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PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3811338

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MARK STROHMEIER	10/07/2015
JOHN P. CAESAR	02/01/2016
PATRICK RAYMOND CONNELLY	03/07/2016
MAJED FAWEZ	03/01/2016
EDUARD LUSS-LUSIS	02/01/2016
BRIAN R. MCCLAIN	02/03/2016
ALES MEDEK	03/04/2016
HAI MIAO	02/05/2016
KWAME WIREDU NTI-ADDAE	02/02/2016
PING YIN	02/01/2016
YUEGANG ZHANG	03/11/2016

RECEIVING PARTY DATA

Name:	VERTEX PHARMACEUTICALS INCORPORATED	
Street Address:	50 NORTHERN AVENUE	
City:	BOSTON	
State/Country:	MASSACHUSETTS	
Postal Code:	02210	

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	14877914
PCT Number:	US2015054577

CORRESPONDENCE DATA

(617)366-3974 Fax Number:

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: 6179618018 Email: patents@vrtx.com

Correspondent Name: VERTEX PHARMACEUTICALS INCORPORATED

Address Line 1: 50 NORTHERN AVENUE

BOSTON, MASSACHUSETTS 02210 Address Line 4:

REEL: 038325 FRAME: 0519

PATENT -

ATTORNEY DOCKET NUMBER:	VPI/14-106 US2 & WO2	
NAME OF SUBMITTER:	LAUREN M. DEVINCENZO	
SIGNATURE:	/Lauren M. DeVincenzo/	
DATE SIGNED:	04/01/2016	

Total Attachments: 60 source=VPI-14-106 US2 & WO2 executed assignment#page1.tif source=VPI-14-106 US2 & WO2 executed assignment#page2.tif source=VPI-14-106 US2 & WO2 executed assignment#page3.tif source=VPI-14-106 US2 & WO2 executed assignment#page4.tif source=VPI-14-106 US2 & WO2 executed assignment#page5.tif source=VPI-14-106 US2 & WO2 executed assignment#page6.tif source=VPI-14-106 US2 & WO2 executed assignment#page7.tif source=VPI-14-106 US2 & WO2 executed assignment#page8.tif source=VPI-14-106 US2 & WO2 executed assignment#page9.tif source=VPI-14-106 US2 & WO2 executed assignment#page10.tif source=VPI-14-106 US2 & WO2 executed assignment#page11.tif source=VPI-14-106 US2 & WO2 executed assignment#page12.tif source=VPI-14-106 US2 & WO2 executed assignment#page13.tif source=VPI-14-106 US2 & WO2 executed assignment#page14.tif source=VPI-14-106 US2 & WO2 executed assignment#page15.tif source=VPI-14-106 US2 & WO2 executed assignment#page16.tif source=VPI-14-106 US2 & WO2 executed assignment#page17.tif source=VPI-14-106 US2 & WO2 executed assignment#page18.tif source=VPI-14-106 US2 & WO2 executed assignment#page19.tif source=VPI-14-106 US2 & WO2 executed assignment#page20.tif source=VPI-14-106 US2 & WO2 executed assignment#page21.tif source=VPI-14-106 US2 & WO2 executed assignment#page22.tif source=VPI-14-106 US2 & WO2 executed assignment#page23.tif source=VPI-14-106 US2 & WO2 executed assignment#page24.tif source=VPI-14-106 US2 & WO2 executed assignment#page25.tif source=VPI-14-106 US2 & WO2 executed assignment#page26.tif source=VPI-14-106 US2 & WO2 executed assignment#page27.tif source=VPI-14-106 US2 & WO2 executed assignment#page28.tif source=VPI-14-106 US2 & WO2 executed assignment#page29.tif source=VPI-14-106 US2 & WO2 executed assignment#page30.tif source=VPI-14-106 US2 & WO2 executed assignment#page31.tif source=VPI-14-106 US2 & WO2 executed assignment#page32.tif source=VPI-14-106 US2 & WO2 executed assignment#page33.tif source=VPI-14-106 US2 & WO2 executed assignment#page34.tif source=VPI-14-106 US2 & WO2 executed assignment#page35.tif source=VPI-14-106 US2 & WO2 executed assignment#page36.tif source=VPI-14-106 US2 & WO2 executed assignment#page37.tif source=VPI-14-106 US2 & WO2 executed assignment#page38.tif source=VPI-14-106 US2 & WO2 executed assignment#page39.tif source=VPI-14-106 US2 & WO2 executed assignment#page40.tif source=VPI-14-106 US2 & WO2 executed assignment#page41.tif source=VPI-14-106 US2 & WO2 executed assignment#page42.tif

