Party and (b) Investments in any Subsidiary (other than the MSC Subsidiary) that is not a Loan Party in an amount not to exceed One Hundred Thousand Dollars (\$100,000) in the aggregate in any fiscal year;

(x) Investments in joint ventures or strategic alliances in the ordinary course of Borrower's business consisting of the licensing of technology, the development of technology or the providing of technical support as permitted hereunder; provided that any cash Investments by Borrower or the applicable Subsidiary does not exceed One Hundred Thousand Dollars (\$100,000) in the aggregate in any fiscal year;

(xi) Investments constituting Permitted Acquisitions and any Permitted Restructuring;

(xii) Investments in connection with, and the performance of obligations under (including, for the avoidance of doubt, the entry into, payment of any premium with respect to and settlement of), any Permitted Convertible Debt Financing, any Permitted Bond Hedge Transaction or any Permitted Warrant Transaction, in each case, in accordance with its terms and as otherwise permitted by this Agreement;

(xiii) Investments in the MSC Subsidiary, so long as an Event of Default does not exist at the time of such Investment and would not exist after giving effect to such Investment and provided that Borrower is, at all times, in compliance with the MSC Investment Conditions;

(xiv) Investments consisting of the endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business;

(xv) Investments (including debt obligations) received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the ordinary course of business;

(xvi) Investments consisting of Deposit Accounts and Securities Accounts, but only to the extent that Borrower or its Subsidiaries are permitted to maintain such account in accordance with this Agreement;

(xvii) Investments consisting of prepaid expenses, security deposits with utilities, landlords and other like Persons, in each case, in the ordinary course of business; and

(xviii) additional Investments that do not exceed Five Hundred Thousand Dollars (\$500,000) in the aggregate.

“Permitted Licenses” means are (a) licenses of over-the-counter software that is commercially available to the public, and (b) non-exclusive and exclusive licenses and similar arrangements for the use of the Intellectual Property of Borrower or any of its Subsidiaries entered into in the ordinary course of business, provided, that, with respect to each such exclusive license described in clause (b), any such license could not result in a legal transfer of title of the licensed property but may be exclusive in respects other than territory and may be exclusive as to territory only as to discrete geographical areas and countries outside of United States.

“Permitted Liens” means:

(i) Liens in favor of Agent or Lenders;

(ii) Liens existing on the Closing Date which are disclosed in Schedule 1C;

(iii) Liens for Taxes, fees, assessments or other governmental charges or levies, either not yet delinquent or being contested in good faith by appropriate proceedings diligently conducted; provided, that Borrower or the applicable Subsidiary maintains adequate reserves therefor on Borrower's Books in accordance with GAAP;

(iv) Liens securing claims or demands of materialmen, artisans, mechanics, carriers, warehousemen, suppliers landlords and other like Persons arising in the ordinary course of Borrower's business and imposed without action of such parties; provided, that the payment thereof is not yet delinquent or remain payable without penalty or are being contested in good faith by appropriate proceedings diligently conducted, which proceedings have the effect of preventing the forfeiture or sale of the property subject thereto;

(v) Liens arising from judgments, decrees, orders or attachments in circumstances which do not constitute an Event of Default hereunder;

(vi) the following deposits, to the extent made in the ordinary course of business: deposits under worker's compensation, unemployment insurance, social security and other similar laws, or to secure the performance of bids, tenders or contracts (other than for the repayment of borrowed money) or to secure indemnity, performance or other similar bonds for the performance of bids, tenders or contracts (other than for the repayment of borrowed money) or to secure statutory obligations (other than Liens arising under ERISA or environmental Liens) or surety or appeal bonds, or to secure indemnity, performance or other similar bonds;

(vii) Liens on Equipment or software or other intellectual property constituting purchase money Liens and other Liens in connection with capital leases securing Indebtedness permitted in clause (iii) of "Permitted Indebtedness";

(viii) Liens incurred in connection with Subordinated Indebtedness;

(ix) interests in leases or subleases and licenses or sublicenses (other than with respect to Intellectual Property) granted in the ordinary course of business and not interfering in any material respect with the business of the licensor;

(x) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of custom duties that are promptly paid on or before the date they become due;

(xi) Liens on insurance proceeds securing the payment of financed insurance premiums that are promptly paid on or before the date they become due (provided that such Liens extend only to such insurance proceeds and not to any other property or assets);

(xii) (a) statutory and common law rights of set-off and other similar rights as to deposits of cash and securities in favor of banks, other depository institutions and brokerage firms or securities intermediaries to cover fees, similar expenses and charges and (b) Liens securing obligations under any agreement to receive cash management services (including treasury, depository, overdraft, debit card, electronic funds transfer and other cash management arrangements) that constitute Permitted Indebtedness;

(xiii) easements, servitudes, zoning restrictions, rights-of-way and similar encumbrances on real property imposed by law or arising in the ordinary course of business so long as they do not materially impair the value or marketability of the related property;

(xiv) (a) Liens on Cash securing obligations permitted under clause (vii) of the definition of Permitted Indebtedness and (b) security deposits in connection with real property leases, the combination of (a) and (b) in an aggregate amount not to exceed Two Million Dollars (\$2,000,000) at any time;

(xv) Licenses that qualify as Permitted Transfers;

(xvi) Liens (if any), to the extent characterized as such, on the Purchased Accounts (as defined in the Permitted Receivables Facility Agreement) pursuant to the Permitted Receivables Factoring Arrangement;

(xvii) Liens in favor of other financial institutions arising in connection with Borrower's or its Subsidiaries' Accounts held at such institution, provided that such Accounts are permitted to be maintained pursuant to Section 7.12;

(xviii) Liens on Cash securing obligations permitted under clause (iv) of the definition of Permitted Indebtedness, securing obligations in an aggregate outstanding amount at any time not to exceed Five Hundred Thousand Dollars (\$500,000); and

(xix) Liens incurred in connection with the extension, renewal or refinancing of the Indebtedness secured by Liens of the type described in clauses (i) through (xvii) above; provided, that any extension, renewal or replacement Lien shall be limited to the property encumbered by the existing Lien and the principal amount of the Indebtedness being extended, renewed or refinanced (as may have been reduced by any payment thereon) does not increase.

“Permitted Receivables Facility Agreement” means that certain Invoice Purchase and Sale Agreement, dated as of December 14, 2023, by and among the Company and Alterna Capital Solutions LLC, as in effect on the date hereof and as may be amended, restated, supplemented or otherwise modified from time to time in accordance with the terms hereof and thereof.

“Permitted Receivables Factoring Arrangement” means the sale of the Purchased Accounts (as defined under the Permitted Receivables Facility Agreement) and other transactions contemplated pursuant to the Permitted Receivables Facility Agreement.

“Permitted Restructuring” means a restructuring consummated substantially in the form set forth on Schedule 1D hereof, with changes from such form as consented to by Agent in its reasonable discretion.

“Permitted Transfers” means:

(i) sales of Inventory in the ordinary course of business;

(ii) Permitted Licenses;

(iii) Transfers by any (a) Loan Party to another Loan Party, and (b) Subsidiary that is not a Loan Party to another Subsidiary that is not a Loan Party or to a Loan Party;

(iv) Transfers constituting the making of Permitted Investments, or the granting of Permitted Liens;

(v) (a) dispositions of worn-out, obsolete or surplus Equipment or other property that is, in the reasonable judgment of Borrower, no longer economically practicable to maintain or useful in the ordinary course of business or (b) dispositions of Inventory for clinical trials in the ordinary course of business;

(vi) (a) the issuance or sale of any Permitted Convertible Debt Financing by Company, (b) the sale of any Permitted Warrant Transaction by Company, (c) the purchase of any Permitted Bond Hedge Transaction by Company or (d) the performance by Company of obligations under any Permitted

Convertible Debt, any Permitted Warrant Transaction or any Permitted Bond Hedge Transaction, in each case, as permitted hereunder;

- (vii) Transfers by the Company pursuant to the Permitted Receivables Factoring Arrangement;
- (viii) use of Cash in the ordinary course of business or as otherwise permitted herein;
- (ix) sale of Equity Interests of the Company not constituting a Change in Control;
- (x) Transfers consisting of the abandonment, cancellation, non-renewal, discontinuance of use or maintenance of, forfeiture or dedication to the public of any Intellectual Property immaterial to Borrower's business with no material value;
- (xi) transfers constituting the making of Permitted Investments, or the granting of Permitted Liens;
- (xii) as a result of any involuntary loss, damage or destruction of property to the extent such Borrower or Subsidiary complies with Section 6.1; and
- (xiii) other Transfers of assets having a fair market value of not more than One Million Dollars (\$1,000,000) in the aggregate in any fiscal year.

“Permitted Warrant Transaction” means any call option, warrant or right to purchase (or substantively equivalent derivative transaction) relating to Common Stock (or other securities or property following a merger event or other change of the Common Stock) and/or cash (in an amount determined by reference to the price of such Common Stock) sold by Company substantially concurrently with any purchase by Company of a related Permitted Bond Hedge Transaction.

“Person” means any individual, sole proprietorship, partnership, joint venture, trust, unincorporated organization, association, corporation, limited liability company, institution, other entity or government.

“Pledge Agreement” means the Pledge Agreement dated as of the Closing Date between each Loan Party thereto and Agent, as the same may from time to time be amended, restated, modified or otherwise supplemented.

“Prime Rate” means the “prime rate” as reported in *The Wall Street Journal* or any successor publication thereto.

“Principal Stock Exchange” means the NASDAQ or, if the Common Stock is not listed on the NASDAQ, the principal national securities exchange or public quotation system on which the Common Stock is then listed for trading or quoted.

“Public Health Laws” means all Requirements of Law relating to the procurement, development, clinical and non-clinical evaluation, product approval or licensure, manufacture, production, analysis, distribution, dispensing, importation, exportation, use, handling, quality, sale, labeling, promotion, clinical trial registration or post market requirements of any drug, biologic or other Borrower Product subject to regulation under the FDCA, the Public Health Service Act (42 U.S.C. § 201 et seq.) and the regulations promulgated thereunder.

“Qualified Cash” means an amount equal to (a) at any time after the end of the period set forth in Schedule 7.26 (as may be extended as set forth therein), the amount of the Loan Parties' Cash held in accounts subject to an Account Control Agreement in favor of Agent, minus (b) the Qualified Cash A/P Amount.

“Qualified Cash A/P Amount” means the amount of Borrower’s accounts payable under GAAP not paid after the 120th day following the invoice for such account payable (other than accounts which are being contested in good faith by appropriate proceedings diligently conducted).

“Qualified Equity Interests” means any Equity Interests that are not Disqualified Equity Interests.

“Receivables” means (i) all of Borrower’s Accounts, Instruments, Documents, Chattel Paper, Supporting Obligations, letters of credit, proceeds of any letter of credit, and Letter of Credit Rights, and (ii) all customer lists, software, and business records related thereto.

“Redemption Conditions” means, with respect to any redemption by Company of any Permitted Convertible Debt Financing, satisfaction of each of the following events: (a) no Default or Event of Default shall exist or result therefrom, and (b) both immediately before and at all times after such redemption, payment, dividend or distribution, the Loan Parties’ Qualified Cash shall be no less than 150% of the Secured Obligations.

“Registration” means any registration, authorization, approval, license, permit, clearance, certificate, and exemption issued or allowed by the FDA or state pharmacy licensing authorities (including, without limitation, new drug applications, abbreviated new drug applications, investigational new drug applications, pricing and reimbursement approvals, labelling approvals or their foreign equivalent).

“Regulatory Action” means an administrative or regulatory enforcement action, proceeding or investigation, warning letter, untitled letter, Form 483 or similar inspectional observations, other notice of violation letter, recall, seizure, Section 305 notice or other similar written communication, or consent decree, issued or required by the NIH, FDA or comparable Governmental Authority under any applicable Public Health Laws.

“Required Lenders” means at any time, the holders of more than fifty percent (50%) of the sum of the aggregate unpaid principal amount of the Term Loans then outstanding.

“Requirements of Law” means, with respect to any Person, collectively, the common law and all federal, state, provincial, local, foreign, multinational or international laws, statutes, codes, treaties, standards, rules and regulations, ordinances, orders, judgments, writs, injunctions, decrees (including administrative or judicial precedents or authorities), in each case, that are applicable to or binding upon such Person or any of its property or to which such Person or any of its property is subject.

“Restricted License” means any material License or other agreement with respect to which Borrower is the licensee (a) (i) that prohibits or otherwise restricts Borrower from granting a security interest in Borrower’s interest in such License or agreement or any other property or (ii) for which a default under or the termination thereof could interfere with Agent’s right to sell any Collateral and (b) for which a default under or the termination thereof could reasonably be expected to have a Material Adverse Effect.

“Sanctioned Country” means, at any time, a country or territory which is the subject or target of any Sanctions.

“Sanctioned Person” means, at any time, (a) any Person listed in any Sanctions-related list of designated Persons maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, or by the United Nations Security Council, the European Union or any EU member state, (b) any Person operating, organized or resident in a Sanctioned Country or (c) any Person controlled by any such Person.

“Sanctions” means economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by (a) the U.S. government, including those administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, or (b) the United Nations Security Council, the European Union or His Majesty’s Treasury of the United Kingdom.

“Secured Obligations” means Borrower’s obligations under this Agreement and any Loan Document (other than the Warrant or other equity instruments), including any obligation to pay any amount now owing or later arising.

“Subordinated Indebtedness” means Indebtedness (which may, for the avoidance of doubt, be convertible Indebtedness) subordinated to the Secured Obligations on terms and conditions satisfactory to Agent in its sole discretion and subject to a subordination agreement in form and substance satisfactory to Agent in its sole discretion.

“Subsequent Financing” means the closing of any Company equity financing which becomes effective after the Closing Date that is broadly marketed to multiple investors, which shall not include any Permitted Convertible Debt Financing, Permitted Bond Hedge Transaction or Permitted Warrant Transaction.

“Subsidiary” means an entity, whether a corporation, partnership, limited liability company, joint venture or otherwise, in which Borrower owns or controls, either directly or indirectly, fifty percent (50%) or more of the outstanding voting securities, including each entity listed on Schedule 5.14.

“Taxes” means all present or future taxes, levies, imposts, duties, deductions, withholdings (including backup withholding), assessments, fees or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

“Term Commitment” means as to any Lender, the obligation of such Lender, if any, to make a Term Loan Advance to Borrower in a principal amount not to exceed the amount set forth under the heading “Tranche 1 Commitment”, “Tranche 2 Commitment”, “Tranche 3 Commitment” or “Tranche 4 Commitment”, as the case may be, opposite such Lender’s name on Schedule 1.1.

“Term Loan” means any Term Loan Advance made under this Agreement.

“Term Loan Advance” means each Tranche 1 Advance, Tranche 2 Advance, Tranche 3 Advance, Tranche 4 Advance and any other funds advanced under Section 2.1(a).

“Term Loan Cash Interest Rate” means, for any day, a per annum rate of interest equal to the greater of either (i) (x) the Prime Rate *plus* (y) one and forty-five hundredths percent (1.45%), and (ii) nine and ninety-five hundredths percent (9.95%).

“Term Loan Maturity Date” means April 1, 2029; provided that if such day is not a Business Day, the Term Loan Maturity Date shall be the immediately subsequent Business Day.

“Term Loan PIK Interest Rate” means, for any day, a per annum rate of interest equal to two and forty-five hundredths percent (2.45%).

“Trademark License” means any written agreement granting any right to use any Trademark or Trademark registration, now owned or hereafter acquired by Borrower or in which Borrower now holds or hereafter acquires any interest.

“Trademarks” means all trademarks (registered, common law or otherwise) and any applications in connection therewith, including registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States of America, any State thereof or any other country or any political subdivision thereof.

“Trading Day” means any day on which (a) there is no Market Disruption Event and (b) the Principal Stock Exchange is open for trading; provided that a “Trading Day” only includes those days that have a

scheduled closing time of 4:00 p.m. (Eastern time) or the then standard closing time for regular trading on the relevant exchange or trading system.

“Tranche” means the Tranche 1 Advance, Tranche 2 Advance, the Tranche 3 Advance, and/or the Tranche 4 Advance, as applicable.

“Tranche 1 Commitment” means as to any Lender, the obligation of such Lender, if any, to make a Term Loan Advance to Borrower in a principal amount not to exceed the amount set forth under the heading Tranche 1 Commitment opposite such Lender’s name on Schedule 1.1.

“Tranche 2 Commitment” means as to any Lender, the obligation of such Lender, if any, to make a Term Loan Advance to Borrower in a principal amount not to exceed the amount set forth under the heading Tranche 2 Commitment opposite such Lender’s name on Schedule 1.1.

“Tranche 2 Commitment End Date” means the earlier to occur of (a) January 31, 2025 and (b) the date that is thirty (30) days after the Tranche 2 Milestone Date.

“Tranche 2 Milestone Date” means the first date on which Borrower shall have satisfied the following conditions: (a) Borrower shall have confirmed (i) cell collection has occurred for at least 35 patients for the commercial use of LYFGENIA on or prior to September 30, 2024 or (ii) cell collection has occurred for at least 55 patients for the commercial use of LYFGENIA on or prior to December 31, 2024, in each case, subject to verification by Agent in its reasonable discretion (including supporting documentation reasonably requested by Agent), and (b) no Default or Event of Default shall have occurred.

“Tranche 3 Commitment” means as to any Lender, the obligation of such Lender, if any, to make a Term Loan Advance to Borrower in a principal amount not to exceed the amount set forth under the heading Tranche 3 Commitment opposite such Lender’s name on Schedule 1.1.

“Tranche 3 Commitment End Date” means the earlier to occur of (a) September 15, 2025 and (b) the date that is thirty (30) days after the Tranche 3 Milestone Date.

“Tranche 3 Milestone Date” means the first date on which Borrower shall have satisfied the following conditions: (a) Borrower shall have achieved, no later than the period ending June 30, 2025 and at the time of the Tranche 3 Advance, Gross Profit of at least Thirty Million Dollars (\$30,000,000), measured on a trailing three-month basis as of the last day of the month for which the most recent monthly financial statements were delivered in accordance with Section 7.1(a) and subject to verification by Agent in its reasonable discretion (including supporting documentation requested by Agent) and (b) no Default or Event of Default shall have occurred and is continuing.

“Tranche Facility Charge” means one percent (1.00%) of any Advance (other than a Tranche 1 Advance), which is payable to Lenders in accordance with Section 4.2(d).

“U.S. Person” means any Person that is a “United States person” as defined in Section 7701(a)(30) of the Code.

“UCC” means the Uniform Commercial Code as the same is, from time to time, in effect in the State of California; provided, that in the event that, by reason of mandatory provisions of law, any or all of the attachment, perfection or priority of, or remedies with respect to, Agent’s Lien on any Collateral is governed by the Uniform Commercial Code as the same is, from time to time, in effect in a jurisdiction other than the State of California, then the term “UCC” shall mean the Uniform Commercial Code as in effect, from time to time, in such other jurisdiction solely for purposes of the provisions thereof relating to such attachment, perfection, priority or remedies and for purposes of definitions related to such provisions.

“Warrant” means any warrant entered into in connection with the Loan, as may be amended, restated or modified from time to time.

1.2 The following terms are defined in the Sections or subsections referenced opposite such terms:

Defined Term	Section
1940 Act	5.6(b)
Agent	Preamble
Assignee	11.14
Borrower	Preamble
Claims	11.11(a)
Collateral	3.1
Company	Preamble
Confidential Information	11.13
Current Company IP	5.10
End of Term Charge	2.5(a)
Event of Default	9
Excluded Assets	3.2
Financial Statements	7.1
Indemnified Person	6.3
Lenders	Preamble
Liabilities	6.3
Maximum Rate	2.2
Minimum Cash Coverage Percentage	7.21(a)
Participant Register	11.8
Payment Date	2.1(e)
Prepayment Charge	2.4
Publicity Materials	11.19
Register	11.7
Rights to Payment	3.1
Tranche 1 Advance	2.1(a)
Tranche 2 Advance	2.1(a)
Tranche 3 Advance	2.1(a)
Tranche 4 Advance	2.1(a)
Transfer	7.8

1.3

(a) Unless otherwise specified or the context requires otherwise, (i) all references in this Agreement or any Annex or Schedule hereto to a “Section,” “subsection,” “Exhibit,” “Annex,” or “Schedule” shall refer to the corresponding Section, subsection, Exhibit, Annex, or Schedule in or to this Agreement, (ii) any definition of or reference to any agreement, instrument or other document (including the Loan Documents and any Organizational Document) shall be construed as referring to such agreement, instrument or other document as from time to time amended, restated, amended and restated, supplemented

or otherwise modified, extended, renewed or replaced from time to time (subject to any restrictions set forth herein or in any other Loan Document), (iii) any reference herein to any Person shall be construed to include such Person's successors and permitted assigns, and (iv) any reference to any law shall include all statutory and regulatory provisions consolidating, amending, replacing or interpreting such law and any reference to any law or regulation shall, unless otherwise specified, refer to such law or regulation as amended, modified, extended, restated, replaced or supplemented from time to time.

(b) Unless otherwise specifically provided herein, any accounting term used in this Agreement or the other Loan Documents shall have the meaning customarily given such term in accordance with GAAP as in effect on the date hereof, and all financial computations hereunder shall be computed in accordance with GAAP as in effect on the date hereof, consistently applied; provided that no effect shall be given to Accounting Standards Codification 842, Leases (or any other Accounting Standards Codification or Financial Accounting Standard having a similar result or effect) to the extent any lease (or similar arrangement) would be required to be treated as a capital lease thereunder where such lease (or similar arrangement) would have been treated as an operating lease under GAAP as in effect immediately prior to the effectiveness of such Accounting Standards Codification or Financial Accounting Standard.

(c) Unless otherwise defined herein or in the other Loan Documents, terms that are used herein or in the other Loan Documents and defined in the UCC shall have the meanings given to them in the UCC. For all purposes under the Loan Documents, in connection with any Division or plan of Division under Delaware law (or any comparable event under a different jurisdiction's laws): (i) if any asset, right, obligation or liability of any Person becomes the asset, right, obligation or liability of a different Person, then it shall be deemed to have been transferred from the original Person to the subsequent Person and (ii) if any new Person comes into existence, such new Person shall be deemed to have been organized on the first date of its existence by the holders of its Equity Interests at such time.

(d) The definitions of terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation." The word "will" shall be construed to have the same meaning and effect as the word "shall."

(e) In the computation of periods of time from a specified date to a later specified date, the word "from" means "from and including;" the words "to" and "until" each mean "to but excluding;" and the word "through" means "to and including."

(f) Section headings herein and in the other Loan Documents are included for convenience of reference only and shall not affect the interpretation of this Agreement or any other Loan Document.

1.4 If at any time any change in GAAP would affect the computation of any financial requirement set forth in any Loan Document, and either Borrower or the Required Lenders shall so request, Agent, Lenders and Borrower shall negotiate in good faith to amend such requirement to preserve the original intent thereof in light of such change in GAAP; provided that, until so amended, such requirement shall continue to be computed in accordance with GAAP prior to such change.

1.5 Any reference in any Loan Document to a merger, transfer, consolidation, amalgamation, consolidation, assignment, sale, disposition or transfer, or similar term, shall be deemed to apply to a Division of or by a limited liability company, or an allocation of assets to a series of a limited liability company (or the unwinding of such a Division or allocation), as if it were a merger, transfer, consolidation, amalgamation, consolidation, assignment, sale or transfer, or similar term, as applicable, to, of or with a separate Person. Any Division of a limited liability company shall constitute a separate Person under the Loan Documents (and each Division of any limited liability company that is a Subsidiary, joint venture or any other like term shall also constitute such a Person or

entity) on the first date of its existence. In connection with any Division, if any asset, right, obligation or liability of any Person becomes the asset, right, obligation or liability of a different Person, then such asset shall be deemed to have been transferred from the original Person to the subsequent Person.

1.6 If any payment of any of the Secured Obligations, or if any performance of any covenant, duty or other obligation hereunder or under any other Loan Document, falls due on a day which is not a Business Day, then such due date of such payment or performance shall be extended to the immediately following Business Day (unless such immediately following Business Day is the first Business Day of a calendar month, in which case such due date shall be the immediately preceding Business Day) and, in the case of payment of principal, additional interest shall accrue and be payable for the period of any such extension.

SECTION 2. THE LOAN

2.1 Term Loan Advances.

(a) Advances.

(i) Tranche 1. Subject to the terms and conditions of this Agreement, on the Closing Date, Lenders will severally (and not jointly) make, and Borrower agrees to draw, a Term Loan Advance in an aggregate principal amount equal to Seventy-Five Million Dollars (\$75,000,000) (such Term Loan Advance, the "Tranche 1 Advance").

(ii) Tranche 2. Subject to the terms and conditions of this Agreement, Borrower may request, and Lenders shall severally (and not jointly) make, in each case, beginning on the Tranche 2 Milestone Date and continuing through the Tranche 2 Commitment End Date, one or more additional Term Loan Advances in minimum increments of Five Million Dollars (\$5,000,000) (or if less, the remaining amount of Term Loan Advances available to be drawn pursuant to this Section 2.2(a)(ii)) in an aggregate principal amount up to Twenty-Five Million Dollars (\$25,000,000) (such Term Loan Advances, the "Tranche 2 Advances").

(iii) Tranche 3. Subject to the terms and conditions of this Agreement, Borrower may request, and the Lenders shall severally (and not jointly) make, in each case, beginning on the Tranche 3 Milestone Date and continuing through the Tranche 3 Commitment End Date, one or more additional Term Loan Advances in minimum increments of Five Million Dollars (\$5,000,000) (or if less, the remaining amount of Term Loan Advances available to be drawn pursuant to this Section 2.2(a)(iii)) in an aggregate principal amount up to Twenty-Five Million Dollars (\$25,000,000) (such Term Loan Advances, the "Tranche 3 Advances").

