

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6625498

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	INTELLECTUAL PROPERTY SECURITY AGREEMENT	
<b>CONVEYING PARTY DATA</b>		
<b>Name</b>		<b>Execution Date</b>
PIVOT BIO, INC.		03/19/2021
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	HERCULES CAPITAL, INC., AS AGENT	
<b>Street Address:</b>	400 HAMILTON AVENUE, SUITE 310	
<b>City:</b>	PALO ALTO	
<b>State/Country:</b>	CALIFORNIA	
<b>Postal Code:</b>	94301	
<b>PROPERTY NUMBERS Total: 20</b>		
<b>Property Type</b>	<b>Number</b>	
Patent Number:	10384983	
Patent Number:	10556839	
Application Number:	15954558	
Patent Number:	9975817	
Application Number:	16685997	
Application Number:	16192738	
Application Number:	17027030	
Application Number:	16637565	
Application Number:	16759212	
Application Number:	16759231	
Application Number:	62690619	
Application Number:	62943671	
Application Number:	62960655	
Application Number:	63019096	
Application Number:	63019240	
Application Number:	63033305	
Application Number:	63120969	
Application Number:	63019247	
Application Number:	63024208	
Application Number:	63060996	

PATENT

**CORRESPONDENCE DATA****Fax Number:** (213)891-8763***Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*****Email:** rhonda.deleon@lw.com**Correspondent Name:** LATHAM & WATKINS LLP**Address Line 1:** 355 SOUTH GRAND AVENUE**Address Line 4:** LOS ANGELES, CALIFORNIA 90071-1560**ATTORNEY DOCKET NUMBER:** 054809-0077**NAME OF SUBMITTER:** RHONDA DELEON**SIGNATURE:** /Rhonda DeLeon/**DATE SIGNED:** 03/26/2021**Total Attachments: 15**

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## INTELLECTUAL PROPERTY SECURITY AGREEMENT

**THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT** ("Agreement") dated as of March 19, 2021, is made by PIVOT BIO, INC., a Delaware corporation (the "Grantor"), in favor of HERCULES CAPITAL, INC. ("Agent") in its capacity as administrative agent and collateral agent for the Lenders (as defined below).

### RECITALS

A. Grantor has entered into a Loan and Security Agreement, dated of even date herewith, with certain financial institutions party thereto (the "Lenders") and Agent, in its capacity as administrative agent and collateral agent for itself and the Lenders (as amended, restated, or otherwise modified from time to time, the "Loan Agreement"). All capitalized terms used but not defined herein shall have the respective meanings given to them in the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Agent for its benefit and the benefit of the Lenders a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

### AGREEMENT

1. Grant of Security Interest. To secure its Secured Obligations under the Loan Agreement, Grantor grants and pledges to Agent for its benefit and the benefit of the Lenders a security interest in all of Grantor's right, title and interest in, to and under its intellectual property (all of which shall collectively be called the "Intellectual Property Collateral"), including, without limitation, the following:

(a) Any and all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the "Copyrights");

(b) Any and all trade secrets, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;

(c) Any and all design rights that may be available to Grantor now or hereafter existing, created, acquired or held;

(d) All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions, re-examination certificates, utility models, and continuations-in-part of the same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the "Patents");

(e) Any trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the "Trademarks");

(f) All mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on Exhibit D attached hereto (collectively, the "Mask Works");

(g) Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

(h) All licenses or other rights to use any of the Copyrights, Patents, Trademarks, or Mask Works and all license fees and royalties arising from such use to the extent permitted by such license or rights;

(i) All amendments, renewals and extensions of any of the Copyrights, Trademarks, Patents, or Mask Works; and

(j) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

Notwithstanding the foregoing, the Intellectual Property Collateral does not include any (i) "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 Intellectual Property Collateral, or (ii) Excluded Collateral.

2. Recordation. Grantor authorizes the Commissioner for Patents, the Commissioner for Trademarks and the Register of Copyrights and any other government officials to record and register this Agreement upon request by Agent.

Grantor hereby authorizes Agent to (a) modify this Agreement unilaterally by amending the exhibits to this Agreement to include any Intellectual Property Collateral which Grantor obtains subsequent to the date of this Agreement and (b) file a duplicate original of this Agreement containing amended exhibits reflecting such new Intellectual Property Collateral.

3. Loan Documents. This Agreement has been entered into pursuant to and in conjunction with the Loan Agreement, which is hereby incorporated by reference. The provisions of the Loan Agreement shall supersede and control over any conflicting or inconsistent provision herein. The rights and remedies of Agent with respect to the Intellectual Property Collateral are as provided by the Loan Agreement and related documents, and nothing in this Agreement shall be deemed to limit such rights and remedies.

4. Execution in 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. Delivery of an executed counterpart of a signature page of this Agreement by facsimile, portable document format (.pdf) or other electronic transmission will be as effective as delivery of a manually executed counterpart hereof.

