

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4865620

<b>SUBMISSION TYPE:</b>	RESUBMISSION
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>RESUBMIT DOCUMENT ID:</b>	504648917

**CONVEYING PARTY DATA**

Name	Execution Date
OPX BIOTECHNOLOGIES, INC.	08/03/2016

**RECEIVING PARTY DATA**

<b>Name:</b>	CARGILL, INCORPORATED
<b>Street Address:</b>	15407 MCGINTY ROAD WEST
<b>Internal Address:</b>	MAIL STOP 24
<b>City:</b>	WAYZATA
<b>State/Country:</b>	MINNESOTA
<b>Postal Code:</b>	55391

**PROPERTY NUMBERS Total: 1**

Property Type	Number
<b>Application Number:</b>	13498468

**CORRESPONDENCE DATA**

**Fax Number:** (952)742-6349

*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:** PATENT\_DOCKETING@CARGILL.COM

**Correspondent Name:** CHARLES P. WAKEFIELD

**Address Line 1:** 15407 MCGINTY ROAD WEST

**Address Line 2:** MAIL STOP 24

**Address Line 4:** WAYZATA, MINNESOTA 55391

<b>ATTORNEY DOCKET NUMBER:</b>	N00339-US-PCT
<b>NAME OF SUBMITTER:</b>	JANAN ABED
<b>SIGNATURE:</b>	/JANAN ABED/
<b>DATE SIGNED:</b>	03/14/2018

**Total Attachments: 7**

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### UPDATED PATENT ASSIGNMENT

A PATENT ASSIGNMENT was executed between Assignor and Assignee (as set forth below) on the Effective Date of 27 April 2015. This UPDATED PATENT ASSIGNMENT (the "Updated Assignment") is made as of 03 August 2016 (the "Updated Effective Date"), by and between Cargill, Incorporated, a Delaware corporation ("Assignee") with a principal place of business at 15407 McGinty Road West, Wayzata, Minnesota 55391, and OPX Biotechnologies, Inc., a Delaware corporation ("Assignor") with a principal place of business at PO Box 313, Frederick CO 80530.

The UPDATED PATENT ASSIGNMENT is being made to add OPX Biotechnologies, Inc.'s address as set forth above, and to further delineate additional divisional/continuation patent applications that inadvertently omitted from the list of Patent Rights in the original PATENT ASSIGNMENT and/or have been filed since the Effective Date. The UPDATED PATENT ASSIGNMENT is being executed to ease the registration/recording of the listed patent assets in countries of interest. None of the Assignor's nor Assignee's rights and/or obligations are changed by this UPDATED PATENT ASSIGNMENT.

Assignor and Assignee are parties to that certain Asset Purchase Agreement, dated as of 27 April 2015 (the "APA"), pursuant to which Assignor has agreed to contribute and Assignee has agreed to receive the Patent Rights (as defined below);

Assignor own the entire right, title, and interest in, to, and under the Sole Patents (as defined below); and

Assignor owns right, title, and interest in, to, and under the Joint Patents (as defined below) with a third party; and

Assignee, at its request and direction, wishes to acquire and Assignor wishes to assign all of Assignor's right, title, and interest in and to the Sole Patents and the Joint Patents.

For good and valuable consideration (including the premises and covenants set forth in the APA), the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Schedules 1 and 2 list certain United States and foreign patents and patent applications. As used herein, "Joint Patents" are those patents and patent applications listing an owner in the "Owner" column of Schedule 1 other than only Assignor, and those patents identified in Schedule 2 with an asterisk indicating that they're co-owned with a third party. As used herein, "Sole Patents" are all other patents and patent applications in Schedules 1 and 2.
2. Assignor hereby assigns to Assignee all of Assignor's right, title, and interest in and the Sole Patents and the Joint Patents, along with any foreign counterparts or equivalents thereto, existing now or in the future, that claim priority to such Sole Patents and Joint Patents, including but not limited to patents of utility, improvement, or addition, utility model and appearance and industrial design patents and inventors certificates, as well as divisionals, reissues, continuations

(in whole or in part), renewals and extensions of any of the foregoing, and any patents that may issue from any of the foregoing (collectively, the "Patent Rights").