(iv) Tranche 4. Subject to the terms and conditions of this Agreement, Borrower may request, and the Lenders shall severally (and not jointly) make, in each case, beginning on Closing Date and continuing through December 15, 2026, and conditioned on approval by Lenders' investment committee in its sole and unfettered discretion, one or more additional Term Loan Advances in minimum increments of Five Million Dollars (\$5,000,000) (or if less, the remaining amount of Term Loan Advances available to be drawn pursuant to this Section 2.2(a)(iv)) in an aggregate principal amount up to Fifty Million Dollars (\$50,000,000) (such Term Loan Advances, the "Tranche 4 Advances").

(b) Maximum Term Loan Amount. The aggregate outstanding Term Loan Advances shall not exceed the Maximum Term Loan Amount *plus*, for the avoidance of doubt, any amount equal to the payment-in-kind interest added to principal pursuant to Section 2.1(d)(ii). Each Term Loan Advance of each Lender shall not exceed its respective Term Commitment *plus*, for the avoidance of doubt, any amount equal to the Term Loan PIK Interest Rate added to principal pursuant to Section 2.1(d)(ii). After repayment, no Term Loan Advance (or any portion thereof) may be reborrowed. For the avoidance of doubt, the

aggregate principal amount of any Term Loan Advance to be funded as set forth in Section 2.1(a) shall not be reduced by the amount of any payment-in-kind interest that has accrued with respect to Term Loan Advances.

(c) Advance Request. To obtain a Term Loan Advance, Company, on behalf of Borrower, shall complete, sign and deliver an Advance Request (at least one (1) Business Day before the Closing Date and at least five (5) Business Days before each Advance Date other than the Closing Date) to Agent. Lenders shall fund the Term Loan Advance in the manner requested by the Advance Request provided that each of the conditions precedent set forth in Section 4 and applicable to such Term Loan Advance is satisfied as of the requested Advance Date. The proceeds of any Term Loan Advance shall be deposited into an account that is subject to an Account Control Agreement.

(d) Interest.

(i) Term Loan Cash Interest Rate. In addition to interest accrued pursuant to the Term Loan PIK Interest Rate, the principal balance (including, for the avoidance of doubt, any payment-in-kind interest added to principal pursuant to Section 2.1(d)(ii)) of each Term Loan Advance shall bear interest thereon from such Advance Date at the Term Loan Cash Interest Rate based on a year consisting of three hundred sixty (360) days, with interest computed daily based on the actual number of days elapsed. The Term Loan Cash Interest Rate will float and change on the day the Prime Rate changes from time to time.

(ii) Term Loan PIK Interest Rate. In addition to interest accrued pursuant to the Term Loan Cash Interest Rate, the principal balance of each Term Loan Advance shall bear interest thereon from such Advance Date at the Term Loan PIK Interest Rate based on a year consisting of three hundred sixty (360) days, with interest computed daily based on the actual number of days elapsed, which amount shall be added to the outstanding principal balance so as to increase the outstanding principal balance of such Term Loan Advance on each Payment Date for such Advance, which principal amount shall thereafter accrue interest payable as provided in Section 2.1(d)(i) and which accrued and unpaid amount shall be payable when the principal amount of the Advance is payable in accordance with Section 2.1(e).

(e) Payment. Borrower will pay accrued but unpaid interest on each Term Loan Advance on the first Business Day of each month (each such date, a "Payment Date"), beginning the month after the Advance Date. Borrower shall repay the aggregate principal balance of the Term Loan Advances that is outstanding on the day immediately subsequent to the Amortization Date, in equal monthly installments of principal and interest (mortgage style) beginning on the Amortization Date and continuing on the first Business Day of each month thereafter until the Secured Obligations (other than inchoate indemnity obligations which, by their terms, survive termination of this Agreement) are repaid; provided that if the Term Loan Cash Interest Rate is adjusted in accordance with its terms, or the Amortization Date is extended, the amount of each subsequent monthly installment shall be recalculated. The entire principal balance of the Term Loan Advances and all accrued but unpaid interest hereunder, and all other Secured Obligations (other than inchoate indemnity obligations), shall be due and payable on the Term Loan Maturity Date. Borrower shall make all payments under this Agreement without setoff, recoupment or deduction and regardless of any counterclaim or defense. Agent will initiate debit entries to Borrower's account as authorized on the ACH Authorization (i) on each Payment Date of all periodic obligations payable to Lenders under each Term Loan Advance and (ii) out-of-pocket legal fees and costs incurred by Agent or Lenders in connection with Section 11.12; provided that, with respect to clause (i) above, in the event that Agent informs Borrower that Agent will not initiate a debit entry to Borrower's account for a certain amount of the periodic obligations due on a specific Payment Date, Borrower shall pay to Agent, for the ratable benefit of Lenders, such amount of periodic obligations in full in immediately available funds on such Payment Date; provided, further, that, with respect to clause (i) above, if Agent informs Borrower that Agent will not initiate a debit entry as described above later than the date that is three (3) Business Days

prior to such Payment Date, Borrower shall pay to Agent, for the ratable benefit of Lenders, such amount of periodic obligations in full in immediately available funds on the date that is three (3) Business Days after the date on which Agent notifies Borrower of such; provided, further, that, with respect to clause (ii) above, in the event that Agent informs Borrower that Agent will not initiate a debit entry to Borrower's account for specified out-of-pocket legal fees and costs incurred by Agent or Lenders, Borrower shall pay to Agent, for the ratable benefit of Lenders, such amount in full in immediately available funds within three (3) Business Days after the date on which Agent notifies Borrower of such.

2.2 Maximum Interest. Notwithstanding any provision in this Agreement or any other Loan Document, it is the parties' intent not to contract for, charge or receive interest at a rate that is greater than the maximum rate permissible by law that a court of competent jurisdiction shall deem applicable hereto (which under the laws of the State of California shall be deemed to be the laws relating to permissible rates of interest on commercial loans) (the "Maximum Rate"). If a court of competent jurisdiction shall finally determine that Borrower has actually paid to Lenders an amount of interest in excess of the amount that would have been payable if the Term Loan Advances had at all times borne interest at the Maximum Rate, then such excess interest actually paid by Borrower shall be applied as follows: first, to the payment of the Secured Obligations consisting of the outstanding principal; second, after all principal is repaid, to the payment of Lenders' accrued interest, reasonable and documented out-of-pocket costs, expenses, professional fees and any other Secured Obligations; and third, after all Secured Obligations are repaid, the excess (if any) shall be refunded to Borrower.

2.3 Default Interest. In the event any payment is not paid on the scheduled payment date, including any grace period provided herein, other than due to a failure of any ACH debit due solely to an administrative or operational error of Agent or Lender or Borrower's bank if Borrower had the funds to make the payment when due and makes the payment within two (2) Business Days following Borrower's knowledge of such failure to pay, an amount equal to four percent (4%) of such past due amount shall be payable on demand. In addition, upon the occurrence and during the continuation of an Event of Default hereunder, all outstanding Secured Obligations, including principal, interest, compounded interest, and professional fees, shall bear interest at a rate per annum equal to the rate set forth in Section 2.1(d) plus four percent (4%) per annum. In the event any interest is not paid when due hereunder, delinquent interest shall be added to principal and shall bear interest on interest, compounded at the rate set forth in Section 2.1(d) or this Section 2.3, as applicable.

2.4 Prepayment. At its option, Borrower may at any time prepay all or a portion of the outstanding Advances by paying the entire principal balance (or such portion thereof) all accrued and unpaid interest thereon, all unpaid Lender's fees and expenses due hereunder accrued to the date of the repayment (including, without limitation, the portion of the End of Term Charge applicable to the aggregate original principal amount of the Term Loan Advances being prepaid in accordance with Section 2.5(a)), together with a prepayment charge equal to the following percentage of the outstanding principal amount of such Advance amount being so prepaid: with respect to each Advance (which Advance amount shall include, for the avoidance of doubt, any principal that has been added to the principal balance of such Advance pursuant to Section 2.1(d)(ii)) (a) if the principal amount of such Advance amounts are prepaid on or prior to the date which is twelve (12) months following the Closing Date, three percent (3.00%); (b) if the principal amount of such Advance amounts are prepaid after the date which is twelve (12) months following the Closing Date but on or prior to the date which is twenty-four (24) months following the Closing Date, two percent (2.00%); and (c) thereafter through the day immediately prior to the Term Loan Maturity Date, one percent (1.00%) (each, a "Prepayment Charge"). If at any time Borrower elects to make a prepayment, and at such time, there are outstanding Advances under multiple Tranches, the Prepayment Charge shall be determined by applying the amount of such prepayment in the following order: first, to the outstanding principal amount (and accrued but unpaid interest thereon) of Advances outstanding under the Tranche with the latest initial funding date; second, to the outstanding principal amount (and accrued but unpaid interest thereon) of Advances outstanding under the Tranche with the next latest initial funding date and so on until the entire principal balance of all Advances made hereunder (and all accrued but unpaid interest thereon) is paid in full. Borrower agrees that the Prepayment Charge is a reasonable calculation of Lenders' lost profits in view of the difficulties and impracticality of determining actual damages resulting from an early repayment of the Advances. Borrower shall prepay the outstanding amount of all principal and accrued interest through the prepayment date and the Prepayment Charge

upon the occurrence of a Change in Control or any other prepayment of the outstanding Advances hereunder. Notwithstanding the foregoing, Agent and Lenders agree to waive and hereby waive the Prepayment Charge if Hercules and/or its Affiliates (in their sole and absolute discretion) agree in writing to refinance the Advances prior to the Term Loan Maturity Date. Any amounts paid under this Section shall be applied by Agent to the then unpaid amount of any outstanding Secured Obligations (including principal and interest) in such order and priority as set forth in this Section 2.4.

2.5 End of Term Charge.

(a) On any date that Borrower partially prepays the outstanding Secured Obligations pursuant to Section 2.4 (and without duplication), Borrower shall pay Lenders a charge of four and ninety-five hundredths percent (4.95%) *multiplied* by the principal amount of such Term Loan Advances being prepaid.

(b) On the earliest to occur of (i) the Term Loan Maturity Date, (ii) the date that Borrower prepays the outstanding Secured Obligations (other than any inchoate indemnity obligations and any other obligations which, by their terms, are to survive the termination of this Agreement) in full, or (iii) the date that the entire outstanding Secured Obligations become due and payable, Borrower shall pay Lenders a charge equal to (x) four and ninety-five hundredths percent (4.95%) *multiplied* by the aggregate original principal amount of such Term Loan Advances made hereunder *minus* (y) the aggregate amount of payments made pursuant to Section 2.5(a) (the "End of Term Charge").

(c) Notwithstanding the required payment date of such End of Term Charge, the applicable pro rata portion of the End of Term Charge shall be deemed earned by Lenders as of each date that an applicable Term Loan Advance is made. For the avoidance of doubt, if a payment hereunder becomes due and payable on a day that is not a Business Day, the due date thereof shall be the immediately subsequent Business Day.

2.6 Pro Rata Treatment. Each payment (including prepayment) on account of any fee and any reduction of the Term Loan Advances shall be made pro rata according to the Term Commitments of the relevant Lender.

2.7 Taxes; Increased Costs. Borrower, Agent and Lenders each hereby agree to the terms and conditions set forth on Addendum 1 attached hereto.

2.8 Treatment of Prepayment Charge and End of Term Charge. Borrower agrees that any Prepayment Charge and any End of Term Charge payable shall be presumed to be the liquidated damages sustained by each Lender as the result of the early termination, and Borrower agrees that it is reasonable under the circumstances currently existing and existing as of the Closing Date. The Prepayment Charge and the End of Term Charge shall also be payable in the event the Secured Obligations (and/or this Agreement) are satisfied or released by foreclosure (whether by power of judicial proceeding), deed in lieu of foreclosure, or by any other means. Each Loan Party expressly waives (to the fullest extent it may lawfully do so) the provisions of any present or future statute or law that prohibits or may prohibit the collection of the foregoing Prepayment Charge and End of Term Charge in connection with any such acceleration. Borrower agrees (to the fullest extent that each may lawfully do so): (a) each of the Prepayment Charge and the End of Term Charge is reasonable and is the product of an arm's length transaction between sophisticated business people, ably represented by counsel; (b) each of the Prepayment Charge and the End of Term Charge shall be payable notwithstanding the then prevailing market rates at the time payment is made; (c) there has been a course of conduct between Lenders and Borrower giving specific consideration in this transaction for such agreement to pay the Prepayment Charge and the End of Term Charge as a charge (and not interest) in the event of prepayment or acceleration; and (d) Borrower shall be estopped from claiming differently than as agreed to in this Section. Borrower expressly acknowledges that its agreement to pay each of the Prepayment Charge and the End of Term Charge to Lenders as herein described was on the Closing Date and continues to be a material inducement to Lenders to provide the Term Loan Advances.

SECTION 3. SECURITY INTEREST

3.1 Grant of Security Interest. As security for the prompt and complete payment when due (whether on the payment dates or otherwise) of all the Secured Obligations, each Borrower grants to Agent a security interest in all of such Borrower's right, title, and interest in, to and under all of such Borrower's personal property and other assets including without limitation the following (except as set forth herein) whether now existing or hereafter acquired (collectively, the "Collateral"): (a) Receivables; (b) Equipment; (c) Fixtures; (d) General Intangibles (including Intellectual Property); (e) Inventory; (f) Investment Property; (g) Deposit Accounts; (h) Cash; (i) Goods; and all other tangible and intangible personal property of such Borrower whether now or hereafter owned or existing, leased, consigned by or to, or acquired by, such Borrower and wherever located, and any of such Borrower's property in the possession or under the control of Agent; and, to the extent not otherwise included, all Proceeds of each of the foregoing and all accessions to, substitutions and replacements for, and rents, profits and products of each of the foregoing.

3.2 Excluded Collateral. Notwithstanding the broad grant of the security interest set forth in Section 3.1 above, the Collateral shall not include any of the following (collectively, the "Excluded Assets"): (a) (i) more than sixty-five percent (65%) of the presently existing and hereafter arising issued and outstanding Equity Interests directly owned by any Loan Party of any Foreign Subsidiary or Foreign Subsidiary Holding Company which Equity Interests entitle the holder thereof to vote for directors or any other matter, if Borrower demonstrates to the reasonable satisfaction of Agent that a pledge and security interest in more than sixty-five percent (65%) of the presently existing and hereafter arising issued and outstanding Equity Interests would create a present and existing adverse tax consequence to Borrower under the Code or (ii) any assets of an Excluded Subsidiary; (b) non-assignable licenses or contracts, including without limitation any licenses described in clause (ii) of the defined term "Permitted Transfers", which by their terms require the consent of the licensor thereof or another party (but only to the extent such prohibition on transfer is enforceable under applicable law, including, without limitation, Sections 9-406, 9-407 and 9-408 of the UCC), provided further, that upon the termination of such prohibition or such consent being provided with respect to any license or contract, such license or contract shall automatically be included in the Collateral; (c) property for which the granting of a security interest therein is contrary to applicable law, provided that upon the cessation of any such restriction or prohibition, such property shall automatically be included in the Collateral; (d) any cash collateral deposit subject to a Permitted Lien hereunder, if the grant of a security interest with respect to such property pursuant to this Agreement would be prohibited by the agreement creating such Permitted Lien or would otherwise constitute a default thereunder or create a right of termination a party thereto (other than Borrower), provided that upon the termination and release of such cash collateral, such property shall automatically be included in the Collateral including, for the sake of clarity, any cash collateral securing that certain letter of credit for Borrower's leased property at 50 Binney Street, Somerville, MA 02142; (e) any lease, license or other agreement and any property subject thereto on the Closing Date or on the date of the acquisition of such property (other than any property acquired by a Loan Party subject to any such contract or other agreement to the extent such contract or other agreement was incurred in contemplation of such acquisition) to the extent that a grant of a security interest therein to secure the Secured Obligations would violate or invalidate such lease, license, contract or agreement or create a right of termination in favor of any other party thereto (other than the Borrower, any other Loan Party or any Subsidiary) (but (A) only to the extent such prohibition is enforceable under applicable law and (B) other than to the extent that any such term would be rendered ineffective pursuant to Sections 9-406, 9-408 or 9-409 (or any other Section) of Article 9 of the UCC); (f) any assets as to which Agent in its reasonable discretion shall determine that the costs and burdens of obtaining or perfecting a security interest therein substantially outweigh the benefit to the Lenders of the security afforded thereby (including, without limitation, vehicles or other assets subject to a certificate of title); (g) any "intent to use" trademarks at all times prior to the first use thereof, whether by the actual use thereof in commerce, the recording of a statement of use with the United States Patent and Trademark Office or otherwise, provided, that upon submission and acceptance by the United States Patent and Trademark Office of an amendment to allege use of an intent-to-use trademark application pursuant to 15 U.S.C. Section 1060(a) (or any successor provision) such intent-to-use application shall constitute Collateral; (h) any interest of a Loan Party as a lessee or sublessee under a real property lease; (i) any accounts sold and any security interests granted in such accounts pursuant to the terms of, or in connection with, the Permitted

Receivables Factoring Arrangement; (j) any Excluded Accounts (including any Cash contained therein) and (k) any other assets as may be agreed by Agent in writing in its sole discretion to be excluded from Collateral.

SECTION 4. CONDITIONS PRECEDENT TO LOAN

The obligations of Lenders to make the Loan hereunder are subject to the satisfaction by Borrower of the following conditions:

4.1 Initial Advance. On or prior to the Closing Date, Borrower shall have delivered to Agent the following:

(a) duly executed copies of the Loan Documents, and all other documents and instruments reasonably required by Agent to effectuate the transactions contemplated hereby or to create and perfect the Liens of Agent with respect to all Collateral, in all cases in form and substance reasonably acceptable to Agent;

(b) subject to Section 7.26, duly executed Account Control Agreement(s) with respect to each Deposit Account (other than Excluded Accounts and Deposit Accounts the aggregate balance of which do not exceed Five Hundred Thousand Dollars (\$500,000) on any day) and account holding Investment Property maintained by any Loan Party;

(c) a legal opinion of Borrower's counsel, in form and substance reasonably acceptable to Agent;

(d) a copy of resolutions of each Borrower's Board of Directors, certified by an officer of such Borrower, evidencing (i) approval of the Loan and other transactions evidenced by the Loan Documents (including the Warrant), (ii) authorizing a specified person or persons to execute the Loan Documents to which it is a party on its behalf, (iii) authorizing a specified person or persons, on its behalf, to sign and/or dispatch all documents and notices (including, if relevant, any Advance Request or other relevant notice) to be signed and/or dispatched by it under or in connection with the Loan Documents to which it is a party, and (iv) acknowledging that the Board of Directors are acting for a proper purpose and that the Loan Documents are in the best interests of that Borrower and for its commercial benefit;

(e) certified copies of the Charter of Borrower, certified by the Secretary of State of the applicable jurisdiction of organization and the other Organizational Documents, as amended through the Closing Date, of Borrower;

(f) a certificate of good standing for Borrower from its jurisdiction of organization and similar certificates from all other jurisdictions in which it does business and where the failure to be qualified could have a Material Adverse Effect;

(g) certified copies, dated as of a recent date, of searches for financing statements filed in the central filing office of its state of formation or incorporation, as applicable, accompanied by written evidence (including any UCC termination statements) that the Liens on any Collateral indicated in any such financing statements either constitute Permitted Liens or have been or, in connection with the initial Term Loan Advance, will be terminated or released;

(h) payment of the Due Diligence Fee, Initial Facility Charge and reimbursement of Agent's and Lenders' current expenses reimbursable pursuant to this Agreement, which amounts may be deducted from the initial Advance;

(i) a duly executed copy of the Perfection Certificate and each exhibit and addendum thereto;

(j) subject to Section 7.26, all certificates of insurance and copies of endorsements required hereunder;

(k) subject to Section 7.26 and the use of commercially reasonable efforts, duly executed landlord consents for its (i) chief executive office or its principal place of business and (ii) offices or business locations, including warehouses, containing in excess of Five Hundred Thousand Dollars (\$500,000) of Borrower's assets or property;

(l) subject to Section 7.26 and the use of commercially reasonable efforts, duly executed bailee agreements for any bailee location holding a portion of Borrower's assets or property valued, individually or in the aggregate, in excess of Five Hundred Thousand Dollars (\$500,000);

(m) subject to Section 7.26, (i) the certificates representing the Equity Interests required to be pledged pursuant to the Pledge Agreement, together with an undated stock power or similar instrument of transfer for each such certificate endorsed in blank by a duly authorized officer of the pledgor thereof, and (ii) each material debt instrument (if any) endorsed (without recourse) in blank (or accompanied by an transfer form endorsed in blank) by the pledgor thereof required to be pledged to Agent under the Pledge Agreement; and

(n) such other documents as Agent may reasonably request.

4.2 All Advances. On each Advance Date:

(a) Agent shall have received (i) an Advance Request for the relevant Advance as required by Section 2.1(c), duly executed by Company's Chief Executive Officer, Chief Financial Officer or Chief Business Officer, and (ii) any other documents Agent may reasonably request in its good faith business discretion;

(b) The representations and warranties set forth in this Agreement shall be true and correct in all material respects on and as of the applicable Advance Date with the same effect as though made on and as of such date, except to the extent such representations and warranties expressly relate to an earlier date;

(c) Borrower shall be in compliance with all the terms and provisions set forth herein and in each other Loan Document on its part to be observed or performed;

(d) With respect to any Advance (other than the Tranche 1 Advance) made available on such Advance Date, the Loan Parties shall have paid the Tranche Facility Charge applicable to such Advance; and

(e) Each Advance Request shall be deemed to constitute a representation and warranty by Borrower on the relevant Advance Date as to the matters specified in Section 4.2(b), Section 4.2(c) and Section 4.3 and as to the matters set forth in the Advance Request.

4.3 No Default. As of the Closing Date and at the time of and immediately after each Advance Date, (i) no fact or condition exists that could (or could, with the passage of time, the giving of notice, or both) constitute an Event of Default and (ii) no event that has had or could reasonably be expected to have a Material Adverse Effect has occurred and is continuing.

SECTION 5. REPRESENTATIONS AND WARRANTIES OF BORROWER

Borrower represents and warrants that:

5.1 Corporate Status; Execution and Delivery; Binding Effect. Each Borrower is duly organized, legally existing and in good standing under the laws of its jurisdiction of organization, incorporation or formation, as applicable, and is duly qualified as a foreign corporation, limited liability company or partnership, as the case may be, in all jurisdictions in which the nature of its business or location of its properties require such qualifications and where the failure to be qualified could reasonably be expected to have a Material Adverse Effect. Borrower's present name, former names (if any), chief executive office, place of formation, tax identification number, organizational identification number and other information are correctly set forth in Exhibit B, as may be updated by Borrower in a written notice (including any Compliance Certificate) provided to Agent after the Closing Date in accordance with this Agreement. This Agreement has been, and each other Loan Document, when delivered hereunder, will have been, duly executed and delivered by each Loan Party hereto and thereto. This Agreement constitutes, and each other Loan Document when so delivered will constitute, a legal, valid and binding obligation of each Loan Party hereto and thereto, enforceable against such Loan Party in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, receivership, moratorium or other laws affecting creditors' rights generally and by general principles of equity.

5.2 Collateral. Borrower owns the Collateral, free of all Liens, except for Permitted Liens. Borrower has the power and authority to grant to Agent a Lien in the Collateral as security for the Secured Obligations.

5.3 Consents. Borrower's execution, delivery and performance of this Agreement and all other Loan Documents to which it is a party (i) have been duly authorized by all necessary action of Borrower in accordance with its Organizational Documents and applicable law, (ii) will not result in the creation or imposition of any Lien upon the Collateral, other than Permitted Liens, (iii) do not violate any provisions of Borrower's Organizational Documents or any material order, injunction, judgment, decree or writ to which Borrower is subject, (iv) do not violate in any material respect any law or regulation to which Borrower is subject and (v) do not violate any contract or agreement of Borrower or require the consent or approval of any other Person or Governmental Authority which has not already been obtained, except for violations, consents or approvals that could not reasonably be expected to have a Material Adverse Effect. The individual or individuals executing the Loan Documents on behalf of Borrower are duly authorized to do so.

5.4 Material Adverse Effect. No event that has had or could reasonably be expected to have a Material Adverse Effect has occurred and is continuing. Borrower is not aware of any event or circumstance that is likely to occur that is reasonably expected to result in a Material Adverse Effect.

5.5 Actions Before Governmental Authorities. There are no actions, suits, claims, disputes or proceedings at law or in equity or by or before any Governmental Authority now pending or, to the knowledge of Borrower, threatened in writing against or affecting Borrower or its property, that is reasonably expected to result in a Material Adverse Effect.

5.6 Laws.

(a) Neither Borrower nor any of its Subsidiaries is in violation of any law, rule or regulation, or in default with respect to any judgment, writ, injunction or decree of any Governmental Authority to which Borrower or such Subsidiaries are subject, where such violation or default could reasonably be expected to result in a Material Adverse Effect. Borrower is not in default under (i) any provision of any agreement or instrument evidencing material Indebtedness or (ii) any other material agreement to which it is a party or by which it is bound that, in the case of the foregoing clauses (i) or (ii) would reasonably be expected to be materially adverse to the interests of Agent or Lenders.

(b) Neither Borrower nor any of its Subsidiaries is an "investment company," a company that would be an "investment company" except for the exclusion from the definition of "investment company" in Section 3(c) of the Investment Company Act of 1940, as amended (the "1940 Act"), or a company "controlled" by an "investment company" under the 1940 Act. Neither Borrower nor any of its Subsidiaries is engaged as one of its important activities in extending credit for margin stock (under

Regulations X, T and U of the Federal Reserve Board of Governors). Borrower and each of its Subsidiaries has complied in all material respects with the Federal Fair Labor Standards Act. Neither Borrower nor any of its Subsidiaries is a “holding company” or an “affiliate” of a “holding company” or a “subsidiary company” of a “holding company” as each term is defined and used in the Public Utility Holding Company Act of 2005. Neither Borrower’s nor any of its Subsidiaries’ properties or assets have been used by Borrower or such Subsidiary or, to Borrower’s knowledge, by previous Persons, in disposing, producing, storing, treating, or transporting any hazardous substance other than in material compliance with applicable laws. Borrower and each of its Subsidiaries has obtained all consents, approvals and authorizations of, made all declarations or filings with, and given all notices to, all Governmental Authorities that are necessary to continue their respective businesses as currently conducted.

