

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6882108

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
KIM CECELIA ANDERSON	04/06/2021
ELENA BREVNOVA	08/09/2021
DYLAN ALEXANDER CARLIN	05/12/2021
BRIAN CARVALHO	04/06/2021
NICHOLAS FLORES	05/14/2021
KATRINA FORREST	05/28/2021
MASSIMO MERIGHI	08/16/2021
GABRIEL RODRIGUEZ	04/06/2021
EMILY E. WRENBECK	06/10/2021
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	GINKGO BIOWORKS, INC.
<b>Street Address:</b>	27 DRYDOCK AVENUE
<b>Internal Address:</b>	8TH FLOOR
<b>City:</b>	BOSTON
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02210
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17078872
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)646-8646
<i>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.</i>	
<b>Phone:</b>	617-646-8000
<b>Email:</b>	rmoulton@wolfgreenfield.com, ojohnstone@wolfgreenfield.com
<b>Correspondent Name:</b>	OONA M. JOHNSTONE
<b>Address Line 1:</b>	WOLF, GREENFIELD & SACKS, P.C.
<b>Address Line 2:</b>	600 ATLANTIC AVENUE
<b>Address Line 4:</b>	BOSTON, MASSACHUSETTS 02210
<b>ATTORNEY DOCKET NUMBER:</b>	G0919.70030US07

PATENT

<b>NAME OF SUBMITTER:</b>	OONA M. JOHNSTONE
<b>SIGNATURE:</b>	/Oona M. Johnstone/
<b>DATE SIGNED:</b>	08/25/2021

**Total Attachments: 99**  
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## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to **Ginkgo Bioworks, Inc.**, a US corporation having a place of business at **27 Drydock Avenue, 8th Floor, Boston, Massachusetts 02210**, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the patent application for United States Letters Patent filed in the United States Patent and Trademark Office on **October 23, 2020** under No. **17/078,872**, bearing Attorney Docket No. **G0919.70030US07**, and entitled **BIOSYNTHESIS OF CANNABINOIDS AND CANNABINOID PRECURSORS**, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions and designs; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions and designs, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea; as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

Attorney Docket No. **G0919.70030US07**


5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.


This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

Attorney Docket No. **G0919.70030US07**


04/04/21  
Date

  
Inventor: Kim Cecelia Anderson  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: U.S.A.

Witness:  
04/06/21  
Date

  
Signature  
Name: Bryn Anderson  
Address: 3365 Calle Del Sur  
Carlsbad, CA 92009

Witness:  
04/06/2021  
Date

  
Signature  
Name: Turner Anderson  
Address: 1807 Francisco St.  
Berkeley, CA 94703

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Elena Brevnova

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. **G0919.70030US07**



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Date

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Inventor: Dylan Alexander Carlin

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Signature

Name: \_\_\_\_\_

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Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Signature

Name: \_\_\_\_\_

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Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Nicholas Flores

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Name: \_\_\_\_\_

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Attorney Docket No. **G0919.70030US07**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Katrina Forrest

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Name: \_\_\_\_\_

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Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Massimo Merighi  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:

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Attorney Docket No. **G0919.70030US07**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Gabriel Rodriguez

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Name: \_\_\_\_\_

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Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Emily E. Wrenbeck  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:

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Date

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Signature

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Attorney Docket No. **G0919.70030US07**

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1. Sell, assign and transfer to **Ginkgo Bioworks, Inc.**, a US corporation having a place of business at **27 Drydock Avenue, 8th Floor, Boston, Massachusetts 02210**, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the patent application for United States Letters Patent filed in the United States Patent and Trademark Office on **October 23, 2020** under No. **17/078,872**, bearing Attorney Docket No. **G0919.70030US07**, and entitled **BIOSYNTHESIS OF CANNABINOIDS AND CANNABINOID PRECURSORS**, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions and designs; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions and designs, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea; as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

Attorney Docket No. **G0919.70030US07**



5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Kim Cecelia Anderson

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

8/9/21  
Date

Brevnova  
Inventor: Elena Brevnova  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: USA

Witness:  
8/9/2021  
Date

Annapurna Kamineni  
Signature  
Name: ANNAPURNA KAMINENI  
Address: 90 HARNDEN AVE  
WATERTOWN, MA 02472

Witness:  
8/9/2021  
Date

Istvan Weyda  
Signature  
Name: Istvan Weyda  
Address: 1531 Massachusetts ave  
Arlington MA 02476

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Dylan Alexander Carlin

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Attorney Docket No. G0919.70030US07

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Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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Attorney Docket No. G0919.70030US07

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Inventor: Nicholas Flores

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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Attorney Docket No. G0919.70030US07