3. Assignor authorizes and requests the United States Commissioner of Patents and Trademarks and any other similar government authority to record Assignee as owner of the Patent Rights and issue any and all patents issued thereon to Assignee, as assignee of the entire right, title, and interest in, to, and under the same, for the sole use and enjoyment of Assignee and its successors, assigns, or other legal representatives.

4. This Assignment may be executed in one or more counterparts, each of which shall be deemed to be an original, and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be duly executed as of the date first above written.

OPX BIOTECHNOLOGIES, INC.

By: [Signature] CEO

Date: 8/16/18

Name: Conrad Shillingburg

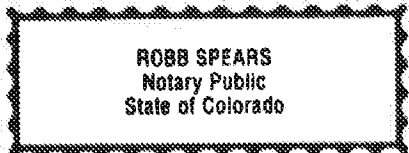
Title: CFO

State of Colorado  
County of Adams

On this 10th day of August 2018, before me, a notary public in and for said county, appeared Conrad Shillingburg, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he/she acknowledged that he/she signed, sealed, and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

[Signature]  
Notary Public

My Commission Expires: 9/13/18



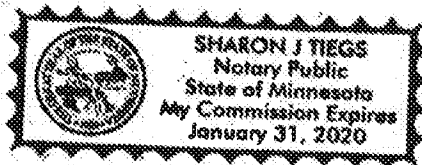
CARGILL INCORPORATED  
By: *Manoj Sahoo*  
Date: SEP-22-2016  
Name: MANOJ SAHOO  
Title: ASSISTANT VICE PRESIDENT

State of MN  
County of Hennepin<sup>ss.</sup>

On this 22 day of September, 2015, before me, a notary public in and for said county, appeared Manoj Sahoo, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he/she acknowledged that he/she signed, sealed, and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