> PATENT REEL: 038325 FRAME: 0520

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PATENT REEL: 038325 FRAME: 0521

ASSIGNMENT

We,

- (1) Mark Strohmeier, of Arlington, Massachusetts;
- (2) John P. Caesar, Jr., of Lancaster, Massachusetts;
- (3) Patrick Raymond Connelly, of Harvard, Massachusetts;
- (4) Majed Fawaz, of Foxboro, Massachusetts;
- (5) Eduard Luss-Lusis, of Belmont, Massachusetts;
- (6) Brian R. McClain, of Harvard, Massachusetts;
- (7) Ales Medek, of Winchester, Massachusetts;
- (8) Hai Miao, of Winchester, Massachusetts;
- (9) Kwame Wiredu Nti-Addae, of Tewksbury, Massachusetts;
- (10) Ping Yin, of Arlington, Massachusetts; and
- (11) Yuegang Zhang, of Wayland, Massachusetts,

for good and valuable consideration, receipt of which is hereby acknowledged, have assigned, sold and transferred to, by virtue of our agreement with Vertex Pharmaceuticals Incorporated and do hereby assign, sell and transfer to, Vertex Pharmaceuticals Incorporated, a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having an office and a place of business at 50 Northern Avenue, Boston, Massachusetts 02210, its successors and assigns, all hereinafter referred to as the ASSIGNEE:

- (1) the entire right, title and interest in the United States and in all countries throughout the world in and to any and all of my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: CO-CRYSTALS OF MODULATORS OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR, and filed in the United States Patent and Trademark Office on October 7, 2015, under Application Number 12/877, 914¹, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

- (b) the International Patent Application entitled: MODULATORS OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR, filed under the Patent Cooperation Treaty in the United States Receiving Office on October 7, 2015, under Application No.PC/USDOS/05US 2 and designating all countries, including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof, and any substitute applications therefor;
- (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in my/our names at the election of the ASSIGNEE or its designee, on the aforesaid inventions, discoveries and applications in the United States and in any other country of the world;
- (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any other country of the world, and in and to any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof; 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 above inventions, discoveries and applications including, but not limited to, the following priority application(s):

62/060,828	United States of America	October 7, 2014
Application No.	Country	Filing Date
and all rights of priority in any country of the world deriving from the above-identified		
International Patent Application.		

We hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to 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/us had this assignment, sale and transfer not been made.

We agree, at any time, upon the request of the ASSIGNEE to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any

² I/We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

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.

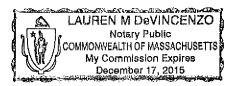
We further agree at any time to execute and to deliver upon request of the ASSIGNEE such additional documents, if any, as are necessary or desirable to secure patent protection on said inventions, discoveries and applications throughout all countries of the world, and otherwise to do the necessary to give full effect to and to perfect the rights of the ASSIGNEE 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.

(1) Mark Strohmeier Date: 07-0ch-2015

Commonwealth of Massachusetts County of Suffolk

On this 7th day of October	, 2015, before me, the undersigned notary public,
personally appeared Mark Strohmeier, pro-	oved to me through satisfactory evidence of
identification which was/were: Dersona	al knowledge of identity, \square a driver's license, \square other
(please identify)	to be the person whose name is signed on this
document, and who swore or affirmed to	me that the contents of the document are truthful and
accurate to the best of his/her knowledge	and belief.

Notary Public My Commission Expires: 12-17-2015



		(2) John P. Caesar
		Date:
Commonwer County of St	alth of Massachusetts uffolk	
personally ap which was/w identify) and who swo	ppeared <u>John P. Caesa</u> vere: □ personal knov	, 2015, before me, the undersigned notary public, ar, proved to me through satisfactory evidence of identification wledge of identity, \[\subseteq a driver's license, \[\subseteq other (please, to be the person whose name is signed on this document, that the contents of the document are truthful and accurate to belief.
Notary Publi	ic sion Expires:	
	PIOU TADITOR	. <u></u>

