505182666 11/08/2018 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5229435

SUBMISSION TYPE:		NEW ASSIGNMENT			
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT		
CONVEYING PARTY	DATA				
		Name	Name		
SILVANA KONERMA	NN			11/05/2018	
RECEIVING PARTY	DATA				
Name:	MASSA	CHUSETTS INSTITUTE OF TEC	SETTS INSTITUTE OF TECHNOLOGY		
Street Address:	77 MAS	77 MASSACHUSETTS AVENUE			
City:	CAMBF	CAMBRIDGE			
State/Country:	MASSA	MASSACHUSETTS			
Postal Code:	02139	02139			
Property Type		Number			
Application Number:		15844530			
CORRESPONDENCE	Ε DATA				
		(240)359-4879			
		the e-mail address first; if that ; if that is unsuccessful, it will b			
· · · ·		9122574864			
Email: BRO		BROD.Assignments@jmi-iplaw.co			
•		F. BRENT NIX, ESQ.			
		JOHNSON, MARCOU & ISAACS,			
		P.O. BOX 691			
Address Line 4:		HOSCHTON, GEORGIA 30548			
ATTORNEY DOCKET NUMBER:		BROD-3480US2	BROD-3480US2		
NAME OF SUBMITTER:		SUSAN FRATTURA	SUSAN FRATTURA		
SIGNATURE:		/Susan Frattura/	/Susan Frattura/		
DATE SIGNED:		11/08/2018	11/08/2018		
Total Attachments: 2		; ·			
	• •	ermann_Assignment_BROD_348	•	•	
source=BI_2015_092_:	signed_Kon	ermann_Assignment_BROD_348	0US2#p	age2.tif	

ASSIGNMENT

WHEREAS, I, SILVANA KONERMANN, having a correspondence address of c/o 77 Massachusetts Avenue, Cambridge, Massachusetts 02139, have invented with others certain inventions and improvements disclosed in patent applications entitled "NOVEL CRISPR ENZYMES AND SYSTEMS," filed with the United States Patent and Trademark Office as follows:

Application No.	Filing Date December 16, 2017 June 17, 2016 April 8, 2016		
15/844,530			
PCT/US2016/038258			
62/320,231			
62/296,522	February 17, 2016		
62/285,349	October 22, 2015		
62/181,675	June 18, 2015		

and

WHEREAS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, having a principal place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139, is desirous of acquiring an interest in the same; and

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which I hereby acknowledge, I, SILVANA KONERMANN, by these presents, do sell, assign, and transfer unto said Assignee, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, 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 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, for its interest and for the use and benefit of MASSACHUSETTS INSTITUTE OF TECHNOLOGY, as assignee, and its assigns and legal representatives;

For the same consideration, I, by these presents, do sell, assign, and transfer to **MASSACHUSETTS INSTITUTE OF TECHNOLOGY**, my 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

Page 1 of 2

PATENT REEL: 047457 FRAME: 0332 Assignment U.S. Non-Provisional Application No. 15/844,530 PCT Application No. PCT/US2016/038258 U.S. Provisional Application No. 62/320,231 U.S. Provisional Application No. 62/296,522 U.S. Provisional Application No. 62/285,349 U.S. Provisional Application No. 62/181,675 Konennann

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 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, or their designees insofar as permitted by applicable law;

AND, for the same consideration, I 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 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, its successors, assigns, and nominees to obtain and enforce proper protection for all said inventions and improvements in all countries throughout the world.

In testimony whereof, I hereunto set my hand and seal on the date indicated below.

SILVANA KONERMANN Date

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF MIDDLESEX

Before me, a Notary Public in and for the aforementioned state, on this <u>57H</u> day of <u>NOVEMBER</u>, 20 <u>18</u>, personally appeared SILVANA KONERMANN, who, being duly sworn, signed and acknowledged the program (Assignment.)

NOTARY PUBLIC My Commission Expires:

ERIN 8. BLACKWEL Notary Public COMMONWEALTH OF VASSACHUSETTS My Commission Explices June 22, 2023

BROD-3480US1, WP, Provs 1-4 BI-2015/092

Page 2 of 2

PATENT REEL: 047457 FRAME: 0333

RECORDED: 11/08/2018