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Inventor: Katrina Forrest

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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Inventor: Massimo Merighi

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: US

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Inventor: Gabriel Rodriguez

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

Inventor: \_\_\_\_\_ Emily E. Wrenbeck  
Address: \_\_\_\_\_ 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:

\_\_\_\_\_  
Date

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Name: \_\_\_\_\_

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Witness:

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to **Ginkgo Bioworks, Inc.**, a US corporation having a place of business at **27 Drydock Avenue, 8th Floor, Boston, Massachusetts 02210**, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the patent application for United States Letters Patent filed in the United States Patent and Trademark Office on **October 23, 2020** under No. **17/078,872**, bearing Attorney Docket No. **G0919.70030US07**, and entitled **BIOSYNTHESIS OF CANNABINOIDS AND CANNABINOID PRECURSORS**, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions and designs; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions and designs, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea; as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

Attorney Docket No. **G0919.70030US07**

5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

Attorney Docket No. G0919.70030US07

Date

Inventor: Kim Cecelia Anderson

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

Date

Signature

Name:

Address:

Witness:

Date

Signature

Name:

Address:

Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Elena Brevnova

\_\_\_\_\_  
Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

\_\_\_\_\_  
Boston, Massachusetts 02210

\_\_\_\_\_  
Citizenship:

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Witness:

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Signature

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Name:

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Address:

Attorney Docket No. G0919.70030US07

May 12, 2021  
Date

Dylan Alexander Carlin  
Inventor: Dylan Alexander Carlin

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: US citizen

Witness:

May 12, 2021  
Date

Nathan Tedford  
Signature

Name:

Nathan Tedford

Address:

97 Elm St.

Charlestown, MA 02129

Witness:

May 12, 2021  
Date

Jonathan McMurry  
Signature

Name:

Jonathan McMurry

Address:

12 Assyria Park Apt. #1

Boston, MA 02130

Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

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Date

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07



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Date

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Inventor: Nicholas Flores

\_\_\_\_\_  
Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

\_\_\_\_\_  
Boston, Massachusetts 02210

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Citizenship:

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Witness:

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Name:

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Address:

Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

Inventor: Katrina Forrest

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Massimo Merighi  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Gabriel Rodriguez

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Emily E. Wrenbeck

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: US

Witness:

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Signature

Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

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2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
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Attorney Docket No. **G0919.70030US07**

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Kim Cecelia Anderson

\_\_\_\_\_  
Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

\_\_\_\_\_  
Boston, Massachusetts 02210

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Citizenship:

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Witness:

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Attorney Docket No. G0919.70030US07



\_\_\_\_\_  
Date

Inventor: Elena Brevnova

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Dylan Alexander Carlin

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Signature

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Attorney Docket No. G0919.70030US07

4/6/2021

Date

Brian Carvalho

Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: USA

Witness:

4/6/2021

Date

[Signature]

Signature

Name:

424 State St, Apt 11, All Saints Crk  
Charlestown

Address:

431 Melnea Cass Blvd, Unit 406  
Boston, MA 02119

Witness:

4/6/2021

Date

[Signature]

Signature

Name:

Sergio Florez

Address:

27 Drydock Ave 8th Floor  
Boston, MA 02210

\_\_\_\_\_  
Date

Inventor: Nicholas Flores

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

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Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Katrina Forrest \_\_\_\_\_

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

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Address: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Massimo Merighi \_\_\_\_\_

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: US

Witness:

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

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Date

\_\_\_\_\_  
Inventor: Gabriel Rodriguez

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Emily E. Wrenbeck

\_\_\_\_\_  
Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

\_\_\_\_\_  
Boston, Massachusetts 02210

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Citizenship: US

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Witness:

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Attorney Docket No. G0919.70030US07



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Attorney Docket No. **G0919.70030US07**

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This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Kim Cecelia Anderson

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

Date \_\_\_\_\_

Signature \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

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Inventor: Elena Brevnova

\_\_\_\_\_  
Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

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Boston, Massachusetts 02210

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Citizenship:

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Dylan Alexander Carlin

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

\_\_\_\_\_  
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Name: \_\_\_\_\_

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Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

Date 5/14/21

Inventor: Nicholas Flores

Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210

Citizenship:

Witness:

Date 5/14/21

Signature [Signature]

Name: Catalyn Corbet

Address: 27 Drydock Ave  
Boston, Ma 02210

Witness:

Date 5/14/21

Signature [Signature]

Name: Kristyna Vozrazkova

Address: 77 Drydock Ave  
Boston, Ma 02210

Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Katrina Forrest \_\_\_\_\_

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

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Attorney Docket No. G0919,70030US07