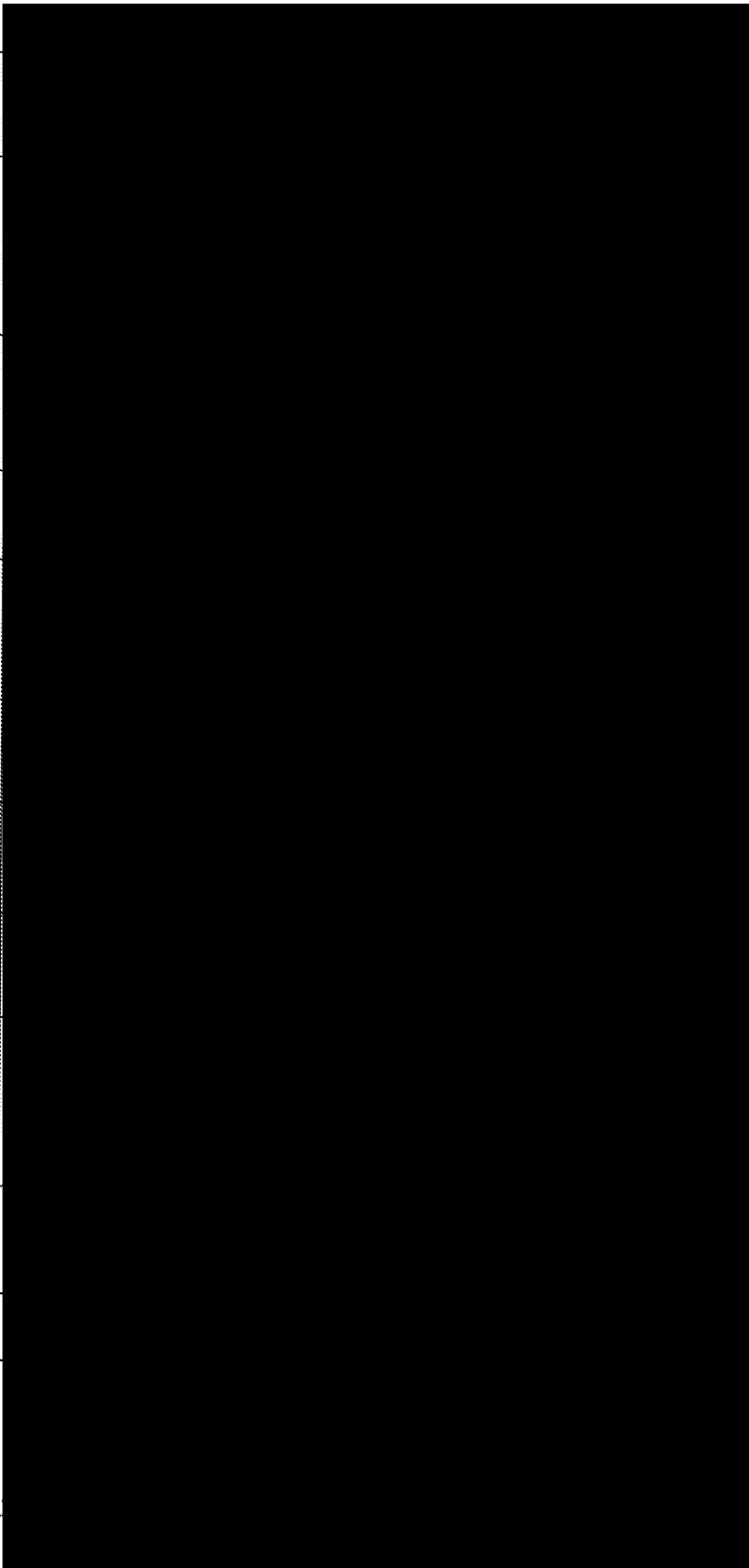
*Sharon J. Tieg*  
Notary Public

My Commission Expires: January 31, 2020



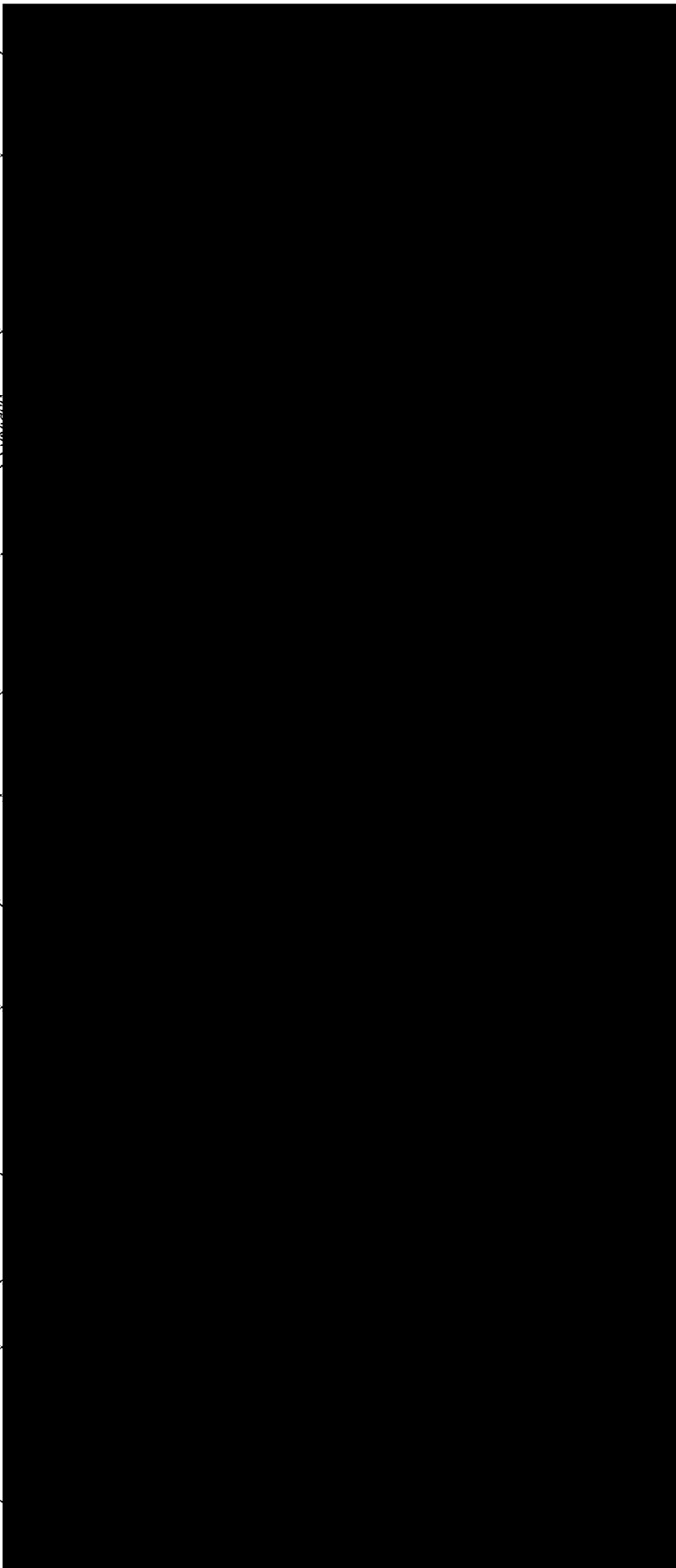
WSGR Ref. No.	Case Type	Country	Application Number	Filing Date	Pub. Number	Pub. Date	Patent Number	Issue Date	Owner	Title	Status
34246-744.101	PRO	United States of America	61/246,141	09/27/09					OPX Biotechnologies, Inc. / The Regents of the University of Colorado	FEEDSTOCKS METHODS, SYSTEMS AND COMPOSITIONS FOR INCREASED MICROBIAL PRODUCTION OF 3-HYDROXYPROPIONIC ACID INVOLVING MALONYL-COA-REDUCTASES AND THEIR FUNCTIONAL VARIANTS	Expired
34246-744.102	PRO	United States of America	61/321,480	04/06/10					OPX Biotechnologies, Inc. / The Regents of the University of Colorado	METHODS, SYSTEMS AND COMPOSITIONS FOR INCREASED MICROBIAL PRODUCTION OF 3-HYDROXYPROPIONIC ACID INVOLVING MALONYL-COA-REDUCTASES AND THEIR FUNCTIONAL VARIANTS	Expired
34246-744.301	CON	United States of America	13/916,534	06/12/13	2014-0045231	02/13/14			OPX Biotechnologies, Inc. / The Regents of the University of Colorado	{PCT-PPH} - METHODS FOR PRODUCING 3-HYDROXYPROPIONIC ACID AND OTHER PRODUCTS	Allowed
34246-744.302	CON	United States of America	14/575,927	12/18/14					OPX Biotechnologies, Inc. / The Regents of the University of Colorado	METHODS FOR PRODUCING 3-HYDROXYPROPIONIC ACID AND OTHER PRODUCTS	Pending