(c) None of Borrower, any of its Subsidiaries, or any of Borrower’s or its Subsidiaries’ controlled Affiliates or any of their respective agents acting or benefiting in any capacity in connection with the transactions contemplated by this Agreement is (i) in violation of any Anti-Terrorism Law, (ii) engaging in or conspiring to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding or attempts to violate, any of the prohibitions set forth in any Anti-Terrorism Law, or (iii) is a Blocked Person. None of Borrower, any of its Subsidiaries, or (to the knowledge of Borrower) any of their controlled Affiliates or agents acting or benefiting in any capacity in connection with the transactions contemplated by this Agreement, (x) conducts any business or engages in making or receiving any contribution of funds, goods or services to or for the benefit of any Blocked Person, or (y) deals in, or otherwise engages in any transaction relating to, any property or interest in property blocked pursuant to Executive Order No. 13224, any similar executive order or other Anti-Terrorism Law. None of the funds to be provided under this Agreement will be used, directly or indirectly, (a) for any activities in violation of any applicable anti-money laundering, economic sanctions and anti-bribery laws and regulations or (b) for any payment to any governmental official or employee, political party, official of a political party, candidate for political office, or anyone else acting in an official capacity, in order to obtain, retain or direct business or obtain any improper advantage, in violation of the United States Foreign Corrupt Practices Act of 1977, as amended.

5.7 Information Correct and Current. No written information, report, Advance Request, financial statement, exhibit or schedule furnished, by or on behalf of Borrower to Agent in connection with any Loan Document or included therein or delivered pursuant thereto (in each case, other than forecasts, projections and other forward-looking statements and information of a general economic or industry nature), when taken as a whole, contains or will contain any material misstatement of fact or, when taken together with all other such written information or documents, omits or will omit to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were, are or will be made, not materially misleading at the time such statement was made or deemed made. Additionally, any and all financial or business projections provided by Borrower to Agent, whether prior to or after the Closing Date, shall be provided in good faith and based on the most current data and information available to Borrower, and based upon reasonable assumptions (it being understood that the projections and forecasts provided by Borrower in good faith and based upon reasonable assumptions are not viewed as facts, that such projections are subject to significant uncertainties and contingencies, many of which are beyond the control of Borrower, that no assurance is given that any particular projections will be realized, and that actual results during the period or periods covered by such projections and forecasts may differ from the projected or forecasted results).

5.8 Tax Matters. Except as set forth on Schedule 5.8, (a) Borrower and its Subsidiaries have filed all federal and state income Tax returns and other material Tax returns that they are required to file, (b) Borrower and its Subsidiaries have duly paid all federal and state income Taxes and other material Taxes or installments thereof that they are required to pay, except Taxes being contested in good faith by appropriate proceedings and for which Borrower and its Subsidiaries maintain adequate reserves in accordance with GAAP, and (c) to the best of Borrower’s knowledge, no proposed or pending Tax assessments, deficiencies, audits or other proceedings with respect to Borrower or any Subsidiary have had, or could reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

5.9 Intellectual Property Claims. Borrower is the sole owner of, or otherwise has the right to use, the Intellectual Property material to Borrower's business. Except as described on Schedule 5.9, (i) each of the material Copyrights, Trademarks and Patents is valid and enforceable, (ii) no material part of the Intellectual Property has been judged invalid or unenforceable, in whole or in part, and (iii) no claim has been made to Borrower that the ownership of or use of any material part of the Intellectual Property violates the rights of any third party.

5.10 Intellectual Property.

(a) A true, correct and complete list of each pending, registered, issued or in-licensed Intellectual Property that, individually or taken together with any other such Intellectual Property, is material to the business of Borrower and its Subsidiaries, taken as a whole, relating to the research, development, manufacture, production, use, commercialization, marketing, importing, storage, transport, offer for sale, distribution or sale of the Borrower Products, and is owned or co-owned by or exclusively or non-exclusively licensed to the Borrower or any of its Subsidiaries (collectively, the "Current Company IP"), including its name/title, current owner or co-owners (including ownership interest), registration, patent or application number, and registration or application date, issued or filed in the United States, is set forth on Schedule 5.10(a), as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d). Except as set forth on Schedule 5.10(a), as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d), (i) (A) each item of owned Current Company IP is valid, subsisting and (other than with respect to Patent applications) enforceable and no such item of Current Company IP has lapsed, expired, been cancelled or invalidated or become abandoned or unenforceable, and (B) no written notice has been received challenging the inventorship or ownership, or relating to any lapse, expiration, invalidation, abandonment or unenforceability, of any such item of Current Company IP, and (ii) (A) each such item of Current Company IP which is licensed from another Person is valid, subsisting and enforceable and no such item of Current Company IP has lapsed, expired, been cancelled or invalidated, or become abandoned or unenforceable, and (B) no written notice has been received challenging the inventorship or ownership, or relating to any lapse, expiration, invalidation, abandonment or unenforceability, of any such item of Current Company IP. To the knowledge of Borrower, there are no published patents or patent applications that would reasonably be expected to materially adversely affect the exploitation of the Borrower Products. Except as set forth on Schedule 5.10(a), as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d), (x) each Person who has or has had any rights in or to owned Current Company IP or any trade secrets owned by the Borrower or any of its Subsidiaries, including each inventor named on the Patents within such owned Current Company IP filed by the Borrower or any of its Subsidiaries, and has executed an agreement assigning his, her or its entire right, title and interest in and to such owned Current Company IP and such trade secrets, and the inventions, improvements, ideas, discoveries, writings, works of authorship, information and other intellectual property embodied, described or claimed therein, to the stated owner thereof, and (y) no such Person has any contractual or other obligation with Borrower or its Subsidiaries that would preclude or conflict with such assignment or the exploitation of the Borrower Products or entitle such Person to ongoing payments.

(b) (i) The Borrower or any of its Subsidiaries possesses valid title to the Current Company IP for which it is listed as the owner or co-owner, as applicable, on Schedule 5.10(a); and (ii) there are no Liens on any Current Company IP other than Permitted Liens.

(c) There are no maintenance, annuity or renewal fees that are currently overdue beyond their allotted grace period for any of the Current Company IP which is owned by or exclusively licensed to the Borrower or any of its Subsidiaries, nor have any applications or registrations therefor lapsed or become abandoned, been cancelled or expired. To the knowledge of Borrower, there are no maintenance, annuity or renewal fees that are currently overdue beyond their allotted grace period for any of the Current Company IP which is non-exclusively licensed to the Borrower or any of its Subsidiaries, nor have any applications or registrations therefor lapsed or become abandoned, been cancelled or expired.

(d) No payments by the Borrower or any of its Subsidiaries are due to any other Person in respect of the Current Company IP, other than pursuant to the Material Agreements, pursuant to other license agreements entered into between Borrower and/or its Subsidiaries in the ordinary course of business, and those fees payable to Patent, Copyright, or Trademark offices in connection with the prosecution and maintenance of the Current Company IP, any applicable taxes and associated attorney fees.

(e) To the knowledge of Borrower, neither the Borrower nor any of its Subsidiaries has undertaken or omitted to undertake any acts, and no circumstance or grounds exist that would invalidate or reduce, in whole or in part, the enforceability or scope of (i) the Current Company IP in any manner that could reasonably be expected to materially adversely affect the Borrower Products, or (ii) in the case of Current Company IP co-owned or exclusively or non-exclusively licensed by the Borrower or any of its Subsidiaries, except as set forth on Schedule 5.10(e) (as may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d)), in any manner that could reasonably be expected to materially adversely affect the Borrower's or Subsidiary's entitlement to co-own or license and exploit such Current Company IP.

(f) Except as described on Schedule 5.9 or in the most recently delivered Compliance Certificate in accordance with Section 7.1(d), there is no requested, filed pending, decided or settled opposition, interference proceeding, reissue proceeding, reexamination proceeding, inter partes review proceeding, post-grant review proceeding, cancellation proceeding, injunction, litigation, paragraph IV patent certification or lawsuit under the Hatch-Waxman Act, hearing, investigation, complaint, arbitration, mediation, demand, International Trade Commission investigation, decree, or any other dispute, disagreement, or claim, in each case alleged in writing to Borrower or any of its Subsidiaries (collectively referred to hereinafter as "Specified Disputes"), nor to the knowledge of Borrower, has any such Specified Dispute been threatened in writing, in each case challenging the legality, validity, enforceability or ownership of any Current Company IP, in each case that would have a material adverse effect on the Borrower Products.

(g) In each case where an issued Patent within the Current Company IP is owned or co-owned by the Borrower or any of its Subsidiaries by assignment, the assignment has been duly recorded with the U.S. Patent and Trademark Office.

(h) Except as set forth on Schedule 5.10(h) (as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d)) there are no pending or, to the knowledge of Borrower, threatened claims against Borrower or any of its Subsidiaries alleging (i) that any research, development, manufacture, production, use, commercialization, marketing, importing, storage, transport, offer for sale, distribution or sale of the Borrower Products in the United States infringes or violates (or in the past infringed or violated) the rights of any third parties in or to any Intellectual Property ("Third Party IP") or constitutes a misappropriation of (or in the past constituted a misappropriation of) any Third Party IP, or (ii) that any Current Company IP is invalid or unenforceable.

(i) Except as set forth on Schedule 5.10(i) as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d), the manufacture, production, use, commercialization, marketing, importing, storage, transport, offer for sale, distribution or sale of the Borrower Products does not, to the knowledge of Borrower, infringe or violate (or in the past infringed or violated) any issued or registered Third Party IP (including any issued Patent within the Third Party IP) or constitute a misappropriation of (or in the past constituted a misappropriation of) any Third Party IP, in each case, that would reasonably be expected to have a material adverse effect on the Borrower Products.

(j) Except as set forth on Schedule 5.10(j) (as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d)), there are no settlements, covenants not to sue, consents, judgments, orders or similar obligations which: (i) restrict the rights of the Borrower or any of its Subsidiaries to use any Intellectual Property relating to the research, development, manufacture,

production, use, commercialization, marketing, importing, storage, transport, offer for sale, distribution or sale of the Borrower Products (in order to accommodate any Third Party IP or otherwise), or (ii) permit any third parties to use any Company IP.

(k) Except as set forth on Schedule 5.10(k) (as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d)), to the knowledge of Borrower (i) there is no, nor has there been any, infringement or violation by any Person of any of the Company IP or the rights therein, and (ii) there is no, nor has there been any, misappropriation by any Person of any of the Company IP or the subject matter thereof.

(l) The Borrower and each of its Subsidiaries has taken all commercially reasonable measures customary in the biopharmaceutical industry to protect the confidentiality and value of all trade secrets owned by the Borrower or any of its Subsidiaries or used or held for use by the Borrower or any of its Subsidiaries, in each case relating to the research, development, manufacture, production, use, commercialization, marketing, importing, storage, transport, offer for sale, distribution or sale of the Borrower Products.

(m) Except as set forth on Schedule 5.10(m) (as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d)), at the time of any shipment of Borrower Product in the United States occurring prior to the Closing Date, the units thereof so shipped complied with their relevant specifications and were manufactured in all material respects in accordance with applicable current FDA Good Manufacturing Practices.

(n) Except as described on Schedule 5.10(n) (as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d)), Borrower has all material rights with respect to intellectual property necessary or material in the operation or conduct of Borrower's business as currently conducted and proposed to be conducted by Borrower. Without limiting the generality of the foregoing, except for restrictions that are unenforceable under Division 9 of the UCC or otherwise permitted under this Agreement with respect to Licenses, Borrower has the right, to the extent required to operate Borrower's business, to freely transfer, license or assign Intellectual Property necessary or material in the operation or conduct of Borrower's business as currently conducted and proposed to be conducted by Borrower, without condition, restriction or payment of any kind (other than license payments in the ordinary course of business) to any third party, and Borrower owns or has the right to use, pursuant to valid licenses, all software development tools, library functions, compilers and all other third-party software and other items that are material in the operation or conduct of Borrower's business and used in the design, development, promotion, sale, license, manufacture, import, export, use or distribution of Borrower Products except customary covenants in inbound license agreements and equipment leases where Borrower is the licensee or lessee. Except as disclosed on Schedule 5.10 (as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d)), Borrower is not a party to, nor is it bound by, any Restricted License.

(o) No material software or other materials used by Borrower or any of its Subsidiaries (or used in any Borrower Products or any Subsidiaries' products) are subject to an open-source or similar license (including but not limited to the General Public License, Lesser General Public License, Mozilla Public License, or Affero License) in a manner that would cause such software or other materials to have to be (i) distributed to third parties at no charge or a minimal charge (royalty-free basis); (ii) licensed to third parties to modify, make derivative works based on, decompile, disassemble, or reverse engineer; or (iii) used in a manner that requires disclosure or distribution in source code form.

(p) There are no material unpaid fees or royalties under any Material Agreements that have become overdue. Each Material Agreement is in full force and effect and is legal, valid, binding, and enforceable in accordance with its respective terms (it being understood that a termination of any Material Agreement in accordance with its terms is permitted), except as may be limited by bankruptcy, insolvency,

reorganization, moratorium or similar laws relating to or limiting creditors' rights generally or by equitable principles relating to enforceability. Except as set forth on Schedule 5.10(p), to the knowledge of Borrower, neither Borrower nor any of its Subsidiaries, as applicable, is in breach of or default in any manner that could reasonably be expected to materially affect the Borrower Products under any Material Agreement to which it is a party, and no circumstances or grounds exist that would give rise to a claim of breach or right of rescission, termination or nonrenewal of any of the Material Agreements, including the execution, delivery and performance of this Agreement and the other Loan Documents.

5.11 [Reserved].

5.12 Financial Accounts. Exhibit D, as may be updated by Borrower in a Compliance Certificate delivered in accordance with Section 7.1(d), is a true, correct and complete list of (a) all banks and other financial institutions at which Borrower or any Subsidiary maintains Deposit Accounts and (b) all institutions at which Borrower or any Subsidiary maintains an account holding Investment Property, and such exhibit correctly identifies the name and address of each bank or other institution, the name in which the account is held, a description of the purpose of the account, and the complete account number therefor.

5.13 Employee Loans. Except for loans constituting Permitted Investments, Borrower has no outstanding loans to any employee, officer or director of Borrower nor has Borrower guaranteed the payment of any loan made to an employee, officer or director of Borrower by a third party.

5.14 Subsidiaries. Borrower does not own any stock, partnership interest or other securities of any Person, except for Permitted Investments. Attached as Schedule 5.14, as it may be updated in a Compliance Certificate delivered in accordance with Section 7.1(d), is a true, correct and complete list of each Subsidiary.

5.15 Solvency. The "present fair saleable value" of the Loan Parties' consolidated assets (including goodwill minus disposition costs) exceeds the amount of "all liabilities of the Loan Parties, contingent or otherwise" and the "present fair saleable value" of the Company's consolidated assets (including goodwill minus disposition costs) exceeds the amount of "all liabilities of such Borrower, contingent or otherwise." The Loan Parties (taken as a whole) shall not have an unreasonably small amount of capital with which to conduct their business after giving effect to the Advances drawn on the Closing Date, and the Company shall not have an unreasonably small amount of capital with which to conduct its business after giving effect to the Advances drawn on the Closing Date. The Loan Parties (taken as a whole), on a consolidated basis, will be able to pay their debts (including trade debts) as they mature, and the Company will be able to pay its debts (including trade debts) as they mature. For purposes of this Section 5.15, the quoted terms used in this Section 5.15 shall be determined in accordance with applicable federal and state laws governing determinations of the insolvency of debtors.

SECTION 6. INSURANCE; INDEMNIFICATION

6.1 Coverage. Borrower shall cause to be carried and maintained commercial general liability insurance covering Borrower and its Subsidiaries, on an occurrence form, against risks and in such amounts customarily insured against in Borrower's line of business. Such risks shall include the risks of bodily injury, including death, property damage, personal injury, advertising injury, and contractual liability per the terms of the indemnification agreement found in Section 6.3. Borrower must maintain a minimum of Two Million Dollars (\$2,000,000) of commercial general liability insurance for each occurrence. Borrower maintains and shall continue to maintain directors' and officers' insurance (including any related excess or umbrella liability) in an amount equal to at least sixty percent (60%) of amounts disclosed to Agent as of the Closing Date. So long as there are any Secured Obligations outstanding (other than inchoate indemnity obligations or any other obligations which, by their terms, survive termination of this Agreement), Borrower shall also cause to be carried and maintained insurance upon the business and assets of Borrower and its Subsidiaries, insuring against all risks of physical loss or damage howsoever caused, in an amount not less than the full replacement cost of the Collateral, provided that such insurance may be subject to standard exceptions and deductibles. If Borrower fails to obtain the insurance called for by this Section 6.1 or fails to pay any premium thereon or fails to pay any other amount which Borrower is obligated

to pay under this Agreement or any other Loan Document or which may be required to preserve the Collateral, Agent may obtain such insurance or make such payment, and all amounts so paid by Agent are immediately due and payable, bearing interest at the then highest rate applicable to the Secured Obligations, and secured by the Collateral. Agent will make reasonable efforts to provide Borrower with notice of Agent obtaining such insurance at the time it is obtained or within a reasonable time thereafter. No payments by Agent are deemed an agreement to make similar payments in the future or Agent's waiver of any Event of Default.

6.2 Certificates. Subject to Section 7.26, Borrower shall deliver to Agent certificates of insurance that evidence Borrower's compliance with its insurance obligations in Section 6.1 and the obligations contained in this Section 6.2. Borrower's insurance certificate shall reflect Agent (shown as "Hercules Capital, Inc., as Agent, and its successors and/or assigns") is an additional insured for commercial general liability, a lenders loss payable for all risk property damage insurance, subject to the insurer's approval, and a lenders loss payable for property insurance and additional insured for liability insurance for any future insurance that Borrower may acquire from such insurer. Subject to Section 7.26, attached to the certificates of insurance will be additional insured endorsements for liability and lender's loss payable endorsements for all risk property damage insurance. All certificates of insurance will provide for a minimum of thirty (30) days advance written notice to Agent of cancellation (other than cancellation for non-payment of premiums, for which ten (10) days' advance written notice shall be sufficient). Any failure of Agent to scrutinize such insurance certificates for compliance is not a waiver of any of Agent's rights, all of which are reserved. Upon Agent's request, Borrower shall provide Agent with copies of each insurance policy. Upon entering into or amending any insurance policy required hereunder, Borrower shall, in the then-next Compliance Certificate delivered in accordance with Section 7.1(d), provide Agent with copies of such policies and shall promptly deliver to Agent updated insurance certificates with respect to such policies.

6.3 Indemnity. Borrower agrees to indemnify and hold Agent, Lenders and their officers, directors, employees, agents, in-house attorneys, representatives and shareholders (each, an "Indemnified Person") harmless from and against any and all third-party claims, documented costs and expenses, damages and liabilities (including such claims, costs, expenses, damages and liabilities based on liability in tort, including strict liability in tort), including reasonable and documented out-of-pocket attorneys' fees and disbursements and other costs of investigation or defense (including those incurred upon any appeal) (collectively, "Liabilities"), that may be instituted or asserted against or incurred by such Indemnified Person as the result of credit having been extended, suspended or terminated under this Agreement and the other Loan Documents or the administration of such credit, or in connection with or arising out of the transactions contemplated hereunder and thereunder, or any actions or failures to act in connection therewith, or arising out of the disposition or utilization of the Collateral, excluding in all cases Liabilities to the extent such Liabilities arise solely out of gross negligence or willful misconduct of any Indemnified Person, breach of the Loan Documents by such Indemnified Person or changes in income tax rates. This Section 6.3 shall not apply with respect to Taxes other than any Taxes that represent losses, claims, damages, etc. arising from any non-Tax claim. In no event shall any Indemnified Person be liable on any theory of liability for any special, indirect, consequential or punitive damages (including any loss of profits, business or anticipated savings). This Section 6.3 shall survive the repayment of indebtedness under, and otherwise shall survive the expiration or other termination of, this Agreement, in each case, subject to the applicable statute of limitations.

SECTION 7. COVENANTS OF BORROWER

Borrower agrees as follows:

7.1 Financial Reports. Borrower shall furnish to Agent the financial statements and reports listed hereinafter (the "Financial Statements"):

(a) as soon as practicable (and in any event within thirty (30) days or such longer period as may be agreed by Agent in its sole discretion) after the end of each month, unaudited interim and year-to-date financial statements as of the end of such month (prepared on a consolidated and consolidating basis, if prepared) of Company and its Subsidiaries, including balance sheet and related statements of income, all certified by a duly authorized officer of Company to the effect that they have been prepared in

accordance with GAAP, except (i) for the absence of footnotes, (ii) that they are subject to normal year-end or quarter-end adjustments, and (iii) they do not contain certain non-cash items that are customarily included in quarterly and annual financial statements;

(b) as soon as practicable (and in any event within forty-five (45) days or such longer period as may be agreed by Agent in its sole discretion) after the end of each of the first three fiscal quarters of each fiscal year, unaudited interim and year-to-date financial statements as of the end of such calendar quarter (prepared on a consolidated and consolidating basis, if prepared) of Company and its Subsidiaries, including balance sheet and related statements of income and cash flows accompanied by a report detailing any occurrence that could reasonably be expected to have a Material Adverse Effect (including the commencement of any material litigation by or against Borrower), certified by a duly authorized officer of Company to the effect that they have been prepared in accordance with GAAP, except (i) for the absence of footnotes, and (ii) that they are subject to normal year-end adjustments;

(c) as soon as practicable (and in any event within (i) one hundred twenty (120) days for the fiscal year ending December 31, 2023 and (ii) ninety (90) days for each fiscal year thereafter, or in either case, such longer period as may be agreed by Agent in its sole discretion) after the end of each fiscal year, audited financial statements as of the end of such year (prepared on a consolidated and consolidating basis, if prepared), including balance sheet and related statements of income and cash flows, and setting forth in comparative form the corresponding figures for the preceding fiscal year, certified without qualification (other than a "going concern" qualification as it relates to Borrower's cash levels so long as no Event of Default has occurred or is continuing) by a firm of independent certified public accountants selected by Borrower and reasonably acceptable to Agent, accompanied by any management report from such accountants (it being understood that Ernst & Young LLP and any other accounting firm of national standing are reasonably acceptable to Agent);

(d) as soon as practicable (and in any event within thirty (30) days or such longer period as may be agreed by Agent in its sole discretion) after the end of each month, a Compliance Certificate;

(e) as soon as practicable (and in any event within thirty (30) days or such longer period as may be agreed by Agent in its sole discretion) after the end of each month, a report showing agings of accounts receivable and accounts payable;

(f) promptly after the sending or filing thereof, as the case may be, copies of any proxy statements, financial statements or reports that Company has made available to holders of its common stock and copies of any regular, periodic and special reports or registration statements that Company files with the Securities and Exchange Commission or any Governmental Authority that may be substituted therefor, or any national securities exchange;

(g) copies of any material Governmental Approvals obtained by Borrower or any of its Subsidiaries;

(h) promptly following delivery to the Company's directors, slides on key metrics relating to Borrower's performance;

(i) financial and business projections, promptly following their approval by Company's Board of Directors, and in any event, within thirty (30) days (or such longer period as may be agreed by Agent in its sole discretion) after the end of Borrower's fiscal year, as well as budgets, operating plans and other financial information reasonably requested by Agent;

(j) insurance renewal statements, annually or otherwise promptly upon renewal of insurance policies required to be maintained in accordance with Section 6.1;

(k) prompt notice of any legal process that is reasonably likely to result in damages, expenses or liabilities in excess of Seven Hundred Fifty Thousand Dollars (\$750,000);

(l) prompt (but in any event no more than two (2) Business Days') notice of the occurrence of any material default or event of default (or any comparable term) under the Permitted Receivables Facility Agreement; and

(m) prompt (but in any event no more than two (2) Business Days') notice if Borrower or any Subsidiary has knowledge that Borrower, or any Subsidiary or Affiliate of Borrower, is listed on the OFAC Lists or (a) is convicted on, (b) pleads *nolo contendere* to, (c) is indicted on, or (d) is arraigned and held over on charges involving money laundering or predicate crimes to money laundering.

Borrower shall not (without the consent of Agent) make any change in its (a) material accounting policies or reporting practices (other than to the extent required or otherwise contemplated by GAAP or other applicable regulatory requirements), or (b) fiscal years or fiscal quarters. As of the Closing Date, the fiscal year of Borrower shall end on December 31.

The executed Compliance Certificate, and all Financial Statements required to be delivered hereunder shall be sent per instructions (i) specified on Addendum 2 or (ii) otherwise provided by Agent to Borrower via written notice from time to time.

Notwithstanding the foregoing, documents required to be delivered hereunder (to the extent any such documents are included in materials otherwise filed with the Securities and Exchange Commission or any Governmental Authority that may be substituted therefor) may be delivered electronically and if so delivered, shall be deemed to have been delivered on the date on which Borrower or any of its Subsidiaries posts such documents, or provides a link thereto, on Borrower's or any of its Subsidiaries' website on the internet at Borrower's or any of its Subsidiaries' website address.

7.2 Management Rights. Borrower shall permit any representative that Agent or Lenders authorizes, including its attorneys and accountants, to inspect the Collateral and examine and make copies and abstracts of the books of account and records of Borrower at reasonable times and upon reasonable notice during normal business hours; provided, however, that so long as no Event of Default has occurred and is continuing, such examinations shall be limited to no more often than twice per fiscal year. In addition, in connection with such inspections, any such representative shall have the right to meet with management and officers of Borrower to discuss such books of account and records at reasonable times and upon reasonable notice. In addition, Agent or Lenders shall be entitled at reasonable times and intervals to consult with and advise the management and officers of Borrower concerning significant business issues affecting Borrower. Such consultations shall not unreasonably interfere with Borrower's business operations. The parties intend that the rights granted to Agent and Lenders shall constitute "management rights" within the meaning of 29 C.F.R. Section 2510.3-101(d)(3)(ii), but that any advice, recommendations or participation by Agent or Lenders with respect to any business issues shall not be deemed to give Agent or Lenders, nor be deemed an exercise by Agent or Lenders of, control over Borrower's management or policies.

