PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SIDDHARTH PATEL	10/22/2019
EMILY ROBINSON	10/04/2019
ANNA BROWN	10/24/2019
GAURAV SAHAY	10/22/2019
ASHWANI KUMAR NARAYANA	10/01/2019

RECEIVING PARTY DATA

Name:	OREGON STATE UNIVERSITY
Street Address:	A312 KERR ADMINISTRATION BUILDING
City:	CORVALLIS
State/Country:	OREGON
Postal Code:	97331

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16493814

CORRESPONDENCE DATA

Fax Number: (617)937-2400

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.

Phone: (617) 937-2458

Email: fvandermaelen@cooley.com

Correspondent Name: COOLEY LLP, ATTN: PATENT GROUP
Address Line 1: 1299 PENNSYLVANIA AVENUE, NW

Address Line 2: SUITE 700

Address Line 4: WASHINGTON, D.C. 20004

ATTORNEY DOCKET NUMBER:	MRNA-036N01US 324673-2318
NAME OF SUBMITTER:	XIXI SUN
SIGNATURE:	/Xixi Sun/
DATE SIGNED:	07/23/2020

Total Attachments: 9

PATENT REEL: 053288 FRAME: 0479

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ASSIGNMENT

Siddharth PATEL, Emily ROBINSON, Anna BROWN, Gaurav SAHAY; and Ashwani Kumar NARAYANA (each referred to as "Assignor") have made an invention(s) (the "Invention(s)") set forth in an application for patent entitled LIPID NANOPARTICLE FORMULATION, and which is a:

(1)	provisional application
	(a) to be filed herewith; or
	(b) bearing Application No., and filed on:
(2)	x non-provisional application
	(a)to be filed herewith; or
	(b) x bearing Application No. 16/493,814, and filed on September 13, 2019 and/or
(3)	PCT application
\ - <i>γ</i>	(a) bearing Application No., and filed on.
	and/or
(4)	attached hereto.

WHEREAS, Oregon State University, having its principal place of business at A312 Kerr Administration Building, Corvallis, OR 97331, its successors, legal representatives and assigns, (the "Assignee"), is desirous of acquiring the entire right, title, and interest in: the Invention(s); the application(s) for patent identified above; the right to file applications for patent of the United States or other countries on the Invention(s); any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, these applications; any provisional or other right to recover any and all past, present, and future infringements of these application(s); and any and all patent(s) of the United States or other countries that may be granted therefor or thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, and to the extent that the Assignor has not done so already via a prior agreement with the Assignee or a predecessor in interest of the Assignee, or if the Assignor has already done so via a prior agreement with the Assignee or a predecessor in interest of the Assignee then in confirmation of said prior agreement, the Assignor has sold, assigned, transferred, and set over, and by these presents does sell, assign, transfer, and set



over, unto the Assignee, its successors, legal representatives, and assigns, the Assignor's entire right, title, and interest in:

- (a) the Invention(s):
- (b) the application(s) for patent identified above;
- (c) the right to file applications for patent of the United States or other countries on the Invention(s), including all rights under the Hague Convention, the Paris Convention for the Protection of Industrial Property, and under the Patent Cooperation Treaty, and all rights of claiming priority in any country of the world;
- (d) any application(s) for patent of the United States or other countries claiming the Invention(s);
- (c) any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, at least one of the application(s) for patent identified above or any application(s) for patent claiming the Invention(s), including any priority application(s), substitute application(s), division(s), continuation(s), and continuation(s)-in-part;
- (f) any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of any application for patent identified in the preceding paragraphs (b)-(e) and of any and all patent(s) granted based thereon in the United States and in all other countries; and
- (g) any patent(s) of the United States or other countries that may be granted for or on any application for patent identified in the preceding paragraphs (b)-(e), including any reissue(s), reexamination(s), revival(s), renewal(s) and extension(s) of said patent(s).

The above-granted rights, titles, and interests are to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal tepresentatives, and assigns, as fully and entirely as the same would have been held and enjoyed by the Assignor had this sale and assignment not been made.

The Assignor hereby represents to the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, or if applicable, at such time said prior agreement was executed, the Assignor is a lawful owner of an undivided interest in the entire right, title, and interest in and to the Invention(s), that the Invention(s) are unencumbered, except, if applicable, by obligation to assign in accordance with said prior agreement, and that the Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth herein, and that Assignor will not make or enter into any assignment, sale, agreement or encumbrance which would conflict with these presents.

The Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns, that the Assignor will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done in connection with any and all proceedings for the procurement, maintenance, enforcement and defense of the Invention(s), said application(s), and said patent(s), including interference and derivation proceedings, and any post-grant proceedings (e.g., opposition proceedings, post-grant reviews, *Inter partes* reviews, supplemental examinations, etc.) without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns.

The Assignor hereby authorizes and requests the attorneys of COOLEY LLP to insert in the spaces provided above the filing date, the application number, and the attorney docket number of the application(s) identified above when known.

The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

SA AR MIN

Page 4 of 9 Attorney Docket No. MRNA-036/N01US 324673-2318

Date:	0Hobex 22,2019	By:	Siddharth Patel	·
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My Commission Expires: Exhac 1, 7674

Date:	Oct 24 2019	By:		Anna B	rown
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State Coun	of <u>OREGON</u> ty of <u>MULTNOMAH</u>)) :	SS.		
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Charge and	NESS my hand and official seal.			MY COMM	OFFICIAL STAMP ANGELA MARIE METTIE NOTARY PUBLIC - OREGON COMMISSION NO. 962998 ISSION EXPIRES MAY 29, 2021
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My Commission Expires: May 29, 2021

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A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document. State of (YCADY) On 10 22 2019, before me, Avycta Mave Mettle, Notary Public, personally appeared Gaurav Sahay, who proved to me on the basis of satisfactory evidence, to be the person(x) whose name(x) is/are subscribed to the within instrument and acknowledged to me that he shorthey executed the same in his/acritheir authorized capacitytics), and that by his/her/their signature(x) on the instrument the person(x), or the entity upon behalf of which the person(x) acted, executed the instrument REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official scal. OFFICIAL STAMP ANGELA MARIE METTIE NOTARY PUBLIC - OREGON COMMISSION RO. 962998 MY COMMISSION EXPIRES MAY 29, 2021 MY COMMISSION EXPIRES MAY 29, 2021 My Commission Expires: MAW A 2021	Date:	October	22,2019	Ву:	Charles of the	
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On 10 22 2019, before me. Avyela Mave Nettre, Notary Public, personally appeared Gaurav Sahay, who proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/ber/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. OFFICIAL STAMP ANGELA MARIE METTIE NOTARY PUBLIC - OREGON COMMISSION EXPIRES MAY 29, 2021 WY COMMISSION EXPIRES MAY 29, 2021 Place Notary Seal Above	1 mary	tabai who signed	I the document to	which this cert	cate verifies only the ic ificate is attached, and	lentity of the not the
proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/ker/their authorized capacity(ies), and that by his/ker/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. WITNESS my hand and official seal. OFFICIAL STAMP ANGELA MARIE METTIE NOTARY PUBLIC - OREGON COMMISSION EXPIRES MAY 29, 2021 Place Notary Public Place Notary Seal Above	State Coun	of <u>OVEGO</u>	n Iowah)) ss.)		
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Date: OGTOBER 1 2019 By:	1216_
	Ashwani Kumar Narayana
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Public, personally appeared Ash	wani Kumar Narayana , who
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Signature of Notary Public	Place Notary Seal Above
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For and on behalf of ASSIGNEE:	
Date: /0/25/19 By:	Dung treat
	Name: BERRY TREAT
	Title: DIRECTOR, OCCO
	Company: Oregon State University
A notary public or other officer completing this certificate verifies only the identity of the	
individual who signed the document to which this certificate is attached, and not the	
truthfulness, accuracy, or validity of that document.	
State of Ovegon	
) (SS.
State of Oregon) County of Bwon)	
On Oct. 25, 2019, before me, 500	San Ailitit, Notary
On Oct. 25, 2019, before me, Susan Altillity, Notary Public, personally appeared RENRY TRENT, who proved to me on the basis of satisfactory evidence, to be the person(*) whose name(*) is/are-	
subscribed to the within instrument and acknowledged to me that he/she/they executed the same	
in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument	
the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.	
REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF	
PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.	
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WITNESS my hand and official seal.	
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-	OFFICIAL STAMP SUSAN ANDREA TILLITY
	NOTARY PUBLIC - OREGON COMMISSION NO. 973002
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RECORDED: 07/23/2020