5. Successors and Assigns. The provisions of this Agreement shall inure to the benefit of the parties hereto and their respective successors and assigns. Grantor shall not assign its obligations under this Agreement without Agent's express prior written consent, and any such attempted assignment shall be void and of no effect. Agent may assign, transfer, or endorse its rights hereunder pursuant to the terms of the Loan Agreement without prior notice to Grantor, and all of such rights shall inure to the benefit of Agent's successors and assigns.

6. Governing Law. This Agreement has been negotiated and delivered to Agent in the State of California, and shall have been accepted by Agent in the State of California. This 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.

7. Termination. This Agreement shall terminate upon termination of the Loan Agreement and repayment in full of all Secured Obligations owed by Grantor to the Lenders thereunder.

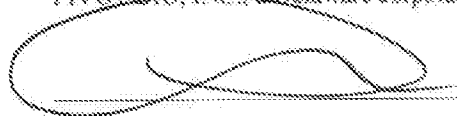
8. Electronic Execution of Certain Other Documents. The words “execution,” “execute,” “signed,” “signature,” and words of like import in or related to any document to be signed in connection with this Agreement and the transactions contemplated hereby (including without limitation assignments, assumptions, 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 the 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 New York State Electronic Signatures and Records Act, the California Uniform Electronic Transactions Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

[Signature pages follow.]

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

PIVOT BIO, INC., a Delaware corporation

A handwritten signature in black ink, appearing to read "Doug Jeffries", is written over a horizontal line.

By: Doug Jeffries

Title: Chief Financial Officer

[Signature Page to Intellectual Property Security Agreement]

AGENT:

HERCULES CAPITAL, INC., a Maryland  
corporation

DocuSigned by:

*Zhuo Huang*

2613CB769AA04A1...

By: Zhuo Huang

Title: Associate General Counsel

EXHIBIT A

Copyrights

None.



EXHIBIT B

Patents

See Attached.

Pivot Number	Country Name	Title	Application No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Status
PIV-001 US1	UNITED STATES	(SHADOWING) SYNTHETIC GENE CLUSTERS	14/126,307	7/25/2014	US-2014-0329326-A1	11/6/2014	9,512,431	12/6/2016	ISSUED
PIV-001 US2	UNITED STATES	(SHADOWING) SYNTHETIC GENE CLUSTERS	15/288,916	10/7/2016	US-2017-0152519-A1	6/1/2017	9,957,509	5/1/2018	ISSUED
PIV-001 US3	UNITED STATES	(SHADOWING) SYNTHETIC GENE CLUSTERS	15/706,353	9/15/2017	US-2018-0073028-A1	3/15/2018	10,662,432	5/26/2020	ISSUED
PIV-001 US4	UNITED STATES	(SHADOWING) SYNTHETIC GENE CLUSTERS	16/671,036	10/31/2019	US-2020-0115715-A1	4/16/2020			PUBLISHED
PIV-002 US1	UNITED STATES	METHODS AND COMPOSITIONS FOR IMPROVING PLANT TRAITS	15/950,534	4/11/2018	US-2018-0273437-A1	9/27/2018	10,384,983	8/20/2019	ISSUED
PIV-002 US2	UNITED STATES	METHODS AND COMPOSITIONS FOR IMPROVING PLANT TRAITS	15/954,557	4/16/2018	US-2018-0297905-A1	10/18/2018	10,556,839	2/11/2020	ISSUED
PIV-002 US3	UNITED STATES	METHODS AND COMPOSITIONS FOR IMPROVING PLANT TRAITS	15/954,558	4/16/2018	US-2018-0297906-A1	10/18/2018			PUBLISHED
PIV-002 US4	UNITED STATES	METHODS AND COMPOSITIONS FOR IMPROVING PLANT TRAITS	15/636,595	6/28/2017	US-2018-0002243-A1	1/4/2018	9,975,817	5/22/2018	ISSUED

PIV-002 US5	UNITED STATE S	METHODS AND COMPOSITIONS FOR IMPROVING PLANT TRAITS	16/685,997	11/15/201 9	US-2020- 0087221-A1	3/19/2020			PUBLISH D
PIV-003 US2	UNITED STATE S	METHODS AND COMPOSITIONS FOR IMPROVING PLANT TRAITS	16/192,738	11/15/201 8	US-2019- 0144352-A1	5/16/2019			PUBLISH D
PIV-003 US3	UNITED STATE S	METHODS AND COMPOSITIONS FOR IMPROVING PLANT TRAITS	17/027,030	9/21/2020					PENDING
PIV-005 US	UNITED STATE S	METHODS AND COMPOSITIONS FOR IMPROVING ENGINEERED MICROBES	16/637,565	2/7/2020					PENDING
PIV-007 US	UNITED STATE S	METHODS AND COMPOSITIONS FOR IMPROVING ENGINEERED MICROBES THAT FIX NITROGEN	16/759,212	4/24/2020					PENDING
PIV-008 US	UNITED STATE S	GENE TARGETS FOR NITROGEN FIXATION TARGETING FOR IMPROVING PLANT TRAITS	16/759,231	4/24/2020	WO 2019/08434 2	5/2/2019			PENDING
PIV- 010A US	UNITED STATE S	(SHADOWING) DIRECTED EVOLUTION OF SYNTHETIC GENE CLUSTER	14/440,183	5/1/2015	US-2015- 0315570-A1	11/5/2015			PUBLISH D

