PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ANASTASIA KHVOROVA	07/02/2021
LOÏC MAURICE RENÉ JEAN ROUX	08/28/2023
KEN YAMADA	03/31/2020

RECEIVING PARTY DATA

Name:	UNIVERSITY OF MASSACHUSETTS	
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Internal Address:	31ST FLOOR	
City:	BOSTON	
State/Country:	e/Country: MASSACHUSETTS	
Postal Code:	02108	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16831470

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	702010: UM9-228	
NAME OF SUBMITTER:	JAMES H. VELEMA, ESQ.	
SIGNATURE:	/James H. Velema/	
DATE SIGNED:	08/31/2023	

Total Attachments: 7

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ASSIGNMENT

WHEREAS, we, Anastasia Khvorova of Westborough, MA, Loïc Maurice René Jean Roux of Worcester, MA, and Ken Yamada of Boston, MA, have invented a certain new and useful invention entitled:

MODIFIED OLIGONUCLEOTIDES WITH INCREASED STABILITY

U.S. Patent Application Serial No. 16/831,470, filed March 26, 2020, which claims priority to U.S. Provisional Patent Application Serial Nos. 62/864,792, filed June 21, 2019; 62/826,454, filed March 29, 2019; and 62/824,13, filed March 26, 2019

and for which we are about to make or have made application for Letters Patent of the United States; and

WHEREAS, UNIVERSITY OF MASSACHUSETTS, a corporation having its principal place of business at One Beacon Street, 31st Floor, Boston, Massachusetts, 02108, United States, is desirous of acquiring all rights, title and interest in and to said inventions, said applications, and in and to any and all Letters Patents which may be granted for or upon said invention and applications in the United States of America and anywhere in the world.

NOW THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we, Anastasia Khvorova, Loïc Maurice René Jean Roux, and Ken Yamada, have sold, assigned and transferred, and by these presents to sell, assign and transfer unto the said UNIVERSITY OF MASSACHUSETTS, the full and exclusive right, title and interest, throughout the world, in, to and under the following:

- (a) the inventions as set forth and described, for example, in the patent application specifications identified above;
- (b) all patent applications identified above;
- (c) any and all patent applications, including Patent Cooperation Treaty (PCT) applications, directed to the inventions as set forth and described, for example, in the patent application specifications identified above;

- (d) any and all refilings, divisions, continuations, and continuations-inpart of those patent applications;
- (e) any and all patents of the United States of America which may issue from any of the above items;
- (f) any and all reissue and reexamination certificates of those patents;
- (g) any and all applications for the inventions filed in any and all countries foreign to the United States of America;
- (h) any and all refilings, divisions, and continuations of those foreign-filed applications;
- (i) any and all patents, certificates, and registrations of countries foreign to the United States of America which may issue from those foreign-filed applications, refilings, divisions, and continuations;
- (j) any and all extensions of, and additions to, the foreign-filed applications and patents, certificates, and registrations related thereto;
- (k) the right to claim priority to any of the foregoing; and
- (l) any and all claims, causes of action, and damages for past, present, and future infringement or other unauthorized use of the above items, along with the right to sue and to collect damages and other relief from any and all parties.

We, Anastasia Khvorova, Loïc Maurice René Jean Roux, and Ken Yamada, further agree that we will promptly execute and deliver to UNIVERSITY OF MASSACHUSETTS or its legal representatives any and all papers, instruments, and affidavits required to apply for, obtain, maintain, issue, and enforce all of the items listed above.

All of the above shall be held and enjoyed by UNIVERSITY OF MASSACHUSETTS, and its successors, legal representatives, and assigns for their own use and benefit, for the full term for which the protections listed above may be granted, and we, Anastasia Khvorova, Loïc Maurice René Jean Roux, and Ken Yamada, authorize and request the Commissioner of Patents and Trademarks of the United States

and of all foreign countries to issue any Patents granted for said inventions, whether on an application for said invention set forth above, or on any subsequently filed provisional, non-provisional, divisional, continuation, continuation-in-part, reissue, or other related application, to **UNIVERSITY OF MASSACHUSETTS**, its successors and assigns, as the assignee of their entire interest in said inventions and applications.

Assignor:	
Anastasia Khvorova	
Rem	7. 2. 21
Signature /	Date:
Signed in my presence and acknowledged to be above referred to:	an assignment of the application herein
WITNESS	
Worester, M4	
Signed At (City/State)	
Many Elizabeth Driewickin	
Name	
Signature / / /2021	

Date

Assignor:	
Loïc Maurice René Jean Roux	
Signature	Date: 08/28/2023
Signed in my presence and acknowledged to be above referred to:	e an assignment of the application herein
WITNESS	
Bradley Davidson	
Signed At (City/State)	
Oxford	
Name	
Bradley Davidson	
Signature	

29/08/23

Assignor:	
Ken Yamada	Mar. 31.2020
Signature	Date:
Signed in my presence and acknowledged to above referred to:	be an assignment of the application herein
WITNESS	
Signed At (City/State)	
Name	
Signature	
Date	

Assignee:

UNIVERSITY OF MASSACHUSETTS

Signature James P. McNamara, Ph.D. Executive Director, Office of Technology M	April 21, 2021 Date: anagement
Name and Title:	

Signed in my presence and acknowledged to be an assignment of the application herein above referred to:

WITNESS

Fitchburg, MA Signed At (City	
E. Peter McNai	*
Name	
E. Peter	MeNamaia
Signature	***************************************
April 21, 2021	
Date	

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