7.3 Further Assurances. Borrower shall, and shall cause each other Loan Party to, from time to time execute, deliver and file, alone or with Agent, any financing statements, security agreements, collateral assignments, notices, control agreements, promissory notes or other documents to perfect or give the highest priority to Agent's Lien on the Collateral, subject to Permitted Liens, or otherwise evidence Agent's rights herein, in each case, as reasonably requested by Agent. Borrower shall from time to time procure any instruments or documents as may be reasonably requested by Agent, and take all further action that may be necessary, or that Agent may reasonably request, to perfect and protect the Liens granted hereby or pursuant to applicable Loan Documents. In addition, and for such purposes only, Borrower hereby authorizes Agent to execute and deliver on behalf of Borrower and to file such financing statements (including an indication that the financing statement covers "all assets or all personal property" of Borrower in accordance with Section 9-504 of the UCC). Borrower shall protect and defend its title to

the Collateral and Agent's Lien thereon against all Persons claiming any interest adverse to Borrower or Agent other than Permitted Liens.

7.4 **Indebtedness.** Borrower shall not create, incur, assume, guarantee or be or remain liable with respect to any Indebtedness, or permit any Subsidiary to do so, other than Permitted Indebtedness, or prepay any Indebtedness or take any actions which impose on Borrower an obligation to prepay any Indebtedness, except for (a) Indebtedness permitted by clauses (i), (ii), (iii), (iv), (vii), (ix), (xii) and, to the extent related to any of the foregoing and not in excess of the related primary obligation, (xiv) of the defined term "Permitted Indebtedness", (b) the conversion of Indebtedness into equity securities and the payment of cash in lieu of fractional shares in connection with such conversion, (c) purchase money Indebtedness pursuant to its then applicable payment schedule or with other purchase money Indebtedness permitted hereunder, (d) prepayment (i) by any Loan Party or any Subsidiary of inter-company Indebtedness owed to any Loan Party, or (ii) by any Subsidiary that is not a Loan Party of inter-company Indebtedness owed by such Subsidiary to another Subsidiary that is not a Loan Party, (e) payments made on Subordinated Indebtedness to the extent permitted under the relevant subordination agreement, (f) for Permitted Indebtedness with the proceeds of other Permitted Indebtedness, or (g) as otherwise permitted hereunder or approved in writing by Agent.

Notwithstanding anything to the contrary in the foregoing, the issuance of, performance of obligations under (including any payments of interest), and conversion, exercise, repurchase, redemption (including, for the avoidance of doubt, a required repurchase in connection with the redemption of Permitted Convertible Debt upon satisfaction of a condition related to the stock price of the Company's Common Stock), settlement or early termination or cancellation of (whether in whole or in part and including by netting or set-off) (in each case, whether in cash, Common Stock of the Company or, following a merger event or other change of the Common Stock of the Company, other securities or property), or the satisfaction of any condition that would permit or require any of the foregoing, any Permitted Convertible Debt shall not constitute a prepayment of Indebtedness by Borrower for purposes of this Section 7.4; provided that principal payments in cash (other than cash in lieu of fractional shares) shall be allowed with respect to any repurchase in connection with any redemption of Permitted Convertible Debt upon satisfaction of a condition related to the stock price of the Common Stock of Company only if the Redemption Conditions are satisfied in respect of such redemption and at all times after such redemption.

Notwithstanding the foregoing, Borrower may repurchase, exchange or induce the conversion of all or a portion of the convertible notes issued in a Permitted Convertible Debt Financing by delivery of shares of Common Stock and/or a different series of Permitted Convertible Debt Financing and/or by payment of cash (in an amount that does not exceed the proceeds received by Borrower from the substantially concurrent issuance of shares of Common Stock and/or Permitted Convertible Debt Financing (or a permitted refinancing thereof) plus the net cash proceeds, if any, received by Borrower pursuant to the related exercise or early unwind or termination of the related Permitted Bond Hedge Transactions and Permitted Warrant Transactions, if any, pursuant to the immediately following proviso); provided that, for the avoidance of doubt, substantially concurrently with, or a commercially reasonable period of time before or after, the related settlement date for the convertible notes issued in a Permitted Convertible Debt Financing that are so repurchased, exchanged or converted, Borrower may exercise or unwind or terminate early (whether in cash, shares or any combination thereof) the portion of the Permitted Bond Hedge Transactions and Permitted Warrant Transactions, if any, corresponding to such Permitted Convertible Debt Financing that are so repurchased, exchanged or converted.

7.5 **Collateral.** Borrower shall at all times (a) keep the Collateral and all other property and assets used in Borrower's business or in which Borrower now or hereafter holds any interest free and clear from any Liens whatsoever (except for Permitted Liens), and (b) shall give Agent prompt written notice of any legal process affecting the Collateral, such other property and assets, or any Liens thereon that could reasonably be expected to have a Material Adverse Effect. Borrower shall not agree with any Person other than Agent or Lenders not to encumber its property other than in connection with Permitted Liens. Borrower shall not enter into or suffer to exist or become effective any agreement that prohibits or limits the ability of any Borrower to create, incur, assume or suffer to exist any Lien upon any of its property (including Intellectual Property), whether now owned or hereafter acquired, to secure the Secured Obligations under the Loan Documents to which it is a party other than (i) this

Agreement and the other Loan Documents, (ii) any agreements governing any purchase money Liens or capital lease obligations otherwise permitted hereby (in which case, any prohibition or limitation shall only be effective against the assets financed thereby and the proceeds and products thereof and accessions thereto), (iii) the Permitted Receivables Facility Agreement, (iv) any Permitted Lien or any document or instrument governing any Permitted Lien; provided that any such restriction therein relates only to the assets subject to such Permitted Lien, (v) customary restrictions contained in any agreement relating to a Permitted Transfer pending consummation of such Permitted Transfer, and (vi) customary restrictions on the assignment of leases, licenses and other agreements. Borrower shall cause its Subsidiaries to, in good faith and in its reasonable commercial discretion, protect and defend such Subsidiary's title to its assets from and against all Persons claiming any interest adverse to such Subsidiary, and Borrower shall cause its Subsidiaries at all times to keep such Subsidiary's property and assets free and clear from any Liens whatsoever (except for Permitted Liens).

7.6 Investments. Borrower shall not directly or indirectly acquire or own, or make any Investment in or to any Person, or permit any of its Subsidiaries to do so, other than Permitted Investments.

Notwithstanding the foregoing, and for the avoidance of doubt, this Section 7.6 shall not prohibit (i) the conversion or exchange by holders of (including any payment upon conversion or exchange, whether in cash, Common Stock or a combination thereof), or required payment of any principal or premium on (including, for the avoidance of doubt, in respect of a repurchase in connection with the redemption of all or a portion of the convertible notes issued in a Permitted Convertible Debt Financing upon satisfaction of a condition related to the stock price of the Common Stock) or required payment of any interest with respect to, any Permitted Convertible Debt Financing in each case, in accordance with the terms of the indenture governing such Permitted Convertible Debt Financing; *provided* that principal payments in cash (other than cash in lieu of fractional shares) shall only be allowed if the Redemption Conditions are satisfied in respect of such payment both immediately before and at all times after such payment, or (ii) the entry into (including the payment of premiums in connection therewith) or any required payment with respect to, or required early unwind or settlement of, any Permitted Bond Hedge Transaction or Permitted Warrant Transaction, in each case, in accordance with the terms of the agreement governing such Permitted Bond Hedge Transaction or Permitted Warrant Transaction.

Notwithstanding the foregoing, Borrower may repurchase, exchange or induce the conversion of all or a portion of the convertible notes issued in a Permitted Convertible Debt Financing by delivery of shares of Common Stock and/or a different series of Permitted Convertible Debt Financing and/or by payment of cash (in an amount that does not exceed the proceeds received by Borrower from the substantially concurrent issuance of shares of Common Stock and/or Permitted Convertible Debt Financing (or a permitted refinancing thereof) plus the net cash proceeds, if any, received by Borrower pursuant to the related exercise or early unwind or termination of the related Permitted Bond Hedge Transactions and Permitted Warrant Transactions, if any, pursuant to the immediately following proviso); *provided* that, for the avoidance of doubt, substantially concurrently with, or a commercially reasonable period of time before or after, the related settlement date for the convertible notes issued in a Permitted Convertible Debt Financing that are so repurchased, exchanged or converted, Borrower may exercise or unwind or terminate early (whether in cash, shares or any combination thereof) the portion of the Permitted Bond Hedge Transactions and Permitted Warrant Transactions, if any, corresponding to such Permitted Convertible Debt Financing that are so repurchased, exchanged or converted.

7.7 Distributions. Borrower shall not, and shall not allow any Subsidiary to, (a) repurchase or redeem any class of stock or other Equity Interest other than any repurchases or redemptions (i) described in clause (iii) of the defined term "Permitted Investments", (ii) upon the exercise of warrants, options or other securities convertible into or exchangeable for Equity Interests of Company if such Equity Interests represent all or a portion of the exercise price of such warrants, options or other securities convertible into or exchangeable for Equity Interests as part of a "cashless" exercise, (iii) repurchases of such stock or Equity Interests deemed to occur upon the withholding of a portion of such stock or Equity Interests granted or awarded to a current or former director, officer, employee or consultant to pay for the Taxes payable by such Person upon such grant or award (or upon vesting thereof), or (iv) in exchange for Qualified Equity Interests of such Person or any parent entity, or (b) declare or pay any cash dividend or make any other cash distribution on any class of stock or other Equity Interest (a

“Distribution”), except that (i) a Subsidiary may pay dividends or make other distributions to Borrower or any Subsidiary of Borrower, (ii) Borrower or any Subsidiary may pay non-Cash dividends or make other non-Cash distributions on, or may repurchase or redeem stock or Equity Interests, in each case in exchange for Qualified Equity Interests of such Person or any parent entity, (iii) Borrower may make payments in cash for fractional shares/units upon conversion or in connection with the exercise or conversion of warrants or other securities, or (iv) to the extent constituting a Distribution, Borrower may make any Permitted Investment or (c) except for Permitted Investments, Borrower or any Subsidiary may lend money to any employees, officers or directors or guarantee the payment of any such loans granted by a third party in excess of One Hundred Thousand Dollars (\$100,000) in the aggregate, or (d) Borrower or any Subsidiary may convert any of its convertible securities or Subordinated Indebtedness into other securities pursuant to the terms of such convertible securities or Subordinated Indebtedness or otherwise in exchange thereof, or (e) Borrower or any Subsidiary may waive, release or forgive any Indebtedness owed by any employees, officers or directors in excess of One Hundred Thousand Dollars (\$100,000) in the aggregate.

Notwithstanding the foregoing, and for the avoidance of doubt, this Section 7.7 shall not prohibit (i) the conversion by holders of (including any cash payment upon conversion), or required payment of any principal or premium on (including, for the avoidance of doubt, in respect of a repurchase in connection with the redemption of Permitted Convertible Debt upon satisfaction of a condition related to the stock price of Common Stock) or required payment of any interest with respect to any Permitted Convertible Debt, in each case, in accordance with the terms of the indenture governing such Permitted Convertible Debt, (ii) the entry into (including the payment of premiums in connection therewith) or any required payment with respect to, or required early unwind or settlement of, any Permitted Bond Hedge Transaction or Permitted Warrant Transaction, in each case, in accordance with the terms of the agreement governing such Permitted Bond Hedge Transaction or Permitted Warrant Transaction, or (iii) the withholding of shares of Common Stock upon the vesting of restricted stock units and performance stock units issued to Borrower’s employees under Borrower’s equity incentive plan upon vesting of such stock units and any related cash payments required to be paid to such employees and or any governmental authority on account of Taxes related thereto, in each case in the ordinary course of business of Borrower.

Notwithstanding the foregoing, Borrower may repurchase, exchange or induce the conversion of Permitted Convertible Debt by delivery of shares of Common Stock and/or a different series of Permitted Convertible Debt and/or by payment of cash (in an amount that does not exceed the proceeds received by Borrower from the substantially concurrent issuance of shares of Common Stock and/or Permitted Convertible Debt minus the net cost of any Permitted Bond Hedge Transaction and related Permitted Warrant Transaction entered into in connection therewith plus the net cash proceeds, if any, received by Borrower pursuant to the related exercise or early unwind or termination of the related Permitted Bond Hedge Transactions and Permitted Warrant Transactions, if any, pursuant to the immediately following proviso); provided that, for the avoidance of doubt, substantially concurrently with, or a commercially reasonable period of time before or after, the related settlement date for the Permitted Convertible Debt that are so repurchased, exchanged or converted, Borrower may exercise or unwind or terminate early (whether in cash, shares or any combination thereof) the portion of the Permitted Bond Hedge Transactions and Permitted Warrant Transactions, if any, corresponding to such Permitted Convertible Debt that are so repurchased, exchanged or converted.

7.8 Transfers. Except for Permitted Transfers, Borrower shall not, and shall not permit any Subsidiary to, voluntarily or involuntarily transfer, sell, lease, license, lend or in any other manner convey (“Transfer”) any equitable, beneficial or legal interest in any material portion of its assets (including, without limitation, pursuant to a Division).

7.9 Mergers and Consolidations. Borrower shall not, nor will it permit any Subsidiary to, merge, dissolve, liquidate, consolidate with or into another Person, or dispose of (whether in one transaction or in a series of transactions) all or substantially all of its assets (whether now owned or hereafter acquired) to or in favor of any Person, other than the following: (a) Permitted Acquisitions, (b) any Permitted Transfers, (c) mergers or consolidations of (i) a Subsidiary which is not a Loan Party into another Subsidiary or into a Loan Party or (ii) a Loan Party into another Loan Party), or (d) (i) any Subsidiary that is not a Loan Party may dissolve, liquidate, or

wind up its affairs at any time provided that all of its assets and business are transferred to the Company or any of its Subsidiaries and (ii) any Subsidiary that is a Loan Party may dissolve, liquidate, or wind up its affairs at any time provided that all of its assets and business are transferred to another Loan Party. Borrower may form or acquire any Subsidiary so long as Borrower complies in all respects with the requirements set forth in Section 7.13.

7.10 Taxes. Borrower shall, and shall cause each of its Subsidiaries to, pay when due all material Taxes of any nature whatsoever now or hereafter imposed or assessed against Borrower or such Subsidiary or the Collateral or upon Borrower's (or such Subsidiary's) ownership, possession, use, operation or disposition thereof or upon Borrower's (or such Subsidiary's) rents, receipts or earnings arising therefrom. Borrower shall, and shall cause each of its Subsidiaries to, accurately file on or before the due date therefor (taking into account proper extensions) all federal and state income Tax returns and other material Tax returns required to be filed. Notwithstanding the foregoing, Borrower and its Subsidiaries may contest, in good faith and by appropriate proceedings diligently conducted, Taxes for which Borrower and its Subsidiaries maintain adequate reserves in accordance with GAAP.

7.11 Corporate Changes.

(a) No Loan Party shall change its corporate name, legal form or jurisdiction of formation without twenty (20) days' prior written notice to Agent (or such shorter period as agreed by Agent in its sole discretion).

(b) No Change in Control shall have occurred.

(c) No Loan Party shall relocate its chief executive office or its principal place of business unless: (i) it has provided prior written notice to Agent; and (ii) to the extent such Loan Party is a Domestic Subsidiary when it becomes a Loan Party, such relocation shall be within the continental United States of America.

(d) If Borrower intends to add any new offices or business locations in the United States, including warehouses, that will contain Collateral valued, individually or in the aggregate, in excess of Five Hundred Thousand Dollars (\$500,000), then Borrower will use commercially reasonable efforts to cause the landlord of any such new offices or business locations, including warehouses, to execute and deliver a landlord consent in form and substance reasonably satisfactory to Agent.

(e) If Borrower intends to deliver Collateral valued, individually or in the aggregate, in excess of Five Hundred Thousand Dollars (\$500,000) to a bailee located in the United States, and Agent and such bailee are not already parties to a bailee agreement governing both the Collateral and the location to which Borrower intends to deliver the Collateral, then Borrower will use commercially reasonable efforts to cause such bailee to execute and deliver a bailee agreement in form and substance reasonably satisfactory to Agent.

(f) The Borrower will not, and will not permit any Subsidiary to, engage to any material extent in any business other than those businesses conducted by the Borrower and its Subsidiaries on the date hereof or any business reasonably related or incidental thereto or representing a reasonable expansion thereof.

(g) Without the prior written consent of Agent, Borrower will not make, or agree to make, any modification, amendment or waiver of any of the terms and provisions of Borrower's Organizational Documents that is materially adverse to Agent or any of the Lenders.

7.12 Deposit Accounts.

(a) Subject to Section 7.26, no Loan Party shall maintain any Deposit Accounts or accounts holding Investment Property (other than (i) Excluded Accounts and (ii) Deposit Accounts or accounts holding Investment Property, the aggregate balance of which do not exceed Five Hundred Thousand Dollars (\$500,000) on any day), except with respect to which Agent has an Account Control Agreement.

(b) Subsidiaries that are not Loan Parties shall not hold Cash in an aggregate amount greater than or equal to (i) at any time prior to the completion of the Permitted Restructuring, the sum of (A) Two Million Five Hundred Thousand Dollars (\$2,500,000) on any day, plus (B) any Cash received as a result of the Permitted Restructuring, and (ii) any time thereafter, Two Hundred Fifty Thousand Dollars (\$250,000) on any day.

(c) Borrower shall deposit into an account that is subject to an Account Control Agreement any cash collateral securing that certain letter of credit for Borrower's leased property at 50 Binney Street, Somerville, MA 02142 upon the termination or release thereof.

7.13 Joinder of Subsidiaries. Borrower shall notify Agent of (a) each Subsidiary formed or acquired subsequent to the Closing Date (including any new Subsidiary formed by Division) and (b) each Subsidiary that ceases to be an Excluded Subsidiary subsequent to the Closing Date and, in each case of the foregoing clauses (a) and (b), within thirty (30) days of such formation, reclassification or acquisition (or such longer period of time as agreed to by Agent in writing (which may be by email) in its sole discretion), shall cause any such Subsidiary (other than an Excluded Subsidiary) to execute and deliver to Agent a Joinder Agreement and such other documents and instruments as shall be requested by Agent to effectuate the transactions contemplated by such Joinder Agreement (in each case in form and substance acceptable to Agent), or, if requested by Agent, a Guaranty and appropriate collateral security documents to secure the obligations pursuant to such Guaranty (in each case in form and substance acceptable to Agent); it being agreed that if such new Subsidiary is formed by a Division, the foregoing requirements shall be satisfied substantially concurrently with the formation of such Subsidiary.

7.14 Regulatory and Product Notices. The Borrower shall promptly (but in any event within five (5) Business Days) after the receipt or occurrence thereof notify Agent of:

(a) any written notice received by Borrower or its Subsidiaries from a Governmental Authority alleging potential or actual violations of any applicable Public Health Law by Borrower or its Subsidiaries,

(b) any written notice that the FDA (or international equivalent) is limiting, suspending or revoking any Registration (including, but not limited to, by the issuance of a clinical hold),

(c) any written notice that Borrower or its Subsidiaries has become subject to any Regulatory Action,

(d) the exclusion or debarment from any governmental healthcare program or debarment or disqualification by FDA (or international equivalent) of Borrower or its Subsidiaries or its or their C-suite officers,

(e) any written notice that a Borrower or any Subsidiary, or any of their licensees or sublicensees (including licensees or sublicensees under any Material Agreement), is being investigated or is the subject of any allegation of potential or actual violations of any Federal Health Care Program Laws,

(f) any written notice that any Borrower Product has been seized, withdrawn, recalled, detained, or subject to a suspension of manufacturing, or the commencement of any proceedings in the United States or any other jurisdiction seeking the withdrawal, recall, suspension, import detention, or

seizure of any Borrower Product are pending or threatened in writing against Borrower or its Subsidiaries, or

(g) changing the scope of marketing authorization or the labeling of the products of Borrower and its Subsidiaries under any Registration,

except, in each case of (a) through (g) above, where such action would not reasonably be expected to have, either individually or in the aggregate, Material Regulatory Liabilities.

7.15 Notification of Event of Default. Borrower shall notify Agent promptly (and in any case within two (2) Business Days) of the occurrence of any Event of Default.

7.16 [Reserved.]

7.17 Use of Proceeds. Borrower agrees that the proceeds of the Loans shall be used solely to pay related fees and expenses in connection with the Loan Documents and for working capital and general corporate purposes. The proceeds of the Loans will not be used in violation of Anti-Corruption Laws or applicable Sanctions.

7.18 [Reserved.]

7.19 Material Agreements; Permitted Receivables Facility Agreement.

(a) Borrower shall concurrently with the delivery of the then-next Compliance Certificate delivered pursuant to Section 7.1(d), give written notice to Agent of entering into a Material Agreement or materially amending or terminating a Material Agreement (other than termination in accordance with the terms of such agreement).

(b) Borrower shall not, without the consent of Agent, make, or agree to make, any modification, amendment or waiver of any of the terms and provisions of the Permitted Receivables Facility Agreement that would reasonably be expected to be materially adverse to Agent or any of the Lenders.

7.20 Compliance with Laws.

(a) Borrower (i) shall maintain, and shall cause its Subsidiaries to maintain, compliance in all material respects with all applicable laws, rules or regulations (including any law, rule or regulation with respect to the making or brokering of loans or financial accommodations), and (ii) shall, or cause its Subsidiaries to, obtain and maintain all material required Governmental Approvals reasonably necessary in connection with the conduct of Borrower's business. Borrower shall not become an "investment company," a company that would be an "investment company" except for the exclusion from the definition of "investment company" in Section 3(c) of the 1940 Act, or a company controlled by an "investment company" under the 1940 Act, or undertake as one of its important activities extending credit to purchase or carry margin stock (as defined in Regulation X, T and U of the Federal Reserve Board of Governors).

(b) Neither Borrower nor any of its Subsidiaries shall, nor shall Borrower or any of its Subsidiaries permit any controlled Affiliate to, directly or indirectly, knowingly enter into any documents, instruments, agreements or contracts with any Person listed on the OFAC Lists. Neither Borrower nor any of its Subsidiaries shall, nor shall Borrower or any of its Subsidiaries, permit any controlled Affiliate to, directly or indirectly, (i) conduct any business or engage in any transaction or dealing with any Blocked Person, including, without limitation, the making or receiving of any contribution of funds, goods or services to or for the benefit of any Blocked Person, (ii) deal in, or otherwise engage in any transaction relating to, any property or interests in property blocked pursuant to Executive Order No. 13224 or any similar executive order or other Anti-Terrorism Law, or (iii) engage in or conspire to engage in any

transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate, any of the prohibitions set forth in Executive Order No. 13224 or other Anti-Terrorism Law.

(c) Borrower has implemented and shall maintain in effect policies and procedures designed to ensure compliance by Borrower, its Subsidiaries and their respective directors, officers, employees and agents with Anti-Corruption Laws and applicable Sanctions, and Borrower, its Subsidiaries and their respective officers and employees and to the knowledge of Borrower its directors and agents, are in compliance with Anti-Corruption Laws and applicable Sanctions in all material respects.

(d) None of Borrower, any of its Subsidiaries or any of their respective directors, officers or employees, or to the knowledge of Borrower, any agent for Borrower or its Subsidiaries that will act in any capacity in connection with or benefit from the credit facility established hereby, is a Sanctioned Person. No Loan, use of proceeds or other transaction contemplated by this Agreement will violate Anti-Corruption Laws or applicable Sanctions.

7.21 Financial Covenants.

(a)

(i) Borrower shall at all times after the Closing Date maintain Qualified Cash in an amount greater than or equal to (x) the outstanding principal amount of the Term Loan Advances, *multiplied* by (y) forty percent (40%) (the "Minimum Cash Coverage Percentage"); provided, however, if the Tranche 3 Milestone Date shall have occurred and the Borrower shall not have achieved the Performance Milestone, the Minimum Cash Coverage Percentage shall be reduced to thirty-five percent (35%); provided, further, that if the Borrower shall have achieved the Performance Milestone, the Minimum Cash Coverage Percentage shall be permanently reduced to twenty percent (20%).

(ii) If Borrower makes a redemption or any other cash payment in respect of Permitted Convertible Debt, subject to satisfaction of the Redemption Conditions, Borrower shall, at all times thereafter, maintain Qualified Cash in the amount required by the defined term "Redemption Conditions."

(b) Beginning with the Company's fiscal quarter ending September 30, 2024, for the trailing six-month period ending on the last day of each fiscal quarter identified in the table set forth on Schedule 7.21(b), Borrower shall achieve Net Product Revenue, in an amount equal to at least the amount set forth on Schedule 7.21(b) opposite such date.

Notwithstanding the foregoing, the minimum Net Product Revenue requirements of this Section 7.21(b) shall be waived at any time in which (x) (I) Company's average Market Capitalization as of market close for the thirty (30) Trading Days immediately preceding each day of such measuring period is greater than Five Hundred Million Dollars (\$500,000,000) and (II) Borrower maintains Qualified Cash in an amount greater than or equal to the outstanding principal amount of the Term Loan Advances, *multiplied* by seventy percent (70%) or (y) Borrower maintains Qualified Cash of greater than or equal to the outstanding Secured Obligations, *multiplied* by one hundred twenty-five percent (125%). For the avoidance of doubt, if Company fails to so maintain the minimum Market Capitalization and/or Borrower fails to so maintain the minimum Qualified Cash (as applicable and required pursuant to clause (x) or (y)) at any time prior to the immediately following date on which Borrower has delivered the financial statements and a Compliance Certificate in accordance with Section 7.1(a) and Section 7.1(d), then Borrower shall be required to achieve Net Product Revenue with respect to the fiscal quarter for which the most recent quarterly financial statements were delivered in accordance with Section 7.1(a) in the amount equal to at least the amount set forth on Schedule 7.21(b) for such fiscal quarter.

