

ASSIGNMENT

WHEREAS, We, Sontheimer, Erik J., Ibraheim, Raed, Xue, Wen, Mir, Aamir, Edraki, Alireza and Gainetdinov, Ildar hereinafter referred to as "ASSIGNOR", have invented certain new and useful improvements as described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: **Targeted CRISPR Delivery Platforms**

Filing Date: 11/09/2018

Serial No.: 16/186,352

WHEREAS, University of Massachusetts, One Beacon Street, 31st Floor, Boston, Massachusetts 02108, herein after referred to as "ASSIGNEE", is desirous of acquiring the entire right, title and interest in said invention and application and in any Letters Patent which may be granted on the same;

NOW THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for and in consideration of the sum of One Dollar (\$1.00) lawful money paid to ASSIGNOR by ASSIGNEE and other good and valuable consideration, receipt of which is hereby acknowledged, ASSIGNOR has sold, assigned and transferred, and by these presents does sell, assign and transfer unto said ASSIGNEE, and ASSIGNEE's successors and assigns, all right, title and interest in and to said invention, said application for United States Letters Patent, and any Letters Patent which may hereafter be granted on the same in the United States and all countries throughout the world including any divisions, renewals, continuations in whole or in part, substitutions, conversions, reissues, prolongations or extensions thereof, said interest to be held and enjoyed by said ASSIGNEE as fully and exclusively as it would have been held and enjoyed by said ASSIGNOR had this assignment and transfer not been made, to the full end and term of any Letters Patent.

ASSIGNOR further agrees that ASSIGNOR will, without charge to said ASSIGNEE, but at ASSIGNEE's expense, cooperate with ASSIGNEE in the prosecution of said application and/or applications; execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof; and will perform such other acts as ASSIGNEE lawfully may request, to obtain or maintain Letters Patent for said invention and improvement in any and all countries, and to vest title thereto in said ASSIGNEE, or ASSIGNEE's successors and assigns.

IN TESTIMONY WHEREOF, ASSIGNOR has hereunto signed ASSIGNOR's names to this assignment on the date indicated below.

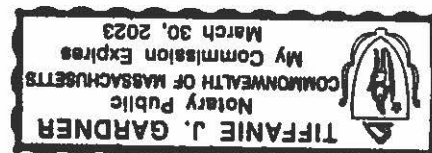
<u>Erik J. Sontheimer</u>	<u>1/9/2019</u>	<u>Raed Ibraheim</u>	<u>1/9/2019</u>
Erik J. Sontheimer	Date	Raed Ibraheim	Date
<u>Wen Xue</u>	<u>1/9/2019</u>	<u>Aamir Mir</u>	<u> </u>
Wen Xue	Date	Aamir Mir	Date
<u>Alireza Edraki</u>	<u> </u>	<u>Ildar Gainetdinov</u>	<u> </u>
Alireza Edraki	Date	Ildar Gainetdinov	Date

STATE OF Massachusetts)
COUNTY OF Worcester) ss.

On this 9th day of January, in the year of 2019, before me, the undersigned notary public, personally appeared the above-named ASSIGNOR, known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same.

Tiffany J. Gardner
NOTARY PUBLIC

SEAL



ASSIGNMENT

WHEREAS, We, **Sontheimer, Erik J., Ibraheim, Raed, Xue, Wen, Mir, Aamir, Edraki, Alireza and Gainetdinov, Ildar** hereinafter referred to as "ASSIGNOR", have invented certain new and useful improvements as described and set forth in the below-identified application for United States Letters Patent:

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Raed Ibraheim Date

Wen Xue Date

Aamir Mir Date

Alireza Edraki Date

Ildar Gainetdinov Date

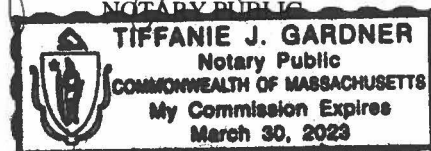
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<u>Wen Xue</u>	<u>11/9/2019</u>
<u>Wen Xue</u>	<u>Date</u>

<u>Raed Ibraheim</u>	<u>Date</u>
<u>Aamir Mir</u>	<u>Date</u>

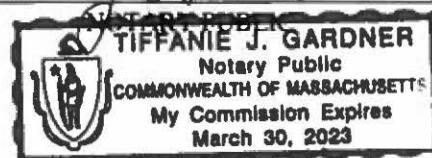
<u>Alireza Edraki</u>	<u>Date</u>
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<u>Ildar Gainetdinov</u>	<u>Date</u>
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)
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Wen Xue Date

Aamir Mir Date

Alireza Edraki Date

Ildar Gainetdinov Date

STATE OF)
)
COUNTY OF) ss.

On this _____ day of _____, in the year of _____, before me, the undersigned notary public, personally appeared the above-named ASSIGNOR, known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same.

NOTARY PUBLIC

SEAL

SEE ATTACHED

California All-Purpose Certificate of Acknowledgment

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 California

County of Alameda

} s.s.

On 01/10/2019 before me, Jagdeep Singh (Notary Public)

Name of Notary Public, Title

personally appeared Aamir Mior

Name of Signer (1)

-----N/A-----

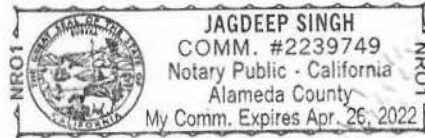
Name of Signer (2)

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/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.

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.

Jagdeep Singh
Signature of Notary Public



Seal

OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of _____

containing _____ pages, and dated _____.

The signer(s) capacity or authority is/are as:

- ☐ Individual(s)
☐ Attorney-in-fact
☐ Corporate Officer(s) _____
 Title(s) _____

- ☐ Guardian/Conservator
☐ Partner - Limited/General
☐ Trustee(s)
☐ Other: _____

representing: _____
 Name(s) of Person(s) Entity(ies) Signer is Representing

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:

- ☐ form(s) of identification ☐ credible witness(es)

Notarial event is detailed in notary journal on:

Page # _____ Entry # _____

Notary contact: _____

Other

- ☐ Additional Signer ☐ Signer(s) Thumbprints(s)

☐ _____