PIV-010B US	UNITED STATE S	(SHADOWING) NITROGEN FIXATION USING REFACTORED NIF CLUSTERS	15/7/66,122	4/5/2018	US-2018- 0290942-A1	10/11/2018				PUBLISH D
PIV-016 USP	UNITED STATE S	GUIDED MICROBIAL REMODELING, A PLATFORM FOR THE RATIONAL IMPROVEMENT OF MICROBIAL SPECIES FOR AGRICULTURE	62/690,619	6/27/2018						
PIV-026 USP	UNITED STATE S	DELIVERY SYSTEM	62/943,671	12/4/2019						PENDING
PIV-028 USP	UNITED STATE S	CONSORTIA OF MICROORGANISM S FOR SPATIAL AND TEMPORAL DELIVERY OF NITROGEN	62/960,655	1/13/2020						PENDING
PIV-030 USP	UNITED STATE S	STABLE LIQUID FORMULATIONS FOR NITROGEN- FIXING MICROORGANISM S	63/019,096	5/1/2020						PENDING
PIV-031 USP	UNITED STATE S	MEASUREMENT OF NITROGEN FIXATION AND INCORPORATION	63/019,240	5/1/2020						PENDING
PIV-032 USP	UNITED STATE S	FORMULATIONS FOR GRAM-	63/033,305	6/2/2020						PENDING

		NEGATIVE BACTERIA							
PIV-033 USP	UNITED STATE S	SUSTAINABLE PRACTICES MARKETPLACE PLATFORM	63/120,969	12/3/2020					PENDING
PIV-034 USP	UNITED STATE S	MODIFIED BACTERIAL STRAINS FOR IMPROVED FIXATION OF NITROGEN	63/019,247	5/1/2020					PENDING
PIV-036 USP	UNITED STATE S	DE-REPRESSION OF NITROGEN FIXATION IN GRAM POSITIVE MICROORGANISM S	63/024,208	5/13/2020					PENDING
PIV-038 USP	UNITED STATE S	IMPROVED PLANT NITROGEN CONSISTENCY THROUGH THE SUPPLY OF WHOLE PLANT NITROGEN FROM A NITROGEN FIXING MICROBE	63/060,996	8/4/2020					PENDING

EXHIBIT C

Trademarks

See Attached.

Title/Mark	Country	Application Number	Application Date	Registration Number	Registration Date	International Classes	Status
Grown with GENUIN PIVOT BIO PROVEN & Design	UNITED STATES	90206788	09/24/2020			30, 44	PENDING
NITROGEN THAT STAYS PUT. WEATHER OR NOT.	UNITED STATES	90295640	11/03/2020			01, 31	PENDING
NLIGHTEN	UNITED STATES	88613600	09/11/2019			35, 40, 42	PENDING
PIVOT BIO (Child)	UNITED STATES	87981993	03/19/2018	5921884	11/26/2019	01	REGISTERED
PIVOT BIO (Parent)	UNITED STATES	87840678	03/19/2018			31, 45	PENDING
PIVOT BIO NUECOTA	UNITED STATES	88101475	08/31/2018			01, 31, 45	PENDING
PIVOT BIO PROVEN (Child)	UNITED STATES	88977302	8/31/2018	6066036	5/26/2020	01	REGISTERED
PIVOT BIO PROVEN (Parent)	UNITED STATES	88101449	08/31/2018			31, 45	PENDING
PIVOT BIO RETURN	UNITED STATES	88730641	12/17/2019			01, 31, 45	PENDING
Stylized N	UNITED STATES	90049694	07/13/2020			01	PENDING
Stylized N	UNITED STATES	90049692	07/13/2020			35	PENDING
Stylized N	UNITED STATES	90049688	07/13/2020			40	PENDING
Stylized N	UNITED STATES	90049681	07/13/2020			31	PENDING

Stylized N	UNITED STATES	90049677	07/13/2020			42	PENDING
Stylized N	UNITED STATES	90049675	07/13/2020			45	PENDING
SUSTAINABLY GROWN GENUIN CLEANER AIR AND WATER & Design	UNITED STATES	90260102	10/16/2020			30, 44	PENDING
WEATHER OR NOT	UNITED STATES	88577452	08/13/2019			01, 31, 45	PENDING



EXHIBIT D

Mask Works

None.