7.22 Intellectual Property. Each Borrower shall (i) protect, defend and maintain the validity and enforceability of its Current Company IP; (ii) promptly advise Agent in writing of infringements of its Current

Company IP; and (iii) not allow any Current Company IP to be abandoned, forfeited or dedicated to the public without Agent's written consent. If a Borrower (a) obtains any Patent, registered Trademark, registered Copyright, registered mask work, or any pending application for any of the foregoing, whether as owner, licensee or otherwise, or (b) applies for any Patent or the registration of any Trademark, then such Borrower shall provide written notice thereof to Agent with the delivery of the then-next Compliance Certificate delivered pursuant to Section 7.1(d) and shall execute such intellectual property security agreements and other documents and take such other actions as Agent may request in its good faith business judgment to perfect and maintain a first priority perfected security interest in favor of Agent in such property. If a Borrower decides to register any Copyrights or mask works in the United States Copyright Office, such Borrower shall: (x) provide Agent with at least fifteen (15) days prior written notice of such Borrower's intent to register such Copyrights or mask works together with a copy of the application it intends to file with the United States Copyright Office (excluding exhibits thereto); (y) execute an intellectual property security agreement and such other documents and take such other actions as Agent may request in its good faith business judgment to perfect and maintain a first priority perfected security interest in favor of Agent in the Copyrights or mask works intended to be registered with the United States Copyright Office; and (z) record such intellectual property security agreement with the United States Copyright Office contemporaneously with filing the Copyright or mask work application(s) with the United States Copyright Office. Borrower shall provide written notice to Agent of entering or becoming bound by any Restricted License (other than off-the-shelf software that is commercially available to the public) in the then-next Compliance Certificate delivered in accordance with Section 7.1(d).

7.23 Transactions with Affiliates. Except as otherwise described on Schedule 7.23, Borrower shall not, and shall not permit any Subsidiary to, directly or indirectly, enter into or permit to exist any transaction of any kind with any Affiliate of Borrower or such Subsidiary except: (a) transactions on terms that are no less favorable to Borrower or such Subsidiary, as the case may be, than those that might be obtained in an arm's length transaction from a Person who is not an Affiliate of Borrower or such Subsidiary, (b) any equity investments in Company by existing investors of Company not constituting a Change of Control, (c) Subordinated Indebtedness, (d) any compensation, director indemnification or similar arrangements in the ordinary course of business of Borrower or any Subsidiary, and in the case of Company, and as approved by the Company's Board of Directors, (e) any intercompany arrangements entered into in the ordinary course of business and not prohibited hereunder and the Permitted Restructuring, or (f) employee benefit, reimbursement of expenses and indemnification of directors, officers and employees in the ordinary course of business.

7.24 [Reserved].

7.25 MSC Investment Conditions. At any time that the MSC Subsidiary has any assets, Borrower shall satisfy the MSC Investment Conditions at all times.

7.26 Post-Closing Obligations. Borrower shall take each of the actions described on Schedule 7.26, in each case in the manner and by the dates set forth thereon (or such later date as may be agreed by Agent).

SECTION 8. RIGHT TO INVEST

8.1 Company agrees to endeavor to use commercially reasonable efforts to permit, to the extent permitted by Requirements of Law, each Lender or its permitted assignee or nominee designated as such in writing to Company, for so long as such applicable Lender shall constitute a "Lender" under this Agreement, to participate, in its discretion, in any Subsequent Financing in an aggregate amount of up to Five Million Dollars (\$5,000,000) on the same terms, conditions and pricing afforded to others participating in any such Subsequent Financing. If the Lenders (or their permitted assignees or nominees) elect to participate in a Subsequent Financing, the Lenders (or their permitted assignees or nominees, as applicable) participating in such Subsequent Financing agree to become a party to the agreements executed by the other investors participating in such Subsequent Financing, including with respect to obligations of confidentiality or as may otherwise be required by the Securities Act of 1933, as amended, and the rules and regulations promulgated by the Securities and Exchange Commission thereunder. The Company, or an investment bank or underwriter engaged on the Company's behalf, shall provide the Lenders (or their

permitted assignees or nominees) at least two (2) Business Days' written notice of any planned Subsequent Financing and the opportunity to exercise the right to invest under this Section 8.1 with respect to any such Subsequent Financing. This Section 8.1, and all rights and obligations hereunder, shall terminate upon the earlier to occur of (a) termination of this Agreement and (b) such time that the Lenders (or their permitted assignees or nominees) have purchased Five Million Dollars (\$5,000,000) of the Company's Equity Interests in the aggregate in such Subsequent Financing(s).

SECTION 9. EVENTS OF DEFAULT

The occurrence of any one or more of the following events shall be an "Event of Default":

9.1 Payments. A Loan Party fails to (a) pay principal or interest on any Loan on its due date or (b) make any payment when due on account of any other Secured Obligations within two (2) Business Days after the applicable due date; provided, however, that in each case an Event of Default shall not occur on account of a failure to pay due solely to an administrative or operational error of Agent or Lenders or Borrower's bank if Borrower had the funds to make the payment when due and makes the payment within three (3) Business Days following Borrower's knowledge of such failure to pay; or

9.2 Covenants. A Loan Party breaches or defaults in the performance of any covenant under this Agreement, or any of the other Loan Documents, and (a) with respect to a Default under any covenant under this Agreement (other than under Sections 6, 7.2, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.15, 7.16, 7.17, 7.19, 7.21, 7.22, and 7.26) or any other Loan Document, , such default continues for more than ten (10) days after the earlier of the date on which (i) Agent or Lenders has given notice of such default to Borrower and (ii) Borrower has actual knowledge of such default or (b) with respect to a Default under any of Sections 6, 7.2, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.15, 7.16, 7.17, 7.19, 7.21, 7.22, and 7.26, the occurrence of such Default; or

9.3 Material Adverse Effect. A circumstance has occurred that could reasonably be expected to have a Material Adverse Effect; provided that, solely for purposes of this Section 9.3, the failure to achieve the Performance Milestone shall not in and of itself constitute a Material Adverse Effect under this Section 9.3; or

9.4 Representations. Any representation or warranty made by any Loan Party in any Loan Document shall have been false or misleading in any material respect when made or when deemed made; or

9.5 Insolvency. (a) A Loan Party or any of its Subsidiaries fails to be solvent as described under Section 5.15 hereof; (b) a Loan Party or any of its Subsidiaries begins an Insolvency Proceeding; or (c) an Insolvency Proceeding is begun against a Loan Party or any of its Subsidiaries and is not dismissed or stayed within forty-five (45) days (but no Advances shall be made while any of the conditions described in clause (a) exist or until any Insolvency Proceeding is dismissed); or

9.6 Judgments; Penalties. One or more fines, penalties (other than fines or penalties being contested in good faith through appropriate proceedings diligently conducted and disclosed to Agent within ten (10) days of obtaining knowledge thereof) or final judgments, orders or decrees for the payment of money (x) in connection with any commercial drug product in an amount, individually or in the aggregate, of at least Three Million Five Hundred Thousand Dollars (\$3,500,000) (not covered by independent third-party insurance as to which liability has not been denied by such insurance carrier) or (y) other than in connection with any commercial drug product in an amount, individually or in the aggregate, of at least Two Million Dollars (\$2,000,000) (not covered by independent third-party insurance as to which liability has not been denied by such insurance carrier), in each case, shall be rendered against any Loan Party or any of its Subsidiaries by any Governmental Authority, and the same are not, within thirty (30) days after the entry, assessment or issuance thereof, discharged, or after execution thereof, or stayed pending appeal, or such judgments are not discharged prior to the expiration of any such stay (provided that no Advances shall be made prior to the discharge, or stay of such fine, penalty, judgment, order or decree); or

9.7 Attachment; Levy; Restraint on Business.

(a) (i) The service of process seeking to attach, by trustee or similar process, any funds of any Loan Party or any of its Subsidiaries (x) in connection with any commercial drug product in an amount, individually or in the aggregate, of at least Three Million Five Hundred Thousand Dollars (\$3,500,000) (not covered by independent third-party insurance as to which liability has not been denied by such insurance carrier) or (y) other than in connection with any commercial drug product in excess of Two Million Dollars (\$2,000,000), or (ii) a notice of lien or levy is filed against any of any Loan Party's or any of its Subsidiaries' assets by any Governmental Authority, and the same under subclauses (i) and (ii) hereof are not, within thirty (30) days after the occurrence thereof, discharged or stayed (whether through the posting of a bond or otherwise); provided, however, no Advances shall be made during any thirty (30) day cure period; or

(b) (i) any material portion of any Loan Party's or any of its Subsidiaries' assets is attached, seized, levied on, or comes into possession of a trustee or receiver, or (ii) any court order enjoins, restrains, or prevents any Loan Party from conducting all or any material part of its business; or

9.8 Other Obligations.

(a) The occurrence of any default under (i) any agreement or obligation of a Loan Party involving any Indebtedness in excess of Two Million Dollars (\$2,000,000) (including, for the avoidance of doubt, but not limited to the Permitted Receivables Facility Agreement), beyond the period of grace, if any, provided in the instrument or agreement under which such Indebtedness was created, or (ii) any other material agreement or obligation, if a Material Adverse Effect could reasonably be expected to result from such default.

(b) Any early payment by Company is required or unwinding or termination occurs with respect to any Permitted Bond Hedge Transaction or Permitted Warrant Transaction, or any condition giving rise to the foregoing is met, in each case, with respect to which Company or its Affiliate is the "affected party" or "defaulting party" under the terms of such Permitted Bond Hedge Transaction or Permitted Warrant Transaction; or

9.9 Governmental Approvals; FDA Action. (a) Any Governmental Approval shall have been revoked, rescinded, suspended, modified in an adverse manner, or not renewed in the ordinary course for a full term and such revocation, rescission, suspension, modification or non renewal has resulted in or could reasonably be expected to result in a Material Adverse Effect; or (b) (i) the FDA, DOJ or other Governmental Authority initiates a Regulatory Action against Borrower or any of its Subsidiaries or any supplier of Borrower or any of its Subsidiaries that causes Borrower or any of its Subsidiaries to recall, withdraw, remove or discontinue manufacturing, distributing, and/or marketing any of its products, even if such action is based on previously disclosed conduct; (ii) the FDA or any other comparable Governmental Authority issues a warning letter to Borrower or any of its Subsidiaries with respect to any of its activities or products which could reasonably be expected to result in a Material Adverse Effect; (iii) Borrower or any of its Subsidiaries conducts a mandatory or voluntary recall which could reasonably be expected to result in liability and expense to Borrower or such Subsidiary of Three Million Five Hundred Thousand Dollars (\$3,500,000) or more; (iv) Borrower or any of its Subsidiaries enters into a settlement agreement with the FDA, DOJ or other Governmental Authority that results in aggregate liability as to any single or related series of transactions, incidents or conditions, of Two Million Dollars (\$2,000,000) or more, or that could reasonably be expected to result in a Material Adverse Effect, even if such settlement agreement is based on previously disclosed conduct; or (v) the FDA or any other comparable Governmental Authority revokes any authorization or permission granted under any Registration, or Borrower or any of its Subsidiaries withdraws any Registration, that could reasonably be expected to result in a Material Adverse Effect.

9.10 Stop Trade. At any time when a Securities and Exchange Commission stop trade order or NASDAQ market trading suspension of the Common Stock is in effect for ten (10) consecutive days or ten (10) days during a period of thirty (30) consecutive days, excluding in all cases a suspension of all trading on a public

market, provided that Company shall not have been able to cure such trading suspension within thirty (30) days of the notice thereof or list the Common Stock on another public market within sixty (60) days of such notice.

SECTION 10. REMEDIES

10.1 General. Upon the occurrence and during the continuation of any one or more Events of Default, Agent may, and at the direction of the Required Lenders shall, accelerate and demand payment of all or any part of the outstanding Secured Obligations together with a Prepayment Charge and declare them to be immediately due and payable (provided, that upon the occurrence of an Event of Default of the type described in Section 9.5(b) or Section 9.5(c), all of the Secured Obligations (including, without limitation, the Prepayment Charge and the End of Term Charge) shall automatically be accelerated and made due and payable, in each case without any further notice or act). Borrower hereby irrevocably appoints Agent as its lawful attorney-in-fact to: exercisable following the occurrence and during the continuation of an Event of Default, (i) sign Borrower's name on any invoice or bill of lading for any account or drafts against account debtors; (ii) demand, collect, sue, and give releases to any account debtor for monies due, settle and adjust disputes and claims about the accounts directly with account debtors, and compromise, prosecute, or defend any action, claim, case, or proceeding about any Collateral (including filing a claim or voting a claim in any bankruptcy case in Agent's or Borrower's name, as Agent may elect); (iii) make, settle, and adjust all claims under Borrower's insurance policies; (iv) pay, contest or settle any Lien, charge, encumbrance, security interest, or other claim in or to the Collateral, or any judgment based thereon, or otherwise take any action to terminate or discharge the same; (v) transfer the Collateral into the name of Agent or a third party as the UCC permits; (vi) receive, open and dispose of mail addressed to Borrower; (vii) endorse Borrower's name on any checks, payment instruments, or other forms of payment or security; and (viii) notify all account debtors to pay Agent directly. Borrower hereby appoints Agent as its lawful attorney-in-fact to sign Borrower's name on any documents necessary to perfect or continue the perfection of Agent's security interest in the Collateral regardless of whether an Event of Default has occurred until all Secured Obligations (other than inchoate indemnity obligations which, by their terms, survive termination of this Agreement) have been satisfied in full and the Loan Documents (other than the Warrant) have been terminated. Agent's foregoing appointment as Borrower's attorney in fact, and all of Agent's rights and powers, coupled with an interest, are irrevocable until all Secured Obligations (other than inchoate indemnity obligations which, by their terms, survive termination of this Agreement) have been fully repaid and performed and the Loan Documents have been terminated. Agent may, and at the direction of the Required Lenders shall, exercise all rights and remedies with respect to the Collateral under the Loan Documents (other than the Warrant) or otherwise available to it under the UCC and other applicable law, including the right to release, hold, sell, lease, liquidate, collect, realize upon, or otherwise dispose of all or any part of the Collateral and the right to occupy, utilize, process and commingle the Collateral. All Agent's rights and remedies shall be cumulative and not exclusive.

10.2 Collection; Foreclosure. Upon the occurrence and during the continuance of any Event of Default, Agent may, and at the direction of the Required Lenders shall, at any time or from time to time, apply, collect, liquidate, sell in one or more sales, lease or otherwise dispose of, any or all of the Collateral, in its then condition or following any commercially reasonable preparation or processing, in such order as Agent may elect. Any such sale may be made either at public or private sale at its place of business or elsewhere. Borrower agrees that any such public or private sale may occur upon ten (10) calendar days' prior written notice to Borrower. Agent may require Borrower to assemble the Collateral and make it available to Agent at a place designated by Agent that is reasonably convenient to Agent and Borrower. The proceeds of any sale, disposition or other realization upon all or any part of the Collateral shall be applied by Agent in the following order of priorities:

First, to Agent, in an amount equal to the sum of all fees owing to Agent hereunder and under any other Loan Document;

Second, to Agent and Lenders in an amount sufficient to pay in full Agent's and Lenders' reasonable and documented costs and professionals' and advisors' fees and expenses as described in Section 11.12;

Third, to Lenders, ratably, in an amount equal to the sum of all accrued interest owing to Lenders on the Term Loan Advances hereunder;

Fourth, to Lenders, ratably, in an amount equal to the sum of the outstanding principal and premium, if any owing to Lenders from Borrower on the Term Loan Advances hereunder;

Fifth, to Lenders and Agent, ratably (in proportion to all remaining Secured Obligations owing to each), in an amount equal to the sum of all other outstanding and unpaid Secured Obligations (including principal, interest, and the default rate interest set forth in Section 2.3, if required under this Agreement), in such order and priority as Agent may choose in its sole discretion; and

Finally, after the full and final payment in Cash of all of the Secured Obligations (other than inchoate obligations which, by their terms, survive termination of this Agreement), to any creditor holding a junior Lien on the Collateral (if required by applicable law or contractual agreement), or to Borrower or its representatives or as a court of competent jurisdiction may direct.

Agent shall be deemed to have acted reasonably in the custody, preservation and disposition of any of the Collateral if it complies with the obligations of a secured party under the UCC.

10.3 No Waiver. Agent shall be under no obligation to marshal any of the Collateral for the benefit of Borrower or any other Person, and Borrower expressly waives all rights, if any, to require Agent to marshal any Collateral.

10.4 Waivers. Borrower waives demand, notice of default or dishonor, notice of payment and nonpayment, notice of any default, nonpayment at maturity, release, compromise, settlement, extension, or renewal of accounts, documents, instruments, chattel paper, and guarantees held by Agent on which Borrower is liable.

10.5 Cumulative Remedies. The rights, powers and remedies of Agent hereunder shall be in addition to all rights, powers and remedies given by statute or rule of law and are cumulative. The exercise of any one or more of the rights, powers and remedies provided herein shall not be construed as a waiver of or election of remedies with respect to any other rights, powers and remedies of Agent.

SECTION 11. MISCELLANEOUS

11.1 Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be prohibited by or invalid under such law, such provision shall be ineffective only to the extent and duration of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

11.2 Notice. Except as otherwise provided herein, any notice, demand, request, consent, approval, declaration, service of process or other communication (including the delivery of Financial Statements) that is required, contemplated, or permitted under the Loan Documents or with respect to the subject matter hereof shall be in writing, and shall be deemed to have been validly served, given, delivered, and received upon the earlier of: (i) the day of transmission by electronic mail or hand delivery or delivery by an overnight express service or overnight mail delivery service; or (ii) the third calendar day after deposit in the United States of America mails, with proper first class postage prepaid, in each case addressed to the party to be notified as follows:

(a) If to Agent:

HERCULES CAPITAL, INC.
Legal Department
Attention: Chief Legal Officer; Bryan Jadot; Michael Dutra; John Miotti; Gabriel Welch; and Max Krieg
1 North B Street, Suite 2000
San Mateo, CA 94401

email: [***]
Telephone: [***]

(b) If to Lenders:

HERCULES CAPITAL, INC.
Legal Department
Attention: Chief Legal Officer; Bryan Jadot; Michael Dutra; John Miotti; Gabriel Welch; and Max Krieg
1 North B Street, Suite 2000
San Mateo, CA 94401
email: [***]
Telephone: [***]

(c) If to Borrower:

BLUEBIRD BIO, INC.
Attention: Chris Krawtschuk, CFO
455 Grand Union Boulevard
Somerville, MA 02145
email: [***]

or to such other address as each party may designate for itself by like notice.

11.3 Entire Agreement; Amendments.

(a) This Agreement and the other Loan Documents constitute the entire agreement and understanding of the parties hereto in respect of the subject matter hereof and thereof, and supersede and replace in their entirety any prior proposals, term sheets, non-disclosure or confidentiality agreements, letters, negotiations or other documents or agreements, whether written or oral, with respect to the subject matter hereof or thereof (including Agent's revised proposal letter dated February 7, 2024 and accepted by Company on February 8, 2024, and the Non-Disclosure Agreement).

(b) Neither this Agreement, any other Loan Document, nor any terms hereof or thereof may be amended, supplemented or modified except in accordance with the provisions of this Section 11.3(b). The Required Lenders and Loan Parties party to the relevant Loan Document may, or, with the written consent of the Required Lenders, Agent and Loan Parties party to the relevant Loan Document may, from time to time, (i) enter into written amendments, supplements or modifications hereto and to the other Loan Documents for the purpose of adding any provisions to this Agreement or the other Loan Documents or changing in any manner the rights of Lenders or of Loan Parties hereunder or thereunder or (ii) waive, on such terms and conditions as the Required Lenders or Agent, as the case may be, may specify in such instrument, any of the requirements of this Agreement or the other Loan Documents or any Default or Event of Default and its consequences; provided, however, that no such waiver and no such amendment, supplement or modification shall (A) forgive the principal amount or extend the final scheduled date of maturity of any Loan, extend the scheduled date of any amortization payment in respect of any Term Loan Advance, reduce the stated rate of any interest (or fee payable hereunder) or extend the scheduled date of any payment thereof, in each case without the written consent of each Lender directly affected thereby; (B) eliminate or reduce the voting rights of any Lender under this Section 11.3(b) without the written consent of such Lender; (C) reduce any percentage specified in the definition of Required Lenders, consent to the assignment or transfer by Loan Parties of any of its rights and obligations under this Agreement and the other Loan Documents, release all or substantially all of the Collateral or release a Loan Party from its obligations under the Loan Documents, in each case without the written consent of all Lenders, other than

in connection with a Permitted Transfer or a release otherwise permitted under Section 11.21; or (D) amend, modify or waive any provision of Section 11.18 or Addendum 3 without the written consent of Agent. Any such waiver and any such amendment, supplement or modification shall apply equally to each Lender and shall be binding upon the applicable Loan Parties, Lenders, Agent and all future holders of the Loans; provided, however, that notwithstanding the foregoing, only the consent of the Required Lenders shall be necessary to (i) waive any condition precedent set forth in Section 4, (ii) waive the application of default interest contemplated by Section 2.3, or (iii) waive any Default, Event of Default, or mandatory prepayment of the Term Loans.

11.4 No Strict Construction. The parties hereto have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the parties hereto and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any provisions of this Agreement.

11.5 No Waiver. The powers conferred upon Agent and Lenders by this Agreement are solely to protect their rights hereunder and under the other Loan Documents and their interest in the Collateral and shall not impose any duty upon Agent or Lenders to exercise any such powers. No omission or delay by Agent or Lenders at any time to enforce any right or remedy reserved to them, or to require performance of any of the terms, covenants or provisions hereof by Borrower at any time designated, shall be a waiver of any such right or remedy to which Agent or Lenders are entitled, nor shall it in any way affect the right of Agent or Lenders to enforce such provisions thereafter.

11.6 Survival. All agreements, representations and warranties contained in this Agreement and the other Loan Documents or in any document delivered pursuant hereto or thereto shall be for the benefit of Agent, Lenders and Borrower, as applicable, and shall survive the execution and delivery of this Agreement. Sections 6.3, 11.9, 11.11, 11.15, and 11.18 shall survive the termination of this Agreement.

11.7 Successors and Assigns. The provisions of this Agreement and the other Loan Documents shall inure to the benefit of and be binding on Borrower and its permitted assigns (if any). No Loan Party shall assign its obligations under this Agreement or any of the other Loan Documents without Agent's express prior written consent, and any such attempted assignment shall be void and of no effect. Agent and Lenders may assign, transfer, or endorse its rights hereunder and under the other Loan Documents without prior notice to Borrower, and all of such rights shall inure to the benefit of Agent's and Lenders' successors and assigns; provided that as long as no Event of Default has occurred and is continuing, neither Agent nor any Lender may assign, transfer or endorse its rights hereunder or under the Loan Documents to any party that is a direct competitor of Borrower or a distressed debt or vulture fund (in each case, as reasonably determined by Agent), it being acknowledged that in all cases, any transfer to an Affiliate of any Lender or Agent shall be allowed. Notwithstanding the foregoing, (x) in connection with any assignment by a Lender as a result of a forced divestiture at the request of any regulatory agency, the restrictions set forth herein shall not apply and Agent and Lenders may assign, transfer or endorse its rights hereunder and under the other Loan Documents to any Person or party and (y) in connection with a Lender's own financing or securitization transactions, the restrictions set forth herein shall not apply and Agent and Lenders may assign, transfer or endorse its rights hereunder and under the other Loan Documents to any Person or party providing such financing or formed to undertake such securitization transaction and any transferee of such Person or party upon the occurrence of a default, event of default or similar occurrence with respect to such financing or securitization transaction; provided that no such sale, transfer, pledge or assignment under this clause (y) shall release such Lender from any of its obligations hereunder or substitute any such Person or party for such Lender as a party hereto until Agent shall have received and accepted an effective assignment agreement from such Person or party in form satisfactory to Agent executed, delivered and fully completed by the applicable parties thereto, and shall have received such other information regarding such assignee as Agent reasonably shall require. Agent, acting solely for this purpose as a non-fiduciary agent of Borrower, shall maintain at one of its offices in the United States a register for the recordation of the names and addresses of Lender(s), and the Term Commitments of, and principal amounts (and stated interest) of the Loans owing to, each Lender pursuant to the terms hereof from time to time (the "Register"). The entries in the Register shall be conclusive absent manifest error, and Borrower, Agent and

Lender(s) shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by Borrower and any Lender, at any reasonable time and from time to time upon reasonable prior notice.

11.8 Participations. Each Lender that sells a participation shall, acting solely for this purpose as a non-fiduciary agent of Borrower, maintain a register on which it enters the name and address of each participant and the principal amounts (and stated interest) of each participant's interest in the Loans or other obligations under the Loan Documents (the "Participant Register"); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any participant or any information relating to a participant's interest in any commitments, loans, its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) and proposed Section 1.163-5(b) of the United States Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary. For the avoidance of doubt, Agent (in its capacity as Agent) shall have no responsibility for maintaining a Participant Register. Borrower agrees that each participant shall be entitled to the benefits of the provisions in Addendum 1 attached hereto (subject to the requirements and limitations therein, including the requirements under Section 7 of Addendum 1 attached hereto (it being understood that the documentation required under Section 7 of Addendum 1 attached hereto shall be delivered to the participating Lender)) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to Section 11.7; provided that such participant shall not be entitled to receive any greater payment under Addendum 1 attached hereto, with respect to any participation, than its participating Lender would have been entitled to receive, except to the extent such entitlement to receive a greater payment results from a change in law that occurs after the participant acquired the applicable participation.