\_\_\_\_\_  
Date

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Inventor: Massimo Merighi

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Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

\_\_\_\_\_  
Boston, Massachusetts 02210

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Citizenship: US

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Witness:

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Attorney Docket No. G0919.70030US07

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Date

Inventor: Gabriel Rodriguez

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness: \_\_\_\_\_

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Date

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Emily E. Wranbeck  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Witness:

\_\_\_\_\_  
Date

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Signature

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Attorney Docket No. G0919.70038US07

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to **Ginkgo Bioworks, Inc.**, a US corporation having a place of business at **27 Drydock Avenue, 8th Floor, Boston, Massachusetts 02210**, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the patent application for United States Letters Patent filed in the United States Patent and Trademark Office on **October 23, 2020** under No. **17/078,872**, bearing Attorney Docket No. **G0919.70030US07**, and entitled **BIOSYNTHESIS OF CANNABINOIDS AND CANNABINOID PRECURSORS**, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions and designs; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions and designs, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea; as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

Attorney Docket No. **G0919.70030US07**

5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Kim Cecelia Anderson

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

\_\_\_\_\_  
Date

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Signature

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Witness:

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Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Elena Brevnova

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

Date \_\_\_\_\_

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

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Inventor: Dylan Alexander Carlin  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210

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Citizenship:

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Witness:

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Name:

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Address:

Attorney Docket No. G0919.70030US07



Date \_\_\_\_\_

Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

Date \_\_\_\_\_

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Nicholas Flores

\_\_\_\_\_  
Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

\_\_\_\_\_  
Boston, Massachusetts 02210

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Citizenship:

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Witness:

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Name:

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Address:

Attorney Docket No. G0919.70030US07

5/28/21  
Date

KF  
Inventor: Katrina Forrest  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship:

Witness:  
5/28/21  
Date

Madison Miller  
Signature  
Name: Madison Miller  
4510 22<sup>nd</sup> Ave NE  
Address: 4510 22<sup>nd</sup> Ave NE  
Seattle, WA 98105

Witness:  
5/28/21  
Date

NF  
Signature  
Name: North Fodon  
Address: 9527 Interlake Ave N Apt. A308  
Seattle, WA 98103

Attorney Docket No. G0919,70030US07

Date \_\_\_\_\_

Inventor: Massimo Merighi  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:

Date \_\_\_\_\_

Signature \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Gabriel Rodriguez

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

\_\_\_\_\_  
Date

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Signature

Name: \_\_\_\_\_

Address: \_\_\_\_\_

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Witness:

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Signature

Name: \_\_\_\_\_

Address: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

Inventor: Emily E. Wrenbeck  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

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Witness:

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Date

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Attorney Docket No. G0919.70030US07

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2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
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Attorney Docket No. G0919.70030US07

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Attorney Docket No. G0919.70030US07



\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Kim Cecelia Anderson

\_\_\_\_\_  
Address: 27 Drydock Avenue

\_\_\_\_\_  
8th Floor

\_\_\_\_\_  
Boston, Massachusetts 02210

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Citizenship:

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Witness:

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Name:

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Attorney Docket No. G0919.70030US07

Date

Inventor: Elena Brevnova

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

Date

Signature

Name:

Address:

Witness:

Date

Signature

Name:

Address:

Attorney Docket No. G0919.70030US07

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Date

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Inventor: Dylan Alexander Carlin

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Signature

Name: .....

Address: .....

Witness:

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Date

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Signature

Name: .....

Address: .....

Attorney Docket No. G0919.70030US07

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Date

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Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Signature

Name: .....

Address: .....

Witness:

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Signature

Name: .....

Address: .....

Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

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Inventor: Nicholas Flores

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

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Date

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Inventor: Katrina Forrest

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Signature

Name: .....

Address: .....

Witness:

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Date

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Signature

Name: .....

Address: .....

Attorney Docket No. G0919.70030US07

08/16/2021  
Date

Massimo Merighi  
Inventor: Massimo Merighi  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:  
08/16/2021  
Date

Graciella Fucci  
Signature

Name: GRACIELLA FUCCI

Address: VIA G. VERDI, 8  
48018 CONDELICE ITALY

Witness:  
8/16/2021  
Date

Mika Nakafuji  
Signature

Name: Mika Nakafuji

Address: 17 Rue d'Inkermann  
59000 Lille France.

Attorney Docket No. G0919.70030US07

.....  
Date

Inventor: Gabriel Rodriguez

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Date

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Signature

Name: .....

Address: .....

Witness:

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Date

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Signature

Name: .....

Address: .....