		(3) Patrick Raymond Connelly
		Date:
Commonwea	alth of Massachusetts	
County of Su	ıffolk	
personally ap identification (please ident document, ar	opeared <u>Patrick Raymon</u> which was/were: ☐ [, 2015, before me, the undersigned notary public, ond Connelly, proved to me through satisfactory evidence of personal knowledge of identity, ☐ a driver's license, ☐ other, to be the person whose name is signed on this ned to me that the contents of the document are truthful and wledge and belief.
Notary Publi My Commis	c sion Expires:	

	(4) Majed Fawaz	
	Date:	
IN WITNESS WHEREOF, I	have hereunto set hand and seal	
Signature of witness: (1)		
Printed Name of Witness:		
this day of	Date of signing	
Signature of witness: (2)		
Printed Name of Witness:		
this day of	Date of signing	

	(5) Eduard Luss-Lusis
	Date:
Commonwealth of Massachusetts County of Suffolk	
identification which was/were: personal (please identify)	, 2015, before me, the undersigned notary public, roved to me through satisfactory evidence of I knowledge of identity, a driver's license, other , to be the person whose name is signed on this ne that the contents of the document are truthful and and belief.
Notary Public	
My Commission Expires:	

		(6) Brian R. McClain
		Date:
Commonwealth o		
County of Suffoll	ζ.	
personally appear identification whi (please identify) document, and wi	red <u>Brian R. McClain,</u> ich was/were: ☐ perso	, 2015, before me, the undersigned notary public, proved to me through satisfactory evidence of onal knowledge of identity, \[\sqrt{a} \] a driver's license, \[\sqrt{b} \] other, to be the person whose name is signed on this o me that the contents of the document are truthful and ge and belief.
Notary Public		_
My Commission	Expires:	

		(7) Ales Medek
		Date:
	alth of Massachusetts	
County of Su	ıffolk	
personally apwhich was/widentify) and who swo	ppeared <u>Ales Medek,</u> p vere: □ personal know	
Notary Publi	ie	·
My Commis	sion Expires:	

ŧ		(8) Hai Miao
		Date:
Commonweal County of Suf	th of Massachusetts folk	
personally app which was/we identify) and who swor	eared <u>Hai Miao,</u> pro re: □ personal knov	, 2015, before me, the undersigned notary public, wed to me through satisfactory evidence of identification wledge of identity, □ a driver's license, □ other (please, to be the person whose name is signed on this document that the contents of the document are truthful and accurate to belief.
Notary Public My Commissi		

	(9) Kwame Wiredu Nti-Addae
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared, <u>Kwame Wiredu Nti-</u> identification which was/were: persona (please identify)	, 2015, before me, the undersigned notary public, Addae, proved to me through satisfactory evidence of all knowledge of identity, a driver's license, other, to be the person whose name is signed on this me that the contents of the document are truthful and and belief.
Notary Public My Commission Expires:	

		(10) Ping Yin
		Date:
Commonweat	alth of Massachusetts	
County of 50	alloik	
personally ap was/were: [opeared <u>Ping Yin,</u> prov] personal knowledge o , to be	, 2015, before me, the undersigned notary public, ed to me through satisfactory evidence of identification which of identity, \[\subseteq a driver's license, \[\subseteq other (please identify) the person whose name is signed on this document, and who
swore or affi	rmed to me that the co	ntents of the document are truthful and accurate to the best of
his/her know	rledge and belief.	
Notary Publi	le	
My Commis	sion Expires:	

	(11) Yuegang Zhang
	Date:
IN WITNESS WHEREOF, I !	nave hereunto set hand and seal
Signature of witness: (1)	
Printed Name of Witness:	
this day of	Date of signing
Signature of witness: (2)	
Printed Name of Witness:	
this day of	Date of signing

ACKNOWLEDGMENT OF ASSIGNEE

By: Kerry A. Flynn Vice President and Chief IP Counsel on behalf of Vertex Pharmaceuticals Incorpora	ted
Date: Morch 28, 2016	
Commonwealth of Massachusetts	
County of Suffolk	37
On this, day of, 2015, personally appeared Kerry A. Flynn (name of docusatisfactory evidence of identification which was/wdriver's license, other (please identify) is signed on this document, and who swore or affirm are truthful and accurate to the best of his/her known	ment signer), proved to me through vere: personal knowledge of identity, a to be the person whose name med to me that the contents of the document
Dovenom M Dovence Zo Notary Public My Commission Expires: 13-33-3000	Lauren M. DeVincenzo Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires December 23, 2022