11.9 Governing Law. This Agreement and the other Loan Documents have been negotiated and delivered to Agent and Lenders in the State of California, and shall have been accepted by Agent and Lenders in the State of California. Payment to Agent and Lenders by Borrower of the Secured Obligations is due in the State of California. Except as otherwise expressly provided in any of the Loan Documents, this Agreement and the other Loan Documents shall be governed by, and construed and enforced in accordance with, the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

11.10 Consent to Jurisdiction and Venue. All judicial proceedings (to the extent that the reference requirement of Section 11.11 is not applicable) arising in or under or related to this Agreement or any of the other Loan Documents (except as otherwise expressly provided in any other Loan Documents) may be brought in any state or federal court located in the State of California. By execution and delivery of this Agreement, each party hereto generally and unconditionally: (a) consents to nonexclusive personal jurisdiction in Santa Clara County, State of California; (b) waives any objection as to jurisdiction or venue in Santa Clara County, State of California; (c) agrees not to assert any defense based on lack of jurisdiction or venue in the aforesaid courts; and (d) irrevocably agrees to be bound by any judgment rendered thereby in connection with this Agreement or the other Loan Documents. Service of process on any party hereto in any action arising out of or relating to this Agreement shall be effective if given in accordance with the requirements for notice set forth in Section 11.2, and shall be deemed effective and received as set forth in Section 11.2. Nothing herein shall affect the right to serve process in any other manner permitted by law or shall limit the right of either party to bring proceedings in the courts of any other jurisdiction.

11.11 Mutual Waiver of Jury Trial / Judicial Reference.

(a) Because disputes arising in connection with complex financial transactions are most quickly and economically resolved by an experienced and expert Person and the parties wish applicable state and federal laws to apply (rather than arbitration rules), the parties desire that their disputes be resolved by a judge applying such applicable laws. EACH OF BORROWER, AGENT AND LENDERS SPECIFICALLY WAIVES ANY RIGHT IT MAY HAVE TO TRIAL BY JURY OF ANY CAUSE OF

ACTION, CLAIM, CROSS-CLAIM, COUNTERCLAIM, THIRD PARTY CLAIM OR ANY OTHER CLAIM (COLLECTIVELY, "CLAIMS") ASSERTED BY BORROWER AGAINST AGENT, LENDERS OR THEIR RESPECTIVE ASSIGNEE OR BY AGENT, LENDERS OR THEIR RESPECTIVE ASSIGNEE AGAINST BORROWER. This waiver extends to all such Claims, including Claims that involve Persons other than Agent, Borrower or any Lenders; Claims that arise out of or are in any way connected to the relationship among Borrower, Agent and Lenders; and any Claims for damages, breach of contract, tort, specific performance, or any equitable or legal relief of any kind, arising out of this Agreement, any other Loan Document.

(b) If the waiver of jury trial set forth in Section 11.11(a) is ineffective or unenforceable, the parties agree that all Claims shall be resolved by reference to a private judge sitting without a jury, pursuant to Code of Civil Procedure Section 638, before a mutually acceptable referee or, if the parties cannot agree, a referee selected by the Presiding Judge of the Santa Clara County, California. Such proceeding shall be conducted in Santa Clara County, California, with California rules of evidence and discovery applicable to such proceeding.

(c) In the event Claims are to be resolved by judicial reference, either party may seek from a court identified in Section 11.10, any prejudgment order, writ or other relief and have such prejudgment order, writ or other relief enforced to the fullest extent permitted by law notwithstanding that all Claims are otherwise subject to resolution by judicial reference.

11.12 Professional Fees. Borrower promises to pay Agent's and Lenders' reasonable and documented out-of-pocket fees and expenses necessary to finalize the Loan Documents, including but not limited to reasonable and documented attorneys' fees, UCC searches, filing costs, and other miscellaneous expenses; provided, that the Due Diligence Fee shall be applied in its entirety to the Lenders' non-legal transaction costs and due diligence expenses. In addition, Borrower promises to pay any and all reasonable and documented out-of-pocket attorneys' and other professionals' fees and expenses incurred by Agent and Lenders (taken as a whole) after the Closing Date in connection with or related to: (a) the Loan; (b) the administration, collection, or enforcement of the Loan; (c) the amendment or modification of the Loan Documents; (d) any waiver, consent, release, or termination under the Loan Documents; (e) the protection, preservation, audit, field exam (limited to two (2) such exams per fiscal year so long as no Event of Default has occurred and is continuing), sale, lease, liquidation, or disposition of Collateral or the exercise of remedies with respect to the Collateral; (f) any legal, litigation, administrative, arbitration, or out-of-court proceeding in connection with or related to Borrower or the Collateral, and any appeal or review thereof; and (g) any bankruptcy, restructuring, reorganization, assignment for the benefit of creditors, workout, foreclosure, or other action related to Borrower, the Collateral, the Loan Documents, including representing Agent or Lenders in any adversary proceeding or contested matter commenced or continued by or on behalf of Borrower's estate, and any appeal or review thereof.

11.13 Confidentiality. Agent and Lenders acknowledge that certain items of Collateral and information provided to Agent and Lenders by Borrower are confidential and proprietary information of Borrower, if and to the extent such information either (x) is marked as confidential by Borrower at the time of disclosure, or (y) should reasonably be understood to be confidential (the "Confidential Information"). Accordingly, Agent and Lenders agree that any Confidential Information it may obtain in the course of acquiring, administering, or perfecting Agent's security interest in the Collateral shall not be disclosed to any other Person or entity in any manner whatsoever, in whole or in part, without the prior written consent of Borrower, except that Agent and Lenders may disclose any such information: (a) to its Affiliates and its partners, investors, lenders, directors, officers, employees, agents, advisors, counsel, accountants, representatives and other professional advisors if Agent or Lenders in their sole discretion determine that any such party should have access to such information in connection with such party's responsibilities in connection with the Loan or this Agreement and, provided that such recipient of such Confidential Information either (i) agrees to be bound by the confidentiality provisions of this Section 11.13 or (ii) is otherwise subject to confidentiality restrictions that reasonably protect against the disclosure of Confidential Information pursuant to similar terms as this Section 11.13; (b) if such information is generally available to the public or to the extent such information becomes publicly available other than as a result of a breach of this Section or becomes

available to Agent or any Lender, or any of their respective Affiliates on a non-confidential basis from a source other than Borrower and not in violation of any confidentiality obligations known to Agent or such Lender; (c) if required or appropriate in any report, statement or testimony submitted to any Governmental Authority having or claiming to have jurisdiction over Agent or Lenders and any rating agency; (d) if required or appropriate in response to any summons or subpoena or in connection with any litigation, to the extent permitted or deemed advisable by Agent's or Lenders' counsel; (e) to comply with any legal requirement or law applicable to Agent or Lenders or demanded by any Governmental Authority; (f) to the extent reasonably necessary in connection with the exercise of, or preparing to exercise, or the enforcement of, or preparing to enforce, any right or remedy under any Loan Document (including Agent's sale, lease, or other disposition of Collateral after the occurrence and during the continuance of an Event of Default), or any action or proceeding relating to any Loan Document; (g) to any participant or assignee of Agent or Lenders or any prospective participant or assignee, provided, that such participant or assignee or prospective participant or assignee is subject to confidentiality restrictions no less protective than the provisions of this Section 11.13; (h) to any investor or potential investor (and each of their respective Affiliates or clients) in Agent or Lenders (or each of their respective Affiliates); provided that such investor, potential investor, Affiliate or client is subject to confidentiality obligations similar to the provisions of this Section 11.13 with respect to the Confidential Information; (i) otherwise to the extent consisting of general portfolio information that does not identify Borrower; or (j) otherwise with the prior consent of Borrower; provided, that any disclosure made in violation of this Agreement shall not affect the obligations of Borrower or any of its Affiliates or any guarantor under this Agreement or the other Loan Documents. Agent's and Lenders' obligations under this Section 11.13 shall supersede all of their respective obligations under the Non-Disclosure Agreement.

11.14 Assignment of Rights. Borrower acknowledges and understands that Agent or Lenders may, subject to Section 11.7, sell and assign all or part of its interest hereunder and under the Loan Documents to any Person or entity (an "Assignee"). After such assignment the term "Agent" or "Lender" as used in the Loan Documents shall mean and include such Assignee, and such Assignee shall be vested with all rights, powers and remedies of Agent and Lenders hereunder with respect to the interest so assigned; but with respect to any such interest not so transferred, Agent and Lenders shall retain all rights, powers and remedies hereby given. No such assignment by Agent or Lenders shall relieve Borrower of any of its obligations hereunder. Lenders agree that in the event of any transfer by it of the promissory note(s) (if any), it will endorse thereon a notation as to the portion of the principal of the promissory note(s), which shall have been paid at the time of such transfer and as to the date to which interest shall have been last paid thereon.

11.15 Revival of Secured Obligations; Termination. Other than as set forth in Section 11.6, this Agreement and the other Loan Documents shall terminate on the payment in full in cash of the Secured Obligations (other than any inchoate indemnity obligations and any other obligations which, by their terms, survive the termination of this Agreement). Notwithstanding the preceding sentence, this Agreement and the Loan Documents shall remain in full force and effect and continue to be effective if any petition is filed by or against Borrower for liquidation or reorganization, if Borrower becomes insolvent or makes an assignment for the benefit of creditors, if a receiver or trustee is appointed for all or any significant part of Borrower's assets, or if any payment or transfer of Collateral is recovered from Agent or Lenders. The Loan Documents and the Secured Obligations and Collateral security shall continue to be effective, or shall be revived or reinstated, as the case may be, if at any time payment and performance of the Secured Obligations or any transfer of Collateral to Agent, or any part thereof is rescinded, avoided or avoidable, reduced in amount, or must otherwise be restored or returned by, or is recovered from, Agent, Lenders or by any obligee of the Secured Obligations (other than any inchoate indemnity obligations and any other obligations which, by their terms, survive the termination of this Agreement), whether as a "voidable preference," "fraudulent conveyance," or otherwise, all as though such payment, performance, or transfer of Collateral had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, avoided, avoidable, restored, returned, or recovered, the Loan Documents and the Secured Obligations shall be deemed, without any further action or documentation, to have been revived and reinstated except to the extent of the full and final payment to Agent or Lenders in Cash.

11.16 Counterparts. This Agreement and any amendments, waivers, consents or supplements hereto may be executed in any number of counterparts, and by different parties hereto in separate counterparts, each of

which when so delivered shall be deemed an original, but all of which counterparts shall constitute but one and the same instrument.

11.17 No Third-Party Beneficiaries. No provisions of the Loan Documents are intended, nor will be interpreted, to provide or create any third-party beneficiary rights or any other rights of any kind in any Person other than Agent, Lenders and Borrower unless specifically provided otherwise herein, and, except as otherwise so provided, all provisions of the Loan Documents will be personal and solely among Agent, Lenders and the Loan Parties party thereto.

11.18 Agency. Agent and each Lender hereby agree to the terms and conditions set forth on Addendum 3 attached hereto. Borrower acknowledges and agrees to the terms and conditions set forth on Addendum 3 attached hereto.

11.19 Publicity. None of the parties hereto nor any of its respective member businesses and Affiliates shall, without the other parties' prior written consent (which shall not be unreasonably withheld or delayed), publicize or use (a) the other party's name (including a brief description of the relationship among the parties hereto), logo or hyperlink to such other parties' web site, separately or together, in written and oral presentations, advertising, promotional and marketing materials, client lists, public relations materials or on its web site (together, the "Publicity Materials"); (b) the names of officers of such other parties in the Publicity Materials; and (c) such other parties' name, trademarks, servicemarks in any news or press release concerning such party; provided however, notwithstanding anything to the contrary herein, no such consent shall be required (i) to the extent necessary to comply with the requests of any regulators, legal requirements or laws applicable to such party, pursuant to any listing agreement with any national securities exchange (so long as such party provides prior notice to the other party hereto to the extent reasonably practicable) and (ii) to comply with Section 11.13.

11.20 Multiple Borrowers. Each Borrower hereby agrees to the terms and conditions set forth on Addendum 4 attached hereto.

11.21 Collateral and Guaranty Matters. The Lenders irrevocably authorize Agent to, and Agent shall:

(a) release any Lien on any Collateral granted to or held by Agent under any Loan Document (i) upon termination of the Term Commitments and payment in full of all Secured Obligations (other than contingent obligations for which no claim has been asserted) under the Loan Documents, (ii) that is sold or otherwise Transferred or to be sold or otherwise Transferred as part of or in connection with any Permitted Transfer or any sale or other Transfer permitted hereunder or under any other Loan Document, (iii) immediately, automatically and irrevocably, against any Purchased Accounts (as defined in the Permitted Receivables Facility Agreement) that are sold pursuant to the Permitted Receivables Factoring Arrangement, or (iv) as approved in accordance with Section 11.3(b);

(b) upon the reasonable request of Borrower, subordinate any Lien on any property granted to to or held by Agent under any Loan Document to the holder of any Lien on such property that is permitted by clause (iii) of the defined term "Permitted Indebtedness"; and

(c) release any Guarantor from its obligations under the Guaranty if such Person ceases to be a Subsidiary as a result of a transaction permitted under the Loan Documents.

11.22 Managerial Assistance. Borrower acknowledges that Hercules Capital, Inc. has elected to be regulated as a business development company under the 1940 Act, and as such is required to make available significant managerial assistance to its portfolio companies. Significant managerial assistance may include, but is not limited to, guidance and counsel concerning the portfolio company's management, operations, business objectives and policies, arrangement of financing, management of relationships with financing sources, recruitment of management personnel and evaluation of acquisition and divestiture opportunities. Borrower hereby

acknowledges and agrees that it may request such assistance at any time from Hercules Capital, Inc. by contacting [***].

11.23 Electronic Execution of Certain Other Documents. The words “execution,” “execute,” “signed,” “signature,” and words of like import in or related to any document to be signed in connection with this Agreement and the transactions contemplated hereby (including without limitation assignments, assumptions, amendments, waivers and consents) shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the California Uniform Electronic Transaction Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

(SIGNATURES TO FOLLOW)

IN WITNESS WHEREOF, Borrower, Agent and Lenders have duly executed and delivered this Loan and Security Agreement as of the day and year first above written.

BORROWER:

BLUEBIRD BIO, INC.

Signature: /s/ Christopher Krawtschuk

Print Name: Christopher Krawtschuk

Title: Chief Financial Officer

Accepted in San Mateo, California:

AGENT:

HERCULES CAPITAL, INC.

Signature: /s/ Seth H. Meyer

Print Name: Seth Meyer

Title: Chief Financial Officer

LENDERS:

HERCULES CAPITAL, INC.

Signature: /s/ Seth H. Meyer

Print Name: Seth Meyer

Title: Chief Financial Officer

HERCULES PRIVATE CREDIT FUND 1 L.P.

By: Hercules Private Global Venture Growth Fund GP I LLC, its general partner

By: Hercules Partner Holdings, LLC, its sole member

Signature: /s/ Seth H. Meyer

Print Name: Seth Meyer

Title: Authorized Signatory

HERCULES PRIVATE GLOBAL VENTURE GROWTH FUND I L.P.

By: Hercules Private Global Venture Growth Fund GP I LLC, its general partner

By: Hercules Partner Holdings, LLC, its sole member

Signature: /s/ Seth H. Meyer

Print Name: Seth Meyer

Title: Authorized Signatory

Table of Addenda, Exhibits and Schedules

Addendum 1: Taxes; Increased Costs

Addendum 2: Delivery Instructions

Addendum 3: Agent and Lender Terms

Addendum 4: Multiple Borrower Terms

Exhibit A: Advance Request
Attachment to Advance Request

Exhibit B: Name, Locations, and Other Information for Borrower

Exhibit C: [Reserved.]

Exhibit D: Borrower's Deposit Accounts and Investment Accounts

Exhibit E: Compliance Certificate

Exhibit F: Joinder Agreement

Exhibit G: [Reserved.]

Exhibit H: ACH Debit Authorization Agreement

Exhibit I: [Reserved.]

Exhibit J-1: Form of U.S. Tax Compliance Certificate (For Foreign Lenders That Are Not Partnerships For U.S. Federal Income Tax Purposes)

Exhibit J-2: Form of U.S. Tax Compliance Certificate (For Foreign Participants That Are Not Partnerships For U.S. Federal Income Tax Purposes)

Exhibit J-3: Form of U.S. Tax Compliance Certificate (For Foreign Participants That Are Partnerships For U.S. Federal Income Tax Purposes)

Exhibit J-4: Form of U.S. Tax Compliance Certificate (For Foreign Lenders That Are Partnerships For U.S. Federal Income Tax Purposes)

Schedule 1.1 Commitments

Schedule 1A Existing Permitted Indebtedness

Schedule 1B Existing Permitted Investments

Schedule 1C Existing Permitted Liens

Schedule 1D Permitted Restructuring

Schedule 5.8 Tax Matters

Schedule 5.9 Intellectual Property Claims

Schedule 5.10 Intellectual Property

Schedule 5.14 Subsidiaries

Schedule 7.21(b) Required Net Product Revenue

Schedule 7.23 Affiliate Transactions

Schedule 7.26 Post-Closing Obligations

ADDENDUM 1 to LOAN AND SECURITY AGREEMENT

TAXES; INCREASED COSTS

1. **Defined Terms.** For purposes of this Addendum 1:

- a. “**Connection Income Taxes**” means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.
- b. “**Excluded Taxes**” means any of the following Taxes imposed on or with respect to a Recipient or required to be withheld or deducted from a payment to a Recipient, (i) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case, (A) imposed as a result of such Recipient being organized under the laws of, or having its principal office or, in the case of any Lender, its applicable lending office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (B) that are Other Connection Taxes, (ii) in the case of a Lender, U.S. federal withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in a Loan or Term Commitment pursuant to a law in effect on the date on which (A) such Lender acquires such interest in the Loan or Term Commitment or (B) such Lender changes its lending office, except in each case to the extent that, pursuant to Section 2 or Section 4 of this Addendum 1, amounts with respect to such Taxes were payable either to such Lender’s assignor immediately before such Lender became a party hereto or to such Lender immediately before it changed its lending office, (iii) Taxes attributable to such Recipient’s failure to comply with Section 7 of this Addendum 1 and (iv) any withholding Taxes imposed under FATCA.
- c. “**FATCA**” means Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Code, and any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement, treaty or convention among Governmental Authorities and implementing such Sections of the Code.
- d. “**Foreign Lender**” means a Lender that is not a U.S. Person.
- e. “**Indemnified Taxes**” means (i) Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any obligation of Borrower under any Loan Document and (ii) to the extent not otherwise described in clause (i), Other Taxes.
- f. “**Other Connection Taxes**” means, with respect to any Recipient, Taxes imposed as a result of a present or former connection between such Recipient and the jurisdiction imposing such Tax (other than connections arising from such Recipient having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).
- g. “**Other Taxes**” means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, any Loan Document, except any such Taxes that are Other Connection Taxes imposed with respect to an assignment.
- h. “**Recipient**” means Agent or any Lender, as applicable.
- i. “**Withholding Agent**” means Borrower and Agent.

2. **Payments Free of Taxes.** Any and all payments by or on account of any obligation of Borrower under any Loan Document shall be made without deduction or withholding for any Taxes, except as required by applicable law. If any applicable law (as determined in the good faith discretion of an applicable Withholding Agent) requires the deduction or withholding of any Tax from any such payment by a Withholding Agent, then the applicable Withholding Agent shall be entitled to make such deduction or withholding and shall timely pay the full amount deducted or withheld to the relevant Governmental Authority in accordance with applicable law and, if such Tax is an Indemnified Tax, then the sum payable by Borrower shall be increased as necessary so that after such deduction or withholding has been made (including such deductions and withholdings applicable to additional sums payable under this Section 2 or Section 4 of this Addendum 1) the applicable Recipient receives an amount equal to the sum it would have received had no such deduction or withholding been made.
3. **Payment of Other Taxes by Borrower.** Borrower shall timely pay to the relevant Governmental Authority in accordance with applicable law, or at the option of Agent timely reimburse it for the payment of, any Other Taxes.
4. **Indemnification by Borrower.** Borrower shall indemnify each Recipient, within ten (10) days after demand therefor, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under Section 2 of this Addendum 1 or this Section 4) payable or paid by such Recipient or required to be withheld or deducted from a payment to such Recipient and any reasonable expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate describing the amount of such payment or liability delivered to Borrower by a Lender (with a copy to Agent), or by Agent on its own behalf or on behalf of a Lender, shall be conclusive absent manifest error. In addition, Borrower agrees to pay, and to hold Agent and any Lender harmless from, any and all liabilities with respect to, or resulting from any delay in paying, any and all excise, sales or other similar Taxes (other than Excluded Taxes) that may be payable or determined to be payable with respect to any of the Collateral or this Agreement.
5. **Indemnification by Lenders.** Each Lender shall severally indemnify Agent, within ten (10) days after demand therefor, for (a) any Indemnified Taxes attributable to such Lender (but only to the extent that Borrower has not already indemnified Agent for such Indemnified Taxes and without limiting the obligation of Borrower to do so), (b) any Taxes attributable to such Lender's failure to comply with the provisions of Section 11.8 of the Agreement relating to the maintenance of a Participant Register and (c) any Excluded Taxes attributable to such Lender, in each case, that are payable or paid by Agent in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender by Agent shall be conclusive absent manifest error. Each Lender hereby authorizes Agent to set off and apply any and all amounts at any time owing to such Lender under any Loan Document or otherwise payable by Agent to Lenders from any other source against any amount due to Agent under this Section 5.
6. **Evidence of Payments.** As soon as practicable after any payment of Taxes by Borrower to a Governmental Authority pursuant to the provisions of this Addendum 1, Borrower shall deliver to Agent the original or a certified copy of a receipt issued by such Governmental Authority evidencing such payment, a copy of the return reporting such payment or other evidence of such payment reasonably satisfactory to Agent.
7. **Status of Lenders.**
 - a. Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to Borrower and Agent, at the time or times reasonably requested by Borrower or Agent, such properly completed and executed documentation reasonably requested by Borrower or Agent as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by

Borrower or Agent, shall deliver such other documentation prescribed by applicable law or reasonably requested by Borrower or Agent as will enable Borrower or Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Sections 7(b)(i), 7(b)(ii) and 7(b)(iv) of this Addendum 1) shall not be required if in such Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

- b. Without limiting the generality of the foregoing, in the event that Borrower is a U.S. Person,
- i. any Lender that is a U.S. Person shall deliver to Borrower and Agent on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of Borrower or Agent), executed copies of IRS Form W-9 certifying that such Lender is exempt from U.S. federal backup withholding tax;
 - ii. any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to Borrower and Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of Borrower or Agent), whichever of the following is applicable:
 - A. in the case of a Foreign Lender claiming the benefits of an income tax treaty to which the United States is a party (x) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "interest" article of such tax treaty and (y) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN or IRS Form W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "business profits" or "other income" article of such tax treaty;
 - B. executed copies of IRS Form W-8ECI;
 - C. in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate substantially in the form of Exhibit J-1 to the effect that such Foreign Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of Borrower within the meaning of Section 871(h)(3)(B) of the Code, or a "controlled foreign corporation" related to Borrower as described in Section 881(c)(3)(C) of the Code (a "U.S. Tax Compliance Certificate") and (y) executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E; or
 - D. to the extent a Foreign Lender is not the beneficial owner, executed copies of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN, IRS Form W-8BEN-E, a U.S. Tax Compliance Certificate substantially in the form of Exhibit J-2 or Exhibit J-3, IRS Form W-9, and/or other certification documents from each beneficial owner, as applicable; provided that if the Foreign Lender is a partnership and one or more direct or indirect partners of such Foreign Lender are claiming the portfolio interest exemption, such Foreign Lender may provide a U.S. Tax Compliance Certificate substantially in the form of Exhibit J-4 on behalf of each such direct and indirect partner;

Borrower will pay to such Recipient such additional amount or amounts as will compensate such Recipient for such additional costs incurred or reduction suffered.

10. **Survival.** Each party's obligations under the provisions of this Addendum 1 shall survive the resignation or replacement of Agent or any assignment of rights by, or the replacement of, a Lender, the termination of the Term Commitments and the repayment, satisfaction or discharge of all obligations under any Loan Document.

ADDENDUM 2 to LOAN AND SECURITY AGREEMENT

Delivery Instructions

The Compliance Certificate shall be uploaded and executed via Lumonic¹. All other financial reports required to be furnished to Agent pursuant to Section 7.1 shall be submitted via Lumonic.

The Compliance Certificate and other financial reports required to be furnished to Agent pursuant to Section 7.1 may be sent to [***] with a copy to [***], should access to Lumonic be temporarily unavailable.

¹ All references to Lumonic shall be interpreted as the Portfolio Management Software currently in use by Agent. Lumonic can be reached at the following URL: <https://lumonic.com/>

ADDENDUM 3 to LOAN AND SECURITY AGREEMENT

Agent and Lender Terms

(a) Each Lender hereby irrevocably appoints Hercules Capital, Inc. to act on its behalf as Agent hereunder and under the other Loan Documents and irrevocably authorizes Agent to take such actions on its behalf and to exercise such powers as are delegated to Agent by the terms hereof or thereof, together with such actions and powers as are reasonably incidental thereto. Agent shall have only those duties which are specified in this Agreement and it may perform such duties by or through its agents, representatives or employees. In performing its duties on behalf of Lenders, Agent shall exercise the same care which it would exercise in dealing with loans made for its own account, but it shall not be responsible to any Lender for the execution, effectiveness, genuineness, validity, enforceability, collectability or sufficiency of all or any of the Loan Documents, or for any representations, warranties, recitals or statements made therein or made in any written or oral statement or in any financial or other statements, instruments, reports, certificates or any other documents furnished or delivered in connection herewith or therewith by Agent to any Lender or by or on behalf of Borrower to Agent or any Lender, or be required to ascertain or inquire as to the performance or observance of any of the terms, conditions, provisions, covenants or agreements contained herein or therein, as to the use of the proceeds of the Term Loan Advances, the contents of any certificate, report or other document delivered hereunder or thereunder or in connection herewith or therewith, the validity, enforceability, effectiveness or genuineness of this Agreement, any other Loan Document or any other agreement, instrument or document or the satisfaction of any condition set forth in Section 4 or elsewhere herein, other than to confirm receipt of items expressly required to be delivered to Agent. Agent shall not be responsible for insuring the Collateral or for the payment of any Taxes, assessments, charges or any other charges or liens of any nature whatsoever upon the Collateral or otherwise for the maintenance of the Collateral, except in the event Agent enters into possession of a part or all of the Collateral, in which event Agent shall preserve the part in its possession. Unless the officers of Agent acting in their capacity as officer of Agent on Borrower's account have actual knowledge thereof or have been notified in writing thereof by Lenders, Agent shall not be required to ascertain or inquire as to the existence or possible existence of any Event of Default.