Attorney Docket No. G0919.70030US07



\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Emily E. Wrenbeck

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: US

Witness:

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Date

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Signature

Name: \_\_\_\_\_

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Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

## ASSIGNMENT

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Attorney Docket No. **G0919.70030US07**

5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

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This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Kim Cecelia Anderson

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

\_\_\_\_\_  
Witness:

\_\_\_\_\_  
Date

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Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Elena Brevnova

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

Date \_\_\_\_\_

Signature \_\_\_\_\_

Name: \_\_\_\_\_

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Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Dylan Alexander Carlin \_\_\_\_\_

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness: \_\_\_\_\_

Date \_\_\_\_\_

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Name: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness: \_\_\_\_\_

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Attorney Docket No. G0919.70030US07

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Nicholas Flores

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness:

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Date

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Attorney Docket No. G0919.70030US07



\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Katrina Forrest

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: \_\_\_\_\_

Witness: \_\_\_\_\_

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Date

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Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Massimo Merighi

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: US

Witness:

Date \_\_\_\_\_

Signature \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Witness:

Date \_\_\_\_\_

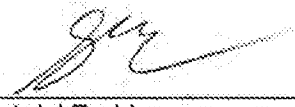
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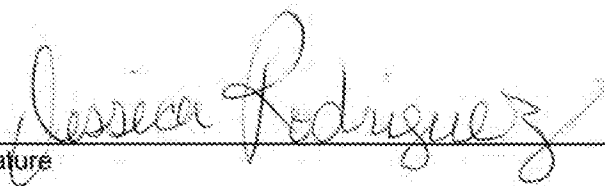
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Attorney Docket No. G0919.70030US07

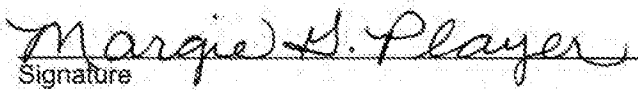
04-06-2021  
Date

  
Inventor: Gabriel Rodriguez  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship:

Witness:  
04/06/2021  
Date

  
Signature  
Name: Jessica Rodriguez  
Address: 454 Johnson Road  
Central, SC 29630

Witness:  
4/6/21  
Date

  
Signature  
Name: Margie G. Player  
Address: 453 Johnson Rd.  
Central, SC 29630

Attorney Docket No. G0919.70030US07

Date \_\_\_\_\_

Inventor: Emily E. Wrenbeck

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship: US

Witness:

Date \_\_\_\_\_

Signature \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
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Witness:

Date \_\_\_\_\_

Signature \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to **Ginkgo Bioworks, Inc.**, a US corporation having a place of business at **27 Drydock Avenue, 8th Floor, Boston, Massachusetts 02210**, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the patent application for United States Letters Patent filed in the United States Patent and Trademark Office on **October 23, 2020** under No. **17/078,872**, bearing Attorney Docket No. **G0919.70030US07**, and entitled **BIOSYNTHESIS OF CANNABINOIDS AND CANNABINOID PRECURSORS**, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions and designs; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions and designs, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea; as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

Attorney Docket No. **G0919.70030US07**

5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Kim Cecelia Anderson

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

Witness:

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Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Elena Brevnova

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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Attorney Docket No. **G0919.70030US07**



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Date

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Inventor: Dylan Alexander Carlin

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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Attorney Docket No. **G0919.70030US07**

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Inventor: Brian Carvalho

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

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Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Nicholas Flores

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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Attorney Docket No. **G0919.70030US07**

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Inventor: Katrina Forrest

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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Attorney Docket No. **G0919.70030US07**

\_\_\_\_\_  
Date

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Inventor: Massimo Merighi  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

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Attorney Docket No. **G0919.70030US07**

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Date

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Inventor: Gabriel Rodriguez

Address: 27 Drydock Avenue

8th Floor

Boston, Massachusetts 02210

Citizenship:

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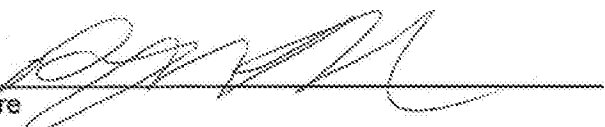
Attorney Docket No. **G0919.70030US07**

06/10/2021  
Date

  
Inventor: Emily E. Wrenbeck  
Address: 27 Drydock Avenue  
8th Floor  
Boston, Massachusetts 02210  
Citizenship: US

Witness:

06/10/2021  
Date

  
Signature

Name: Phillip Wrenbeck  
Address: 24 Fencroft Rd  
Milton, MA 02186

Witness:

\_\_\_\_\_  
Date

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Signature

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
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Attorney Docket No. G0919.70030US07