ASSIGNMENT

We,

- (1) Mark Strohmeier, of Arlington, Massachusetts;
- (2) John P. Caesar, Jr., of Lancaster, Massachusetts;
- (3) Patrick Raymond Connelly, of Harvard, Massachusetts;
- (4) Majed Fawaz, of Foxboro, Massachusetts;
- (5) Eduard Luss-Lusis, of Belmont, Massachusetts;
- (6) Brian R. McClain, of Harvard, Massachusetts;
- (7) Ales Medek, of Winchester, Massachusetts;
- (8) Hai Miao, of Winchester, Massachusetts;
- (9) Kwame Wiredu Nti-Addae, of Tewksbury, Massachusetts;
- (10) Ping Yin, of Arlington, Massachusetts; and
- (11) Yuegang Zhang, of Wayland, Massachusetts,

for good and valuable consideration, receipt of which is hereby acknowledged, have assigned, sold and transferred to, by virtue of our agreement with Vertex Pharmaceuticals Incorporated and do hereby assign, sell and transfer to, Vertex Pharmaceuticals Incorporated, a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having an office and a place of business at 50 Northern Avenue, Boston, Massachusetts 02210, its successors and assigns, all hereinafter referred to as the ASSIGNEE:

- (1) the entire right, title and interest in the United States and in all countries throughout the world in and to any and all of my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: CO-CRYSTALS OF MODULATORS OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR, and filed in the United States Patent and Trademark Office on October 7, 2015, under Application Number 14/877, 914 , including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

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- (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in my/our names at the election of the ASSIGNEE or its designee, on the aforesaid inventions, discoveries and applications in the United States and in any other country of the world;
- (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any other country of the world, and in and to any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof; 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 above inventions, discoveries and applications including, but not limited to, the following priority application(s):

62/060,828	United States of America	October 7, 2014
Application No.	Country	Filing Date
and all rights of priority in any country of the world deriving from the above-identified		
International Patent Application.		

We hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to 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/us had this assignment, sale and transfer not been made.

We agree, at any time, upon the request of the ASSIGNEE to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any

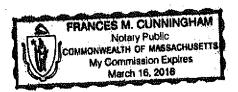
² I/We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

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.

We further agree at any time to execute and to deliver upon request of the ASSIGNEE 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 the necessary to give full effect to and to perfect the rights of the ASSIGNEE 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.

	(1) Mark Strohmeier
	Date:
Commonwealth of Massachuset County of Suffolk	ts
identification which was/were: [(please identify)	
Notary Public My Commission Expires:	

(2) John P. Caesar
Date: For 1 2016

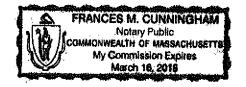


	Bell Ryl amly
	(3) Patrick Raymond Connelly
	Date: 07 MAR 2016
Commonwealth of Massachusetts County of Suffolk	
personally appeared <u>Patrick Raymond Contidentification</u> which was/were: personal (please identify)	_, 2015, before me, the undersigned notary public, nelly, proved to me through satisfactory evidence of knowledge of identity, \(\subseteq \) a driver's license, \(\subseteq \) other, to be the person whose name is signed on this e that the contents of the document are truthful and he belief.
Hauran M DeVincer	
Notary Public My Commission Expires: 12-23-002	Lauren M. Devincenzo Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires December 23, 2022

		(4) Majed Fawaz
		Date:
IN WITNE	SS WHEREOF, I I	nave hereunto set hand and seal
a.	0 to (1)	
Signature of	of witness: (1)	
Printed Nat	me of Witness:	
this	day of	
		Date of signing
Signature o	of witness: (2)	
Printed Na	me of Witness:	· .
this	day of	Date of signing
		Date of gramma

	Ended lu
	(5) Eduard Luss-Lusis Date: Teb 15+ 2016
identification which was/were: personal leading personal leader identify)	Joh, 2015, before me, the undersigned notary public, ved to me through satisfactory evidence of knowledge of identity, \subseteq a driver's license, \subseteq other, to be the person whose name is signed on this that the contents of the document are truthful and d belief.
My Commission Expires: 3/16/2018	FRANCES M. CUNNINGHAM Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires Murch 16, 2018