(b) Neither Agent nor any of its officers, directors, employees, attorneys, representatives or agents shall be liable to Lenders for any action taken or omitted hereunder or under any of the other Loan Documents or in connection herewith or therewith unless caused by its or their gross negligence or willful misconduct. No provision of this Agreement or of any other Loan Document shall be deemed to impose any duty or obligation on Agent to perform any act or to exercise any power in any jurisdiction in which it shall be illegal, or shall be deemed to impose any duty or obligation on Agent to perform any act or exercise any right or power if such performance or exercise (a) would subject Agent to a Tax in a jurisdiction where it is not then subject to a Tax or (b) would require Agent to qualify to do business in any jurisdiction where it is not so qualified. Without prejudice to the generality of the foregoing, no Lender shall have any right of action whatsoever against Agent as a result of Agent acting or (where so instructed) refraining from acting under this Agreement or under any of the other Loan Documents in accordance with the instructions of Lenders. Agent shall be entitled to refrain from exercising any power, discretion or authority vested in it under this Agreement unless and until it has obtained the written instructions of Lenders. The agency hereby created shall in no way impair or affect any of the rights and powers of, or impose any duties or obligations upon Agent in its individual capacity. With respect to its participation in the Loan Agreement hereunder, Agent shall have the same rights and powers hereunder as any other Lender and may exercise the same rights and powers as though it were not performing the duties and functions delegated to it hereunder and the term "Lender" or "Lenders" or any similar term shall unless the context clearly indicates otherwise include Agent in its individual capacity.

(c) Agent may rely, and shall be fully protected in acting, or refraining to act, upon, any resolution, statement, certificate, instrument, opinion, report, notice, request, consent, order, bond or other paper or document that it has no reason to believe to be other than genuine and to have been signed or

presented by the proper party or parties or, in the case of cables, telecopies and telexes, to have been sent by the proper party or parties. In the absence of its gross negligence or willful misconduct, Agent may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any certificates or opinions furnished to Agent and conforming to the requirements of this Agreement or any of the other Loan Documents. Agent may consult with counsel, and any opinion or legal advice of such counsel shall be full and complete authorization and protection in respect of any action taken, not taken or suffered by Agent hereunder or under any Loan Documents in accordance therewith. Agent shall have the right at any time to seek instructions concerning the administration of the Collateral from any court of competent jurisdiction. Agent shall not be under any obligation to exercise any of the rights or powers granted to Agent by this Agreement and the other Loan Documents at the request or direction of Lenders unless Agent shall have been provided by Lenders with adequate security and indemnity against the costs, expenses and liabilities that may be incurred by it in compliance with such request or direction.

(d) Each Lender agrees to indemnify Agent in its capacity as such (to the extent not reimbursed by Borrower and without limiting the obligation of Borrower to do so), according to its respective Term Commitment percentages (based upon the total outstanding Term Commitments) in effect on the date on which indemnification is sought under this Addendum 3, from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind whatsoever that may at any time be imposed on, incurred by or asserted against Agent in any way relating to or arising out of, this Agreement, any of the other Loan Documents or any documents contemplated by or referred to herein or therein or the transactions contemplated hereby or thereby or any action taken or omitted by Agent under or in connection with any of the foregoing; The agreements in this Section shall survive the payment of the Loans and all other amounts payable hereunder.

(e) To the extent not reimbursed either by Borrower or from the application of Collateral proceeds pursuant to Section 10.2, a Lender (the "Indemnified Lender") shall be indemnified by each other Lender (an "Indemnifying Lender"), on a several basis in proportion to each Lender's pro rata portion of the Term Commitment, and each Indemnifying Lender agrees to reimburse the Indemnified Lender for the Indemnifying Lender's pro rata share of the following items (an "Indemnified Payment"):

(i) all reasonable out-of-pocket costs and expenses of the Indemnified Lender incurred by the Indemnified Lender in connection with the discharge of its activities under this Agreement or the Loan Agreement, including reasonable legal expenses and attorneys' fees; provided, that the Indemnified Lender shall consult with the other Lender regarding the incurrence of such costs and expenses at reasonable intervals (but not more often than monthly) and any such reasonable costs and expenses shall be "Claims" hereunder notwithstanding any disagreement by the other Lender as to their incurrence; and

(ii) from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever, which may be imposed on, incurred by or asserted against the Indemnified Lender in any way relating to or arising out of this Agreement, or any action taken or omitted by the Indemnified Lender hereunder;

provided, however, that the Indemnified Lender shall not be reimbursed or indemnified for an Indemnified Payment, except to the extent that the Indemnified Lender paid more than its ratable share of such payment. All Indemnified Payments as set forth in this clause (e) to an Indemnified Lender are intended to be paid ratably by the other Lender.

(f) Agent in Its Individual Capacity. The Person serving as Agent hereunder shall have the same rights and powers in its capacity as a Lender as any other Lender and may exercise the same as though it were not Agent and the term "Lender" shall, unless otherwise expressly indicated or unless the context otherwise requires, include each such Person serving as Agent hereunder in its individual capacity.

(g) Exculpatory Provisions. Agent shall have no duties or obligations except those expressly set forth herein and in the other Loan Documents. Without limiting the generality of the foregoing, Agent shall not:

(i) be subject to any fiduciary, advisory or other implied duties, regardless of whether any Default or any Event of Default has occurred and is continuing;

(ii) have any duty to take any discretionary action or exercise any discretionary powers, except discretionary rights and powers expressly contemplated hereby or by the other Loan Documents that Agent is required to exercise as directed in writing by Lenders, provided that Agent shall not be required to take any action that, in its opinion or the opinion of its counsel, may expose Agent to liability or that is contrary to any Loan Document or applicable law; and

(iii) except as expressly set forth herein and in the other Loan Documents, have any duty to disclose, and Agent shall not be liable for the failure to disclose, any information relating to Borrower or any of its Affiliates that is communicated to or obtained by any Person serving as Agent or any of its Affiliates in any capacity.

(h) In connection with any exercise of Enforcement Actions hereunder, neither any Agent nor any Lender or any of its partners, or any of their respective directors, officers, employees, attorneys, accountants, or agents shall be liable as such for any action taken or omitted by it or them, except for its or their own gross negligence or willful misconduct with respect to its duties under this Agreement.

(i) Each Lender and Agent may execute any of its powers and perform any duties hereunder either directly or by or through agents or attorneys-in-fact. Each Lender and Agent shall be entitled to advice of counsel concerning all matters pertaining to such powers and duties. No Lender or Agent shall be responsible for the negligence or misconduct of any agents or attorneys-in-fact selected by it, if the selection of such agents or attorneys-in-fact was done without gross negligence or willful misconduct.

(j) Each Lender agrees that it will make its own independent investigation of the financial condition and affairs of Borrower in connection with the making of Term Loan Advances pursuant to the Loan Agreement and has made and shall continue to make its own appraisal of the creditworthiness of Borrower. Neither Agent nor any Lender shall have any duty or responsibility either initially or on a continuing basis to make any such investigation or any such appraisal on behalf of all Lenders or to provide the other Lenders with any credit or other information with respect thereto whether coming into its possession before the date hereof or any time or times thereafter and shall further have no responsibility with respect to the accuracy of or the completeness of the information provided to Lenders by Borrower.

ADDENDUM 4 to LOAN AND SECURITY AGREEMENT

Multiple Borrower Terms

(a) Borrower's Agent. Each Borrower hereby irrevocably appoints Company as its agent, attorney-in-fact and legal representative for all purposes, including requesting disbursement of the Term Loan and receiving account statements and other notices and communications to Borrowers (or any of them) from Agent or any Lender. Agent may rely, and shall be fully protected in relying, on any request for the Term Loan Advances, disbursement instruction, report, information or any other notice or communication made or given by Company, whether in its own name or on behalf of one or more of the other Borrowers, and Agent shall not have any obligation to make any inquiry or request any confirmation from or on behalf of any other Borrower as to the binding effect on it of any such request, instruction, report, information, other notice or communication, nor shall the joint and several character of Borrowers' obligations hereunder be affected thereby.

(b) Waivers. Each Borrower hereby waives: (i) any right to require Agent to institute suit against, or to exhaust its rights and remedies against, any other Borrower or any other person, or to proceed against any property of any kind which secures all or any part of the Secured Obligations, or to exercise any right of offset or other right with respect to any reserves, credits or deposit accounts held by or maintained with Agent or any Indebtedness of Agent or any Lender to any other Borrower, or to exercise any other right or power, or pursue any other remedy Agent or any Lender may have; (ii) any defense arising by reason of any disability or other defense of any other Borrower or any guarantor or any endorser, co-maker or other person, or by reason of the cessation from any cause whatsoever of any liability of any other Borrower or any guarantor or any endorser, co-maker or other person, with respect to all or any part of the Secured Obligations, or by reason of any act or omission of Agent or others which directly or indirectly results in the discharge or release of any other Borrower or any guarantor or any other person or any Secured Obligations or any security therefor, whether by operation of law or otherwise; (iii) any defense arising by reason of any failure of Agent to obtain, perfect, maintain or keep in force any Lien on, any property of any Borrower or any other person; (iv) any defense based upon or arising out of any bankruptcy, insolvency, reorganization, arrangement, readjustment of debt, liquidation or dissolution proceeding commenced by or against any other Borrower or any guarantor or any endorser, co-maker or other person, including without limitation any discharge of, or bar against collecting, any of the Secured Obligations (including without limitation any interest thereon), in or as a result of any such proceeding. Until all of the Secured Obligations have been paid, performed, and discharged in full (other than inchoate indemnity obligations and any other obligations which, by their terms, are to survive the termination of this Agreement), nothing shall discharge or satisfy the liability of any Borrower hereunder except the full performance and payment of all of the Secured Obligations (other than inchoate indemnity obligations and any other obligations which, by their terms, are to survive the termination of this Agreement). If any claim is ever made upon Agent for repayment or recovery of any amount or amounts received by Agent in payment of or on account of any of the Secured Obligations, because of any claim that any such payment constituted a preferential transfer or fraudulent conveyance, or for any other reason whatsoever, and Agent repays all or part of said amount by reason of any judgment, decree or order of any court or administrative body having jurisdiction over Agent or any of its property, or by reason of any settlement or compromise of any such claim effected by Agent with any such claimant (including without limitation the any other Borrower), then and in any such event, each Borrower agrees that any such judgment, decree, order, settlement and compromise shall be binding upon such Borrower, notwithstanding any revocation or release of this Agreement or the cancellation of any note or other instrument evidencing any of the Secured Obligations, or any release of any of the Secured Obligations, and each Borrower shall be and remain liable to Agent and Lenders under this Agreement for the amount so repaid or recovered, to the same extent as if such amount had never originally been received by Agent or any Lender, and the provisions of this sentence shall survive, and continue in effect, notwithstanding any revocation or release of this Agreement.

Each Borrower hereby expressly and unconditionally waives all rights of subrogation, reimbursement and indemnity of every kind against any other Borrower, and all rights of recourse to any assets or property of any other Borrower, and all rights to any collateral or security held for the payment and performance of any Secured Obligations, including (but not limited to) any of the foregoing rights which Borrower may have under any present or future document or agreement with any other Borrower or other person, and including (but not limited to) any of the foregoing rights which any Borrower may have under any equitable doctrine of subrogation, implied contract, or unjust enrichment, or any other equitable or legal doctrine.

(c) Consents. Each Borrower hereby consents and agrees that, without notice to or by Borrower (except any notices expressly required by the Loan Documents) and without affecting or impairing in any way the obligations or liability of Borrower hereunder, Agent may, from time to time before or after revocation of this Agreement, do any one or more of the following in its sole and absolute discretion: (i) accept partial payments of, compromise or settle, renew, extend the time for the payment, discharge, or performance of, refuse to enforce, and release all or any parties to, any or all of the Secured Obligations; (ii) grant any other indulgence to any Borrower or any other Person in respect of any or all of the Secured Obligations or any other matter; (iii) accept, release, waive, surrender, enforce, exchange, modify, impair, or extend the time for the performance, discharge, or payment of, any and all property of any kind securing any or all of the Secured Obligations or any guaranty of any or all of the Secured Obligations, or on which Agent at any time may have a Lien, or refuse to enforce its rights or make any compromise or settlement or agreement therefor in respect of any or all of such property; (iv) substitute or add, or take any action or omit to take any action which results in the release of, any one or more other Borrowers or any endorsers or guarantors of all or any part of the Secured Obligations, including, without limitation one or more parties to this Agreement, regardless of any destruction or impairment of any right of contribution or other right of Borrower; (v) apply any sums received from any other Borrower, any guarantor, endorser, or co-signer, or from the disposition of any Collateral or security, to any Indebtedness whatsoever owing from such person or secured by such Collateral or security, in such manner and order as Agent determines in its sole discretion, and regardless of whether such Indebtedness is part of the Secured Obligations, is secured, or is due and payable. Each Borrower consents and agrees that Agent shall be under no obligation to marshal any assets in favor of Borrower, or against or in payment of any or all of the Secured Obligations. Each Borrower further consents and agrees that Agent shall have no duties or responsibilities whatsoever with respect to any property securing any or all of the Secured Obligations. Without limiting the generality of the foregoing, Agent shall have no obligation to monitor, verify, audit, examine, or obtain or maintain any insurance with respect to, any property securing any or all of the Secured Obligations.

(d) Independent Liability. Each Borrower hereby agrees that one or more successive or concurrent actions may be brought hereon against such Borrower, in the same action in which any other Borrower may be sued or in separate actions, as often as deemed advisable by Agent. Each Borrower is fully aware of the financial condition of each other Borrower and is executing and delivering this Agreement based solely upon its own independent investigation of all matters pertinent hereto, and such Borrower is not relying in any manner upon any representation or statement of Agent or any Lender with respect thereto. Each Borrower represents and warrants that it is in a position to obtain, and each Borrower hereby assumes full responsibility for obtaining, any additional information concerning any other Borrower's financial condition and any other matter pertinent hereto as such Borrower may desire, and such Borrower is not relying upon or expecting Agent to furnish to it any information now or hereafter in Agent's possession concerning the same or any other matter.

(e) Subordination. All Indebtedness of a Borrower now or hereafter arising held by another Borrower is subordinated to the Secured Obligations and Borrower holding the Indebtedness shall take all actions reasonably requested by Agent to effect, to enforce and to give notice of such subordination.

EXHIBIT A

ADVANCE REQUEST

To: Agent: Date: _____, 202[]

Hercules Capital, Inc. (“Agent”)
1 North B Street, Suite 2000
San Mateo, CA 94401
email: [***]
Attn:

bluebird bio, Inc., a Delaware corporation (“Company”) and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party to the Agreement (together with Company, individually or collectively, as the context may require, “Borrower”) hereby requests Agent to cause Lenders to make a [Tranche 1] [Tranche 2] [Tranche 3] [Tranche 4] Advance in the amount of _____ Dollars (\$_____) (the “Advance Amount”) on _____, _____ (the “Advance Date”) pursuant to the Loan and Security Agreement, dated as of March 15, 2024, among Borrower, Agent and the lenders from time to time party thereto (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “Agreement”). Capitalized words and other terms used but not otherwise defined herein are used with the same meanings as defined in the Agreement.

Please:

(a) Issue a check payable to Borrower _____

or

(b) Wire Funds to Borrower’s account _____ [IF FILED PUBLICLY, ACCOUNT INFO REDACTED FOR SECURITY PURPOSES]

Bank: _____
Address: _____

ABA Number: _____
Account Number: _____
Account Name: _____
Contact Person: _____
Phone Number _____
To Verify Wire Info: _____
Email address: _____

Company, on behalf of Borrower, represents that the conditions precedent to the Advance set forth in the Agreement are satisfied and/or shall be satisfied upon the making of such Advance, including but not limited to: (i) that no event that has had or could reasonably be expected to have a Material Adverse Effect has occurred and is continuing; (ii) that the representations and warranties set forth in the Loan Agreement are and shall be true and correct in all material respects on and as of the Advance Date with the same effect as though made on and as of such date, except to the extent such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be true and correct in all material respects as of such earlier date; (iii) that Borrower is in compliance with all the terms and provisions set forth in each Loan Document on its part to be observed or performed; and (iv) that as of the Advance Date, no fact or condition exists that constitutes (or could,

with the passage of time, the giving of notice, or both constitute) an Event of Default under the Loan Documents. Borrower understands and acknowledges that Agent has the right to review the financial information supporting this representation and, based upon such review in its sole discretion, Lenders may decline to fund the requested Advance.

[Company, on behalf of Borrower, hereby represents that as of the date hereof, Borrower's jurisdiction of organization, organizational form, legal name and chief executive office location have not changed since the date of the Agreement or, if the Attachment to this Advance Request is completed, are as set forth in the Attachment to this Advance Request.]²

[Company, on behalf of Borrower, hereby authorizes Agent to deduct an amount from the proceeds of this Advance to be applied towards the payment of the Tranche Facility Charge applicable to this Advance.]³

Company, on behalf of Borrower, agrees to notify Agent promptly before the funding of the Loan if any of the matters which have been represented above shall not be true and correct on the Advance Date and if Agent has received no such notice before the Advance Date then the statements set forth above shall be deemed to have been made and shall be deemed to be true and correct as of the Advance Date.

[REMAINDER OF PAGE INTENTIONALLY BLANK]

This Advance Request is duly executed as of the date set forth above.

COMPANY: BLUEBIRD BIO, INC., on behalf of all Borrowers

SIGNATURE: _____

TITLE: _____

PRINT NAME: _____

² To be included for an Advance after the Closing Date.

³ To be included if this is not a Tranche 1 Advance.

ATTACHMENT TO ADVANCE REQUEST

Dated: _____

Borrower hereby represents and warrants to Agent that Borrower's current legal name and organizational status is as follows:

Legal Name: []

Type of organization: []

State of organization: []

Organization file number: []

Borrower hereby represents and warrants to Agent that the street addresses, cities, states and postal codes of its current chief executive office locations are as follows:

[ò]

Borrower hereby represents and warrants to Agent that the Advance Amount does not exceed the Maximum Term Loan Amount as follows:

a. Advance Amount: \$ _____

b. [Maximum Term Loan Amount: \$ _____]

[c. Is clause a. less than or equal to clause b.? Yes/Compliant _____ No/Non-Compliant _____]

EXHIBIT B

NAME, LOCATIONS, AND OTHER INFORMATION FOR BORROWER

1. Borrower represents and warrants to Agent that Borrower's current legal name and organizational status as of the Closing Date is as follows:

Legal Name: bluebird bio, Inc.

Type of organization: corporation

State of organization: Delaware

Organization file number: 2294895

Borrower's fiscal year ends on December 31

Borrower's federal employee tax identification number is: 13-3680878

2. Borrower represents and warrants to Agent that for five (5) years prior to the Closing Date, Borrower did not do business under any other name or organization or form except the following:

Legal Name:

Used during dates of:

Type of organization:

State of organization:

Organization file number:

3. As of the Closing Date, Borrower represents and warrants to Agent that its chief executive office is located at 455 Grand Union Boulevard, Somerville, MA 02145.

EXHIBIT C

[RESERVED]

EXHIBIT D

BORROWER'S DEPOSIT ACCOUNTS AND INVESTMENT ACCOUNTS

The following are all financial institutions at which Borrower and its Subsidiaries maintain deposit accounts:

[***]

EXHIBIT E

COMPLIANCE CERTIFICATE

Hercules Capital, Inc. (as "Agent")
1 North B Street, Suite 2000
San Mateo, CA 94401

For the [month] ended [____], 20[__]

Reference is made to that certain Loan and Security Agreement dated March 15, 2024 and (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Loan Agreement") by and among Hercules Capital, Inc. ("Agent"), the several banks and other financial institutions or entities from time to time party thereto (collectively, "Lender") and bluebird bio, Inc., a Delaware corporation ("Company"), and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party to the Loan Agreement (together with Company, individually or collectively, as the context may require, "Borrower"). All capitalized terms not defined herein shall have the same meaning as defined in the Loan Agreement.

The undersigned is an officer of Company, knowledgeable of all Company financial matters, and is authorized, on behalf of Company, to provide certification of information regarding Company; hereby certifies, on behalf of Company, and not in any individual capacity, that as of the date of this Compliance Certificate, that:

i. In accordance with the terms and conditions of the Loan Agreement, all representations and warranties contained therein are true and correct in all material respects on and as of the date of this Compliance Certificate with the same effect as though made on and as of such date, except to the extent such representations and warranties expressly relate to an earlier date in which case such representations and warranties are true and correct as of such earlier date, and in each case, after giving effect in all cases to any standard(s) of materiality contained in the Loan Agreement as to such representations and warranties (but without duplication).

ii. The undersigned further certifies that no Default or Event of Default exists as of the date hereof.

iii. Attached hereto as Exhibit A are the following financial statements, which have been prepared in accordance with GAAP (except (i) for the absence of footnotes with respect to unaudited financial statements and (ii) that they are subject to normal year-end or quarter-end adjustments) and are consistent from one period to the next except as explained below.

REPORTING REQUIREMENT	REQUIRED	CHECK IF ATTACHED
Interim Financial Statements	Monthly within 30 days	
Interim Financial Statements ⁴	Quarterly within 45 days	
Audited Financial Statements	Annually, within 120 days of 2023 fiscal year end and within 90 days of each fiscal year end thereafter	

ACCOUNTS OF BORROWER AND ITS SUBSIDIARIES

⁴ For each of the first three quarters of each fiscal year.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) the type that the Registrant treats as private or confidential.

4. Listed below are all depository accounts and securities accounts open as of the date of this Compliance Certificate in the name of each Borrower or Borrower's Subsidiary, as applicable.

Each new account that has been opened since delivery of the previous Compliance Certificate is designated below with a "*".

		Depository AC #	Financial Institution	Account Type (Depository / Securities)	Last Month Ending Account Balance	Purpose of Account
BORROWER Name/Address:						
	1					
	2					
	3					
	4					
	5					
	6					
	7					
SUBSIDIARY Name/Address						
	1					
	2					
	3					
	4					
	5					
	6					
	7					

Name of Test	Required Level	Actual Level	In Compliance Y/N?
Minimum Qualified Cash	See Section 7.21(a)		
Minimum Net Product Revenue	See Schedule 7.21(b)		

Name of Test ⁵	Required Level	Actual Level	In Compliance Y/N?
1. Market Capitalization of Company	Greater than \$500,000,000 as of market close for the 30 Trading Days immediately preceding each day of such measuring period		
1. Qualified Cash	Greater than or equal to the outstanding principal amount of the Term Loan Advances, <i>multiplied</i> by 70%		
Are the conditions set forth in (I) and (II) satisfied?			
Name of Test ⁶	Required Level	Actual Level	In Compliance Y/N?
Qualified Cash	Greater than or equal to the outstanding Secured Obligations, <i>multiplied</i> by 125%		

REDEMPTION OR REPURCHASE OF PERMITTED CONVERTIBLE INDEBTEDNESS

Description of Permitted Convertible Indebtedness (Including the Principal Amount and the Maturity Date)	Period	Total Amount of Redemption or Repurchase Made During the Period	Cumulative Amount of Redemption or Repurchase Made Since the Initial Period

⁵ The calculations in this table are only necessary if Borrower elects to take advantage of the covenant waiver.

⁶ The calculations in this table are only necessary if Borrower elects to take advantage of the covenant waiver.

ADDITIONAL DISCLOSURES

1. INSURANCE POLICIES OF BORROWER AND ITS SUBSIDIARIES

- [The undersigned hereby also confirms that since delivery of the previous Compliance Certificate, neither Borrower nor any of its Subsidiaries has entered into or amended any insurance policy required pursuant to Section 6.1 of the Loan Agreement.]⁷
- [Since delivery of the previous Compliance Certificate, Borrower and/or one or more of its Subsidiaries have entered into new, or amended existing, insurance policies required pursuant to Section 6.1 of the Loan Agreement. Attached hereto are copies of such new or amended insurance policies and updated insurance certificates with respect to such policies, as required to be delivered pursuant to Section 6.2 of the Loan Agreement.]⁸

2. [INTELLECTUAL PROPERTY]

- [List any exceptions to the representation and warranty in Section 5.10(a): []]
- [List any exceptions to the representation and warranty in Section 5.10(e): []]
- [List any exceptions to the representation and warranty in Section 5.10(f): []]
- [List any exceptions to the representation and warranty in Section 5.10(h): []]
- [List any exceptions to the representation and warranty in Section 5.10(i): []]
- [List any exceptions to the representation and warranty in Section 5.10(j): []]
- [List any exceptions to the representation and warranty in Section 5.10(k): []]
- [List any exceptions to the representation and warranty in Section 5.10(m): []]
- [List any exceptions to the representation and warranty in Section 5.10(n): []]

3. RESTRICTED LICENSES AND MATERIAL AGREEMENTS

- [Please include any Restricted License that Borrower has entered into or been bound by since delivery of the previous Compliance Certificate.]
[Please provide notice of Borrower's entry into any Material Agreement or the material amendment or termination of a Material Agreement (other than termination in accordance with the terms of such Material Agreement).]

4. ORGANIZATIONAL STATUS

- [Each Loan Party's present name, former names (if any), chief executive office, place of formation, tax identification number, organizational identification number and other information are attached hereto.]⁹

5. SUBSIDIARIES

- [Attached hereto is a true, correct and complete list of each Subsidiary, substantially in the form of Schedule 5.14 to the Loan Agreement.]¹⁰

Very Truly Yours,

BLUEBIRD BIO, INC.