WSGR Ref. No.	Case Type	Country	Application Number	Filing Date	Pub. Number	Pub. Date	Patent Number	Issue Date	Owner	Title	Status
34246-744.601	ORD	Patent Cooperation Treaty	US2010/50436	09/27/10	11/038364	03/31/11			OPX Biotechnologies, Inc. / The Regents of the University of Colorado	METHODS FOR PRODUCING 3-HYDROXYPROPIONIC ACID AND OTHER PRODUCTS	30 MO DONE



[66]

WSSR Ref. No.	Case Type	Country	Application Number	Filing Date	Pub. Number	Pub. Date	Patent Number	Issue Date	Owner	Title	Status
34246-744.831	PCT	United States of America	13/498,468	02/12/13	2013-0071893	03/21/13	8,883,464	11/11/14	OPX Biotechnologies, Inc. / The Regents of the University of Colorado	(PCT-PPH) - METHODS FOR PRODUCING 3-HYDROXYPROPIONIC ACID AND OTHER PRODUCTS	ISSUED





**Issued Patents**

Country	Title	Patent No
US	Compositions and Methods for 3-Hydroxypropionate Bio-Production from Biomass	8,652,816
US	Methods for Producing 3-Hydroxypropionic Acid and Other Products	8,883,464*
US	Genetically Modified Organisms for Increased Microbial Production of 3-Hydroxypropionic Acid Involving an Oxaloacetate alpha-decarboxylase	8,809,027
US	Methods for Producing 3-Hydroxypropionic Acid and Other Products	Serial Number 13/916,534 - Allowed Pending Issuance
GB	Methods for Producing 3-Hydroxypropionic Acid and Other Products	GB2473755
CN	Methods and Compositions for Increased Tolerance to and Biological Production of 3-Hydroxypropionic Acid (3-HP)	ZL200980137400.4*
AU	Methods, Systems And Compositions for Increased Microorganism Tolerance to and Production of 3-Hydroxypropionic Acid (3-HP)	2009273953*
US	Broad Host Range Vectors for Shotgun and Expression Library Cloning In Gram Negative Bacteria	7,846,688*
US	Compositions and Methods for 3-Hydroxypropionate Production from Biomass	8,048,624

\*Co-Owned with a 3<sup>rd</sup> Party