503523330 10/14/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3569956

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PATRICK HSU	05/29/2014

RECEIVING PARTY DATA

Name:	PRESIDENT AND FELLOWS OF HARVARD COLLEGE		
Street Address:	17 QUINCY STREET		
City:	CAMBRIDGE		
State/Country:	MASSACHUSETTS		
Postal Code:	02138		

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	14738483	

CORRESPONDENCE DATA

Fax Number: (212)407-7799

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: 212 407-7700

Email: ipdocketny@vedderprice.com

Correspondent Name: THOMAS J. KOWALSKI

Address Line 1: 1633 BROADWAY
Address Line 2: VEDDER PRICE P.C.

Address Line 4: NEW YORK, NEW YORK 10019

ATTORNEY DOCKET NUMBER:	44790.00.2046
NAME OF SUBMITTER:	SARAH MARCANO
SIGNATURE:	/sarah marcano/
DATE SIGNED:	10/14/2015

Total Attachments: 3

source=HseExecutedAssignment#page1.tif source=HseExecutedAssignment#page2.tif source=HseExecutedAssignment#page3.tif

PATENT 503523330 REEL: 036794 FRAME: 0448

ASSIGNMENT

Patrick Hsu, residing at: 37 Kirkland St., Apt. B1, Cambridge, MA 02138, USA; being the inventor of certain improvements in the international application entitled: METHODS, MODELS, SYSTEMS, AND APPARATUS FOR IDENTIFYING TARGET SEQUENCES FOR CAS ENZYMES OR CRISPR-CAS SYSTEMS FOR TARGET SEQUENCES AND CONVEYING RESULTS THEREOF for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby assign to PRESIDENT AND FELLOWS OF HARVARD COLLEGE, having a place of business at 17 Quincy Street, Cambridge, MA 02138, USA, its successors and assigns, (1) the entire right, title and interest in all countries throughout the world in and to any and all of my inventions and discoveries in my United States Provisional Application Nos. 61/736,527 filed December 12, 2012; 61/748,427 filed January 2, 2013; 61/758,468 filed January 30, 2013; 61/769,046 filed February 25, 2013; 61/791,409 filed March 15, 2013; 61/802,174 filed March 15, 2013; 61/806,375 filed March 28, 2013; 61/814,263 filed April 20, 2013; 61/819,803 filed May 6, 2013; 61/828,130 filed May 28, 2013; 61/835,931 filed June 17, 2013 and 61/836,080, filed June 17, 2013, and International Patent Application No. PCT/US2013/074812, filed December 12, 2013, as well as in any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof, and any substitute applications therefore; (2) the full and complete right to file patent applications in the name of PRESIDENT AND FELLOWS OF HARVARD COLLEGE and or their designee's election, on the aforesaid inventions, discoveries and applications in all countries of the world; (3) the entire right title and interest in and to any Letters Patent which may issue on the aforesaid inventions, discoveries and applications in any country of the world and any renewals, revivals, reissues, reexaminations and extensions thereof, and any patents of confirmation, registration and importation of the same; and (4) the entire right, title and interest in and to all Convention and Treaty Rights of all kinds thereon, including without limitation all rights of priority in any country of the world, in and to the following application(s):

United States Provisional Application No. 61/736,527 filed December 12, 2012; United States Provisional Application No. 61/748,427 filed January 2, 2013; United States Provisional Application No. 61/758,468 filed January 30, 2013; United States Provisional Application No. 61/769,046 filed February 25, 2013; United States Provisional Application No. 61/791,409 filed March 15, 2013;

NEWYORK/#331256.1

PATENT REEL: 036794 FRAME: 0449

Patent 44790.99.2046 BI-2013/084B

United States Provisional Application No. 61/802,174 filed March 15, 2013;

United States Provisional Application No. 61/806,375 filed March 28, 2013;

United States Provisional Application No. 61/814,263 filed April 20, 2013;

United States Provisional Application No. 61/819,803 filed May 6, 2013;

United States Provisional Application No. 61/828,130 filed May 28, 2013;

United States Provisional Application No. 61/835,931 filed June 17, 2013; and

United States Provisional Application No. 61/836,080 filed June 17, 2013.

I hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in any country throughout the world to PRESIDENT AND FELLOWS OF HARVARD COLLEGE as the assignee of the entire right, title and interest therein, as fully and entirely as the same would have been held and enjoyed by me had this assignment, sale and transfer not been made.

I agree, at any time, upon the request of PRESIDENT AND FELLOWS OF HARVARD COLLEGE to execute and to deliver to PRESIDENT AND FELLOWS OF HARVARD COLLEGE any additional applications for patents for said inventions and discoveries, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based on any Letters Patent issuing on said inventions, discoveries or applications, and divisions, continuations, renewals, revivals, reissues, reexaminations and extensions thereof.

I further agree, at any time, upon request of PRESIDENT AND FELLOWS OF HARVARD COLLEGE, to execute and to deliver to PRESIDENT AND FELLOWS OF HARVARD COLLEGE, such additional documents, if any, as are necessary or desirable to secure patent protection on said inventions, discoveries and applications throughout all countries of the world, and otherwise to do what is necessary to give full effect to and to perfect any and all rights of PRESIDENT AND FELLOWS OF HARVARD COLLEGE, under this Assignment, including the execution, delivery and procurement of any and all further documents evidencing this assignment, transfer and sale as may be necessary or desirable.

In testimony of which I have hereupon affixed my signature, it is my intention that this Assignment instrument be effective, and all rights transferred herein shall be considered to have vested

NEWYORK/#331256.1

PATENT REEL: 036794 FRAME: 0450 in PRESIDENT AND FELLOWS OF HARVARD COLLEGE as from the December 12, 2012, filing date of the first filed United States Provisional Application No. 61/736,527, from which priority is hereby claimed.

2014.05.29		Jame OV		
Date		Patrick Hsu		
Witness 1		Witness 2		
<u>5-28-14</u> Date	16t Nac Signature	<u>5-23-14</u> Date	Signature	
Witness 1: Print name here		Witness 2: Print name here		
Katheine Martin		Elven Law		

KATHERINE R. MARTIN
NOTOTY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
My Commission Explices
September 14, 2018

NEWYORK/#331256.3

RECORDED: 10/14/2015

PATENT REEL: 036794 FRAME: 0451