505371215 03/12/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT	
CONVEYING PARTY	DATA			
		Name	Execution Date	
EKATERINA SEMENC	AVC		02/05/2019	
KONSTANTIN SEVER	RINOV		02/13/2019	
LEONID MINAKHIN			02/05/2019	
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Postal Code:	08901	08901		
Property TypeApplication Number:15		Number 5844530		
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NAME OF SUBMITTER:		SUSAN FRATTURA	SUSAN FRATTURA	
SIGNATURE:		/Susan Frattura/	/Susan Frattura/	
DATE SIGNED:		03/12/2019	03/12/2019	
Total Attachments: 3				
	• –	akhin_Semenova_Severinov_Assign		
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PATENT REEL: 048578 FRAME: 0224

WHEREAS, we, **EKATERINA SEMENOVA**, having a correspondence address of c/o Old Queen's Somerset Street, New Brunswick, New Jersey 08901, **KONSTANTIN SEVERINOV**, having a correspondence address of c/o Old Queen's Somerset Street, New Brunswick, New Jersey 08901, and **LEONID MINAKHIN**, having a correspondence address of c/o Old Queen's Somerset Street, New Brunswick, New Jersey 08901, have invented with others certain inventions and improvements disclosed in a patent application entitled "**NOVEL CRISPR ENZYMES AND SYSTEMS**," filed with the United States Patent and Trademark Office on December 16, 2017 and assigned U.S. Patent Application No. 15/844,530; and

WHEREAS, **RUTGERS**, **THE STATE UNIVERSITY OF NEW JERSEY**, having a principal place of business at Old Queen's Somerset Street, New Brunswick, New Jersey 08901, is desirous of acquiring an interest in the same; and

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which we hereby acknowledge, we, **EKATERINA SEMENOVA**, **KONSTANTIN SEVERINOV**, and **LEONID MINAKHIN**, by these presents, do sell, assign, and transfer unto said Assignee, **RUTGERS**, **THE STATE UNIVERSITY OF NEW JERSEY**, our full, exclusive, and entire right, title, and interest in and to said application, in and to any divisions, continuations, reexaminations, and reissues thereof, and in and to all inventions and improvements disclosed and described in said applications, preparatory to obtaining Letters Patent of the United States therefor; and we hereby request the Director of the U.S. Patent and Trademark Office to issue any and all Letters Patent of the United States resulting from said applications, or from a division, continuation, reexamination, or reissue thereof, to **RUTGERS**, **THE STATE UNIVERSITY OF NEW JERSEY**, for its interest and for the use and benefit of **RUTGERS**, **THE STATE UNIVERSITY OF NEW JERSEY**, as assignee, and its assigns and legal representatives;

For the same consideration, we, by these presents, do sell, assign, and transfer to **RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY,** our full, exclusive, and entire right, title, and interest in and to any foreign application or applications corresponding to said application, in whole or in part, in countries other than the United States, in and to any Letters Patent and similar protective rights granted on said foreign applications, and in and to the right to claim any applicable priority rights arising from or required for said foreign applications under the terms of any applicable conventions, treaties, statutes, or regulations; said foreign applications to be filed and issued in the name of **RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY**, or its designees insofar as permitted by applicable law;

AND, for the same consideration, we agree to sign all lawful papers, execute all division, continuing, reexamination, reissue, and other applications, make all assignments and rightful oaths, and generally do everything possible to aid **RUTGERS**, **THE STATE UNIVERSITY OF NEW JERSEY**, its successors, assigns, and nominees to obtain and enforce proper protection for all said inventions and improvements in all countries throughout the world.

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PATENT REEL: 048578 FRAME: 0225 Assignment U.S. Non-Provisional Application No. 15/844,530 Semenova, Severinov, and Minakhin

In testimony whereof, we hereunto set our hands and seals on the dates indicated below.

02/05/2019

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF MIDDLESEX

Before me, a Notary Public in and for the aforementioned state, on this 5^{th} day of $\underline{\nabla} c b \nabla \alpha r \mu$, $20 \underline{0}^{\text{th}}$, personally appeared **EKATERINA SEMENOVA**, who, being duly sworn, signed and acknowledged the foregoing Assignment.

MARYANN BYTHELL NOTARY PUBLIC OF NEW JERSEY Comm. # 50056854 My Commission Expires 3/28/2022

My Commission Expires:

02/13/2019 KONSTANTIN SEVERINOV

Date

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF MIDDLESEX

Before me, a Notary Public in and for the aforementioned state, on this 13^{4} day of <u>February</u>, 20<u>19</u>, personally appeared **KONSTANTIN SEVERINOV**, who, being duly sworn, signed and acknowledged the foregoing Assignment.

MILLIA NOTARY PUBLIC

My Commission Expires:

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MARYANN BYTHELL NOTARY PUBLIC OF NEW JERSEY Comm. # 50056854 My Commission Expires 3/28/2022

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PATENT REEL: 048578 FRAME: 0226 Assignment U.S. Non-Provisional Application No. 15/844,530 Semenova, Severinov, and Minakhin

02(05/2019 Date **LEONID MINAKHIN**

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF MIDDLESEX

Before me, a Notary Public in and for the aforementioned state, on this 5^{th} day of $\underline{\text{February}}$, 2019, personally appeared LEONID MINAKHIN, who, being duly sworn, signed and acknowledged the foregoing Assignment.

NOTARY PUBLAC 2022 My Commission Expires:

MARYANN BYTHELL NOTARY PUBLIC OF NEW JERSEY Comm. # 50056854 My Commission Expires 3/28/2022

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