By: _____

Name: _____

Its: _____

⁷ Include if neither Borrower nor any of its Subsidiaries has entered into or amended any insurance policies since delivery of the previous Compliance Certificate.

⁸ Include if Borrower or any of its Subsidiaries has entered into or amended any insurance policies since delivery of the previous Compliance Certificate.

⁹ Attach updated Exhibit B if updates to organizational status are needed pursuant to Section 5.1 of the Loan Agreement.

¹⁰ Attach updated Schedule 5.14 if updates are needed.

EXHIBIT F

FORM OF JOINDER AGREEMENT

This Joinder Agreement (this "Joinder Agreement") is made and dated as of [], 20[], and is entered into by and between _____, a corporation ("Subsidiary"), and HERCULES CAPITAL, INC., a Maryland corporation (as "Agent").

RECITALS

A. Subsidiary's Affiliate, bluebird bio, Inc., a Delaware corporation ("Company" and the "Existing Borrower") has entered into that certain Loan and Security Agreement dated March 15, 2024, with the several banks and other financial institutions or entities from time to time party thereto as lender (collectively, "Lenders"), each other Borrower from time to time party thereto, and Agent, (as may be amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Loan Agreement"), together with the other agreements executed and delivered in connection therewith; and

B. Subsidiary acknowledges and agrees that it will benefit both directly and indirectly from Existing Borrower's execution of the Loan Agreement and the other agreements executed and delivered in connection therewith.

AGREEMENT

NOW THEREFORE, Subsidiary and Agent agree as follows:

1. The recitals set forth above are incorporated into and made part of this Joinder Agreement. Capitalized terms not defined herein shall have the meaning provided in the Loan Agreement.
2. By signing this Joinder Agreement, Subsidiary shall be bound by the terms and conditions of the Loan Agreement the same as if it were Borrower (as defined in the Loan Agreement) under the Loan Agreement, mutatis mutandis, provided however, that (a) with respect to (i) Section 5.1 of the Loan Agreement, Subsidiary represents that it is an entity duly organized, legally existing and in good standing under the laws of [], (b) neither Agent nor Lenders shall have any duties, responsibilities or obligations to Subsidiary arising under or related to the Loan Agreement or the other Loan Documents, (c) that if Subsidiary is covered by Existing Borrower's insurance, Subsidiary shall not be required to maintain separate insurance or comply with the provisions of Sections 6.1 and 6.2 of the Loan Agreement, and (d) that as long as Existing Borrower satisfies the requirements of Section 7.1 of the Loan Agreement, Subsidiary shall not have to provide Agent separate Financial Statements. To the extent that Agent or Lenders has any duties, responsibilities or obligations arising under or related to the Loan Agreement or the other Loan Documents, those duties, responsibilities or obligations shall flow only to Existing Borrower and not to Subsidiary or any other Person or entity. By way of example (and not an exclusive list): (i) Agent's providing notice to Existing Borrower in accordance with the Loan Agreement or as otherwise agreed among Existing Borrower, Agent and Lenders shall be deemed provided to Subsidiary; (ii) Lenders' providing an Advance to Existing Borrower shall be deemed an Advance to Subsidiary; and (iii) Subsidiary shall have no right to request an Advance or make any other demand on Lenders.
3. [Subsidiary agrees not to certificate its equity securities (except to the extent certificated prior to the date of this Joinder Agreement) without Agent's prior written consent, which consent may be conditioned on the delivery of such equity securities to Agent in order to perfect Agent's security interest in such equity securities.]¹¹
4. Subsidiary acknowledges that it benefits, both directly and indirectly, from the Loan Agreement, and hereby waives, for itself and on behalf of any and all successors in interest (including without limitation any assignee for the benefit of creditors, receiver, bankruptcy trustee or itself as debtor-in-possession under any bankruptcy proceeding) to the fullest extent provided by law, any and all claims, rights or defenses to the enforcement of this Joinder Agreement on the basis that (a) it failed to receive adequate consideration for the execution and delivery of this Joinder Agreement or (b) its obligations under this Joinder Agreement are avoidable as a fraudulent conveyance.
5. As security for the prompt payment when due (whether on the payment dates or otherwise) of all the Secured Obligations, Subsidiary grants to Agent a security interest in all of Subsidiary's right, title, and interest in and to the Collateral.

¹¹ Only include if Subsidiary's equity interests are not certificated as of the joinder date.

6. This Joinder Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

[SIGNATURE PAGE TO JOINDER AGREEMENT]

SUBSIDIARY:

_____.

By:
Name:
Title:

Address:

Telephone: _____
email: _____

AGENT:

HERCULES CAPITAL, INC.

By: _____
Name: _____
Title: _____

Address:
1 North B Street, Suite 2000
San Mateo, CA 94401
email: [***]
Telephone: [***]

EXHIBIT G

[RESERVED]

EXHIBIT H

ACH DEBIT AUTHORIZATION AGREEMENT

Hercules Capital, Inc.
1 North B Street, Suite 2000
San Mateo, CA 94401

Re: Loan and Security Agreement dated March 15, 2024 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Agreement") by and among bluebird bio, Inc., a Delaware corporation ("Company"), and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party to the Agreement (together with Company, individually or collectively, as the context may require, "Borrower"), Hercules Capital, Inc., as administrative agent and collateral agent ("Agent") and the lenders party thereto (collectively, the "Lenders")

In connection with the above referenced Agreement, the undersigned Borrower hereby authorizes Agent to initiate debit entries for (i) the periodic payments due under the Agreement and (ii) reasonable and documented out-of-pocket legal fees and costs incurred by Agent or Lenders pursuant to Section 11.12 of the Agreement to Borrower's account indicated below. The undersigned Borrower authorizes the depository institution named below to debit to such account.

[IF FILED PUBLICLY, ACCOUNT INFO REDACTED FOR SECURITY PURPOSES]

DEPOSITORY NAME	BRANCH
CITY	STATE AND ZIP CODE
TRANSIT/ABA NUMBER	ACCOUNT NUMBER

This authority will remain in full force and effect so long as any amounts are due under the Agreement.

(Company, on behalf of each Borrower)

By: _____

Name: _____

Date: _____

EXHIBIT I

[RESERVED]

EXHIBIT J-1

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Not Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to the Loan and Security Agreement dated as of March 15, 2024 (as amended, supplemented or otherwise modified from time to time, the "Loan Agreement") by and among bluebird bio, Inc., a Delaware corporation, a ("Company"), and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party to the Loan Agreement (together with Company, individually or collectively, as the context may require, "Borrower"), the several banks and other financial institutions or entities from time to time parties to the Loan Agreement (collectively, referred to as the "Lenders"), and HERCULES CAPITAL, INC., a Maryland corporation, in its capacity as administrative agent and collateral agent for itself and Lenders (in such capacity, the "Agent").

Pursuant to the provisions of Addendum 1 of the Loan Agreement, the undersigned hereby certifies that (i) it is the sole record and beneficial owner of the Loan(s) (as well as any promissory note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (ii) it is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, (iii) it is not a "10-percent shareholder" of Borrower within the meaning of Section 871(h)(3)(B) of the Code and (iv) it is not a "controlled foreign corporation" related to Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished Agent and Borrower with a certificate of its non-U.S. Person status on IRS Form W-8BEN or IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform Borrower and Agent, and (2) the undersigned shall have at all times furnished Borrower and Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Loan Agreement and used herein shall have the meanings given to them in the Loan Agreement.

Date: _____, 20____ [NAME OF LENDER]

By: _____
Name: _____
Title: _____

EXHIBIT J-2

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Not Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to the Loan and Security Agreement dated as of March 15, 2024 (as amended, supplemented or otherwise modified from time to time, the "Loan Agreement") by and among bluebird bio, Inc., a Delaware corporation, a ("Company"), and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party to the Loan Agreement (together with Company, individually or collectively, as the context may require, "Borrower"), the several banks and other financial institutions or entities from time to time parties to the Loan Agreement (collectively, referred to as the "Lenders"), and HERCULES CAPITAL, INC., a Maryland corporation, in its capacity as administrative agent and collateral agent for itself and Lenders (in such capacity, the "Agent").

Pursuant to the provisions of Addendum 1 of the Loan Agreement, the undersigned hereby certifies that (i) it is the sole record and beneficial owner of the participation in respect of which it is providing this certificate, (ii) it is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, (iii) it is not a "10-percent shareholder" of Borrower within the meaning of Section 871(h)(3)(B) of the Code and (iv) it is not a "controlled foreign corporation" related to Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with a certificate of its non-U.S. Person status on IRS Form W-8BEN or IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform such Lender in writing, and (2) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Loan Agreement and used herein shall have the meanings given to them in the Loan Agreement.

Date: _____, 20____ [NAME OF PARTICIPANT]

By: _____
Name: _____
Title: _____

EXHIBIT J-3

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to the Loan and Security Agreement dated as of March 15, 2024 (as amended, supplemented or otherwise modified from time to time, the "Loan Agreement") by and among bluebird bio, Inc., a Delaware corporation, a ("Company"), and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party to the Loan Agreement (together with Company, individually or collectively, as the context may require, "Borrower"), the several banks and other financial institutions or entities from time to time parties to the Loan Agreement (collectively, referred to as the "Lenders"), and HERCULES CAPITAL, INC., a Maryland corporation, in its capacity as administrative agent and collateral agent for itself and Lenders (in such capacity, the "Agent").

Pursuant to the provisions of Addendum 1 of the Loan Agreement, the undersigned hereby certifies that (i) it is the sole record owner of the participation in respect of which it is providing this certificate, (ii) its direct or indirect partners/members are the sole beneficial owners of such participation, (iii) with respect to such participation, neither the undersigned nor any of its direct or indirect partners/members is a "bank" extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (iv) none of its direct or indirect partners/members is a "10-percent shareholder" of Borrower within the meaning of Section 871(h)(3)(B) of the Code and (v) none of its direct or indirect partners/members is a "controlled foreign corporation" related to Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or IRS Form W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or IRS Form W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform such Lender and (2) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Loan Agreement and used herein shall have the meanings given to them in the Loan Agreement.

Date: _____, 20____ [NAME OF PARTICIPANT]

By: _____
Name: _____
Title: _____

EXHIBIT J-4

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to the Loan and Security Agreement dated as of March 15, 2024 (as amended, supplemented or otherwise modified from time to time, the "Loan Agreement") by and among bluebird bio, Inc., a Delaware corporation, a ("Company"), and each other Person that has delivered a Joinder Agreement pursuant to Section 7.13 from time to time party to the Loan Agreement (together with Company, individually or collectively, as the context may require, "Borrower"), the several banks and other financial institutions or entities from time to time parties to the Loan Agreement (collectively, referred to as the "Lenders"), and HERCULES CAPITAL, INC., a Maryland corporation, in its capacity as administrative agent and collateral agent for itself and Lenders (in such capacity, the "Agent").

Pursuant to the provisions of Addendum 1 of the Loan Agreement, the undersigned hereby certifies that (i) it is the sole record owner of the Loan(s) (as well as any promissory note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (ii) its direct or indirect partners/members are the sole beneficial owners of such Loan(s) (as well as any promissory note(s) evidencing such Loan(s)), (iii) with respect to the extension of credit pursuant to this Loan Agreement or any other Loan Document, neither the undersigned nor any of its direct or indirect partners/members is a "bank" extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (iv) none of its direct or indirect partners/members is a "10-percent shareholder" of Borrower within the meaning of Section 871(h)(3)(B) of the Code and (v) none of its direct or indirect partners/members is a "controlled foreign corporation" related to Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished Agent and Borrower with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or IRS Form W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or IRS Form W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform Borrower and Agent, and (2) the undersigned shall have at all times furnished Borrower and Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Loan Agreement and used herein shall have the meanings given to them in the Loan Agreement.

Date: _____, 20____ [NAME OF LENDER]

By: _____
Name: _____
Title: _____

SCHEDULE 1.1

[***]

SCHEDULE 7.21(b)

[***]

FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS **FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT** (this “**Amendment**”), dated as of April 30, 2024 (the “**First Amendment Effective Date**”), is entered into by and among BLUEBIRD BIO, INC., a Delaware corporation (“**Company**”), and each other Person that has delivered a Joinder Agreement from time to time party to the Existing Loan Agreement (together with Company, individually or collectively, as the context may require, “**Borrower**”), the several banks and other financial institutions or entities from time to time parties to the Existing Loan Agreement (each, a “**Lender**”, and collectively “**Lenders**”) that are party hereto and HERCULES CAPITAL, INC., a Maryland corporation, in its capacity as administrative agent and collateral agent for itself and Lenders (in such capacities, including any successors or permitted assigns, “**Agent**”).

A. Borrower, Lenders and Agent are parties to that certain Loan and Security Agreement, dated as of March 15, 2024 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time to date, the “**Existing Loan Agreement**” and the Existing Loan Agreement, as amended by this Amendment, the “**Amended Loan Agreement**”). Borrower, Lenders and Agent have agreed to certain amendments to the Existing Loan Agreement upon the terms and conditions more fully set forth herein.

SECTION 1 Definitions; Interpretation.

(a) **Defined Terms.** All capitalized terms used in this Amendment (including in the recitals hereof) and not otherwise defined herein shall have the meanings assigned to them in the Amended Loan Agreement.

(b) **Rules of Construction.** The rules of construction that appear in Section 1.3 of the Amended Loan Agreement shall be applicable to this Amendment and are incorporated herein by this reference.

SECTION 2 Amendments to the Existing Loan Agreement.

(a) The Existing Loan Agreement shall be amended as follows effective as of the date hereof (except as otherwise noted):

(i) The following defined terms are hereby added, in appropriate alphabetical order, or amended and restated, as applicable, in Section 1.1 of the Existing Loan Agreement, as set forth below:

“**First Amendment**” means that certain First Amendment to Loan and Security Agreement, dated as of the First Amendment Effective Date by and among Borrower, Lenders and Agent.

“**First Amendment Effective Date**” means April 30, 2024.

(ii) Section 7.1(a), Section 7.1(b) and Section 7.1(c) of the Existing Loan Agreement are hereby amended and restated to read as follows:

“(a) as soon as practicable (and in any event within thirty (30) days or such longer period as may be agreed by Agent in its sole discretion) after the end of each month, unaudited interim and year-to-date financial statements as of the end of such month (prepared on a consolidated and consolidating basis, if prepared) of Company and its Subsidiaries, including balance sheet and related statements of income, all certified by a duly authorized officer of Company to the effect that they have been prepared in accordance with GAAP, except (i) for the absence of footnotes, (ii) that they are subject to normal year-end or quarter-end adjustments, and (iii) they do not contain certain non-cash items that are customarily included in quarterly and annual financial statements; provided that, with respect to the monthly financial statements ending on March 31, 2024 through June 30, 2024, Borrower shall be in compliance with this clause (a) so long as the financial statements provided to Agent for such months shall be in a form substantially

similar to the example sent by Borrower to Agent after the Closing Date and prior to the First Amendment Effective Date;

(b) as soon as practicable (and in any event (i) by July 15, 2024 for the fiscal quarter ended March 31, 2024 and (ii) within forty-five (45) days or, in each case of the foregoing clauses (i) and (ii), such longer period as may be agreed by Agent in its sole discretion) after the end of each of the first three fiscal quarters of each fiscal year, unaudited interim and year-to-date financial statements as of the end of such calendar quarter (prepared on a consolidated and consolidating basis, if prepared) of Company and its Subsidiaries, including balance sheet and related statements of income and cash flows accompanied by a report detailing any occurrence that could reasonably be expected to have a Material Adverse Effect (including the commencement of any material litigation by or against Borrower), certified by a duly authorized officer of Company to the effect that they have been prepared in accordance with GAAP, except (i) for the absence of footnotes, and (ii) that they are subject to normal year-end adjustments;

(c) as soon as practicable (and in any event (i) by July 15, 2024 for the fiscal year ended December 31, 2023 and (ii) ninety (90) days for each fiscal year thereafter, or in each case of the foregoing clauses (i) and (ii), such longer period as may be agreed by Agent in its sole discretion) after the end of each fiscal year, audited financial statements as of the end of such year (prepared on a consolidated and consolidating basis, if prepared), including balance sheet and related statements of income and cash flows, and setting forth in comparative form the corresponding figures for the preceding fiscal year, certified without qualification (other than a “going concern” qualification as it relates to Borrower’s cash levels so long as no Event of Default has occurred or is continuing) by a firm of independent certified public accountants selected by Borrower and reasonably acceptable to Agent, accompanied by any management report from such accountants (it being understood that Ernst & Young LLP and any other accounting firm of national standing are reasonably acceptable to Agent);”

(iii) Section 7.20(a) of the Existing Loan Agreement is hereby amended and restated to read as follows:

“(a) Borrower (i) shall maintain, and shall cause its Subsidiaries to maintain, compliance in all material respects with all applicable laws, rules or regulations (including any law, rule or regulation with respect to the making or brokering of loans or financial accommodations and it being agreed by the parties hereto that Borrower’s late delivery and filing of its Form 10-K for the fiscal year ended December 31, 2023 and its Form 10-Q for the fiscal quarter ended March 31, 2024 shall be deemed not to violate this Section 7.20(a) so long as such documents are filed by July 15, 2024), and (ii) shall, or cause its Subsidiaries to, obtain and maintain all material required Governmental Approvals reasonably necessary in connection with the conduct of Borrower’s business. Borrower shall not become an “investment company,” a company that would be an “investment company” except for the exclusion from the definition of “investment company” in Section 3(c) of the 1940 Act, or a company controlled by an “investment company” under the 1940 Act, or undertake as one of its important activities extending credit to purchase or carry margin stock (as defined in Regulation X, T and U of the Federal Reserve Board of Governors).”

(iv) Schedule 1A to the Existing Loan Agreement is hereby replaced with Schedule 1A attached hereto.

(b) **References Within Amended Loan Agreement.** Each reference in the Amended Loan Agreement to “this Agreement” and the words “hereof,” “herein,” “hereunder,” or words of like import, shall mean and be a reference to the Amended Loan Agreement. This Amendment shall be a Loan Document. Any failure by Borrower to perform any obligation under this Amendment shall constitute an Event of Default under the Amended Loan Agreement.

SECTION 3 Conditions to Effectiveness. The effectiveness of this Amendment shall be subject to satisfaction of each of the following conditions precedent:

(a) Agent shall have received this Amendment, executed by Agent, Required Lenders, and Borrower;

(b) immediately after giving effect to this Amendment, the representations and warranties contained in Section 5 hereof shall be true and correct on and as of the First Amendment Effective Date as though made on and as of such date; and

(c) immediately after giving effect to this Amendment, there exist no Events of Default or events that, with the passage of time, could result in an Event of Default.

SECTION 4 Conditions Subsequent. By August 15, 2024 (or such longer period as Agent shall agree in its sole discretion), Borrower shall have cooperated with Agent and Lenders in good faith to amend the definition of “Gross Profit” and/or “Performance Milestone” to adjust for any changes to Borrower’s forecast, as presented to Agent prior to the Closing Date, resulting from Borrower’s review of its lease accounting and restated financials.

SECTION 5 Representations and Warranties. To induce Agent and Lenders to enter into this Amendment, Borrower hereby confirms, as of the date hereof and immediately after giving effect to this Amendment, (a) that the representations and warranties made by it in Section 5 of the Amended Loan Agreement and in the other Loan Documents are true and correct in all material respects; *provided, however*, that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof (except to the extent such representations and warranties relate to an earlier date, in which case they are true and correct in all material respects as of such date); and (b) that there has not been and there does not exist a Material Adverse Effect.

SECTION 6 Miscellaneous.

(a) **Loan Documents Otherwise Not Affected; Reaffirmation.** Except as expressly amended pursuant hereto or referenced herein, the Existing Loan Agreement and the other Loan Documents shall remain unchanged and in full force and effect and are hereby ratified and confirmed in all respects. Lenders’ and Agent’s execution and delivery of, or acceptance of, this Amendment shall not be deemed to create a course of dealing or otherwise create any express or implied duty by any of them to provide any other or further amendments, consents or waivers in the future. Borrower hereby reaffirms the security interest granted pursuant to the Loan Documents and hereby reaffirms that such grant of security in the Collateral granted as of the Closing Date continues without novation and secures all Secured Obligations under the Amended Loan Agreement and the other Loan Documents. Borrower acknowledges and agrees that it does not have any defense, set-off, counterclaim or challenge against the payment of any sums owing under the Existing Loan Agreement and the other Loan Documents, or the enforcement of any of the terms or conditions thereof.

(b) **Conditions.** For purposes of determining compliance with the conditions specified in Section 3 hereof, each Lender that has signed this Amendment shall be deemed to have consented to, approved or accepted or to be satisfied with, each document or other matter required thereunder to be consented to or approved by or acceptable or satisfactory to a Lender unless Agent shall have received notice from such Lender prior to the date hereof specifying its objection thereto.

(c) **Release.** In consideration of the agreements of Agent and Lenders contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Borrower, on behalf of itself and its successors and assigns, hereby fully, absolutely, unconditionally and irrevocably releases, remises and forever discharges Agent and each Lender, and its successors and assigns, and its present and former shareholders, affiliates, subsidiaries, divisions, predecessors, directors, officers, attorneys, employees, agents and other representatives (Agent, Lenders and all such other persons being hereinafter referred to collectively as the “**Releasees**” and individually as a “**Releasee**”), of and from all demands, actions, causes of action, suits, covenants, contracts, controversies, agreements, promises, sums of money, accounts, bills, reckonings, damages and any and all

other claims, counterclaims, defenses, rights of set-off, demands and liabilities whatsoever of every name and nature, known or unknown, suspected or unsuspected, both at law and in equity, which Borrower, or any of its successors, assigns, or other legal representatives may now or hereafter own, hold, have or claim to have against the Releasees or any of them for, upon, or by reason of any circumstance, action, cause or thing whatsoever which arises at any time on or prior to the day and date of this Amendment, including, without limitation, for or on account of, or in relation to, or in any way in connection with the Existing Loan Agreement, or any of the other Loan Documents or transactions thereunder or related thereto (collectively, the “**Released Claims**”). Borrower waives the provisions of California Civil Code section 1542, which states:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

Borrower understands, acknowledges and agrees that the release set forth above may be pleaded as a full and complete defense and may be used as a basis for an injunction against any action, suit or other proceeding which may be instituted, prosecuted or attempted in breach of the provisions of such release. Borrower agrees that no fact, event, circumstance, evidence or transaction which could now be asserted or which may hereafter be discovered shall affect in any manner the final, absolute and unconditional nature of the release set forth above. The provisions of this section shall survive payment in full of the Secured Obligations, full performance of all the terms of this Amendment and the other Loan Documents.

In addition to the release contained above, and not in limitation thereof, Borrower hereby agrees that it will never prosecute, nor voluntarily aid in the prosecution of, any action or proceeding relating to the Released Claims, whether by claim, counterclaim or otherwise. If, and to the extent that, any of the Released Claims are, for any reason whatsoever, not fully, finally and forever released and discharged pursuant to the terms above, Borrower hereby absolutely and unconditionally grants, sells, bargains, transfers, assigns and conveys to Agent all of the Released Claims and any proceeds, settlements and distributions relating thereto.

(d) **No Reliance.** Borrower hereby acknowledges and confirms to Agent and Lenders that Borrower is executing this Amendment on the basis of its own investigation and for its own reasons without reliance upon any agreement, representation, understanding or communication by or on behalf of any other Person.

(e) **Binding Effect.** This Amendment binds and is for the benefit of the successors and permitted assigns of each party.

(f) **Governing Law.** This Amendment and the other Loan Documents shall be governed by, and construed and enforced in accordance with, the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

(g) **Complete Agreement; Amendments.** This Amendment and the Loan Documents represent the entire agreement about this subject matter and supersede prior negotiations or agreements with respect to such subject matter. All prior agreements, understandings, representations, warranties, and negotiations between the parties about the subject matter of this Amendment and the Loan Documents merge into this Amendment and the Loan Documents.

(h) **Severability of Provisions.** Each provision of this Amendment is severable from every other provision in determining the enforceability of any provision.

(i) **Counterparts.** This Amendment may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, is an original, and all taken together, constitute one Amendment. Delivery of an executed counterpart of a signature page of this Amendment by

facsimile, portable document format (.pdf) or other electronic transmission will be as effective as delivery of a manually executed counterpart hereof.

(j) **Electronic Execution of Certain Other Documents.** The words “execution,” “execute,” “signed,” “signature,” and words of like import in or related to any document to be signed in connection with this Amendment and the transactions contemplated hereby (including without limitation assignments, assumptions, amendments, waivers and consents) shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the California Uniform Electronic Transaction Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

(k) **Inconsistencies.** To the extent of any inconsistency between the terms and conditions of this Amendment and the terms and conditions of the Existing Loan Agreement and the other Loan Documents, the terms and conditions of this Amendment shall prevail.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have duly executed this Amendment, as of the date first above written.

BORROWER:

BLUEBIRD BIO, INC.

Signature: /s/ Christopher Krawtschuk

Print Name: Christopher Krawtschuk

Title: Chief Financial Officer

[Signature Page to First Amendment to Loan and Security Agreement]

AGENT:

HERCULES CAPITAL, INC.

Signature: /s/ Seth H. Meyer
Print Name: Seth Meyer
Title: Chief Financial Officer

LENDERS:

HERCULES CAPITAL, INC.

Signature: /s/ Seth H. Meyer
Print Name: Seth Meyer
Title: Chief Financial Officer

HERCULES PRIVATE CREDIT FUND 1 L.P.

By: Hercules Private Global Venture Growth Fund GP I LLC, its general partner
By: Hercules Partner Holdings LLC, its sole member

Signature: /s/ Seth H. Meyer
Print Name: Seth Meyer
Title: Authorized Signatory

HERCULES PRIVATE GLOBAL VENTURE GROWTH FUND I L.P.

By: Hercules Private Global Venture Growth Fund GP I LLC, its general partner
By: Hercules Partner Holdings LLC, its sole member

Signature: /s/ Seth H. Meyer
Print Name: Seth Meyer
Title: Authorized Signatory

[Signature Page to First Amendment to Loan and Security Agreement]

Schedule 1A

[***]