(6) Brian R. McClain
Date: 7/7/1/0



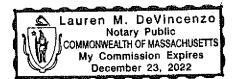
(7) Ales Medek
Date: 041742016

Commonwealth of Massachusetts County of Suffolk

On this 4th day of	March	, 2015, before me, the undersigned notary public,
personally appeared Ales	Medek, proved t	to me through satisfactory evidence of identification
which was/were: perso	nal knowledge o	of identity, □ a driver's license, □ other (please
identify)	, to	be the person whose name is signed on this document
and who swore or affirme	d to me that the	contents of the document are truthful and accurate to
the best of his/her knowle	dge and belief.	
	_	

Notary Public

My Commission Expires: / 2-Z3-2022



(8) Hai Miao

Date: Feb 5, 2016

Commonwealth of Massachusetts County of Suffolk

14	Λ.,	
		, 2015, before me, the undersigned notary public,
personally appear	red <u>Hai Miao</u> , provedto	me through satisfactory evidence of identification
which was/were:	personal knowledge	of identity,
identify)	, to	be the person whose name is signed on this document
and who swore or	r affirmed to me that the	contents of the document are truthful and accurate to
the best of his/he	r knowledge and belief.	

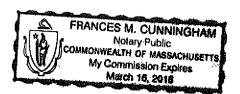
Notary Public

My Commission Expires: 1 2020

MISCHELL R. SHAPIRO
NOTARY PUBLIC
Commonwealth of Massachusells
My Commission Expires
January 23, 2020

(9) Kwame Wiredu Nti-Addae

Date: 02 Feb 2016



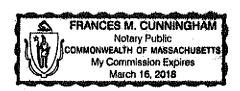
(10) Ping Yin

Date: 02/0/ (2016__

Commonwealth of Massachusetts County of Suffolk

Notary Public

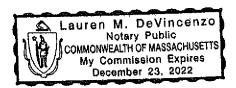
My Commission Expires:



		(11) Yuegang Zhang
		Date:
IN WITNESS	S WHEREOF, I h	ave hereunto set hand and seal
Signature of v	vitness: (1)	
Printed Name	of Witness:	
this	day of	Date of signing
Signature of v	witness: (2)	
Printed Name	of Witness:	
this	day of	Date of signing

ACKNOWLEDGMENT OF ASSIGNEE

By: Kerry A. Flyhn Vice President and Chief IP Counsel on behalf of Vertex Pharmaceuticals Incorporated
Date: March 38, 2016
Commonwealth of Massachusetts
County of Suffolk
On this
Lauren M Dovinconzo
Notary Public
My Commission Expires: / 2 - 3 - 20 = 2



ASSIGNMENT

We,

- (1) Mark Strohmeier, of Arlington, Massachusetts;
- (2) John P. Caesar, Jr., of Lancaster, Massachusetts;
- (3) Patrick Raymond Connelly, of Harvard, Massachusetts;
- (4) Majed Fawaz, of Foxboro, Massachusetts;
- (5) Eduard Luss-Lusis, of Belmont, Massachusetts;
- (6) Brian R. McClain, of Harvard, Massachusetts;
- (7) Ales Medek, of Winchester, Massachusetts;
- (8) Hai Miao, of Winchester, Massachusetts;
- (9) Kwame Wiredu Nti-Addae, of Tewksbury, Massachusetts;
- (10) Ping Yin, of Arlington, Massachusetts; and
- (11) Yuegang Zhang, of Wayland, Massachusetts,

for good and valuable consideration, receipt of which is hereby acknowledged, have assigned, sold and transferred to, by virtue of our agreement with Vertex Pharmaceuticals Incorporated and do hereby assign, sell and transfer to, Vertex Pharmaceuticals Incorporated, a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having an office and a place of business at 50 Northern Avenue, Boston, Massachusetts 02210, its successors and assigns, all hereinafter referred to as the ASSIGNEE:

- (1) the entire right, title and interest in the United States and in all countries throughout the world in and to any and all of my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: CO-CRYSTALS OF MODULATORS OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR, and filed in the United States Patent and Trademark Office on October 7, 2015, under Application Number 14/877, 914 , including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or

Page 1 of 15

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

- (b) the International Patent Application entitled: MODULATORS OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR, filed under the Patent Cooperation Treaty in the United States Receiving Office on October 7, 2015, under Application Northus Joseph Court 17, and designating all countries, including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof, and any substitute applications therefor;
- (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in my/our names at the election of the ASSIGNEE or its designee, on the aforesaid inventions, discoveries and applications in the United States and in any other country of the world;
- (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any other country of the world, and in and to any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof; 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 above inventions, discoveries and applications including, but not limited to, the following priority application(s):

62/060,828	United States of America	October 7, 2014				
Application No.	Country	Filing Date				
and all rights of priority in any country of the world deriving from the above-identified						
International Patent Application.						

We hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to 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/us had this assignment, sale and transfer not been made.

We agree, at any time, upon the request of the ASSIGNEE to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any

² I/We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

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.

We further agree at any time to execute and to deliver upon request of the ASSIGNEE 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 the necessary to give full effect to and to perfect the rights of the ASSIGNEE 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.

	(1) Mark Strohmeier
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared Mark Strohmeier, pridentification which was/were: person (please identify)	, 2015, before me, the undersigned notary public, roved to me through satisfactory evidence of all knowledge of identity, \[\] a driver's license, \[\] other, to be the person whose name is signed on this me that the contents of the document are truthful and and belief.
Notary Public	_
My Commission Expires:	

		(2) John P. Caesar
		Date:
Commonwealth County of Suffo	of Massachusetts olk	3
personally appear which was/were identify) and who swore	ared <u>John P. Caes</u> :: □ personal kno	, 2015, before me, the undersigned notary public, ar, proved to me through satisfactory evidence of identification wledge of identity, \[\subseteq a driver's license, \[\subseteq other (please, to be the person whose name is signed on this document, that the contents of the document are truthful and accurate to belief.
Notary Public		
My Commission	1 Expires:	

	(3) Patrick Raymond Connelly
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared <u>Patrick Raymond Co</u> identification which was/were: person (please identify)	, 2015, before me, the undersigned notary public, onnelly, proved to me through satisfactory evidence of nal knowledge of identity, a driver's license, other, to be the person whose name is signed on this me that the contents of the document are truthful and and belief.
Notary Public	_
My Commission Expires:	

IN WITNESS WHEREOF, I have hereunto set hand and seal
Signature of witness: (1)
Printed Name of Witness: Teter Muelles, ThD
this 1st day of Hareh 2016 Date of signing
Signature of witness: (2)
Printed Name of Witness: ANDERS CRAFT, PhD
this 1st day of Peocle 2016 Date of signing

(4) Majed Fawaz

	(5) Eduard Luss-Lusis
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared Eduard Lussidentification which was/were:	
Notary Public	
My Commission Expires:	

	(6) Brian R. McClain
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared <u>Brian R. McClain</u> , pridentification which was/were: personal (please identify)	, 2015, before me, the undersigned notary public, roved to me through satisfactory evidence of all knowledge of identity, a driver's license, other , to be the person whose name is signed on this me that the contents of the document are truthful and and belief.
Notary Public My Commission Expires:	
my comminument mproof	-

(7) Ales Medek
Date:
, 2015, before me, the undersigned notary public, me through satisfactory evidence of identification identity, ☐ a driver's license, ☐ other (please the person whose name is signed on this document entents of the document are truthful and accurate to

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re me, the undersigned notary public, sfactory evidence of identification driver's license, other (please whose name is signed on this document, document are truthful and accurate to

	(9) Kwame Wiredu Nti-Addae
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared, <u>Kwame Wiredu N</u> identification which was/were: ☐ personally personally appeared, <u>Kwame Wiredu N</u> identification which was/were:	, 2015, before me, the undersigned notary public, ti-Addae, proved to me through satisfactory evidence of onal knowledge of identity, \[\subseteq a driver's license, \[\subseteq other \], to be the person whose name is signed on this o me that the contents of the document are truthful and see and belief.
Notary Public	
My Commission Expires:	

		(10) Ping Yin
		Date:
Commonwer County of Su	alth of Massachusetts affolk	
personally apwas/were:	opeared <u>Ping Yin,</u> prov personal knowledge o , to be	, 2015, before me, the undersigned notary public, yed to me through satisfactory evidence of identification which of identity, \subseteq a driver's license, \subseteq other (please identify) the person whose name is signed on this document, and who entents of the document are truthful and accurate to the best of
Notary Publi	c sion Expires:	

		(11) Yuegang Zhang
		Date:
IN WITNE	SS WHEREOF, I	have hereunto set hand and seal
Signature o	f witness: (1)	
Printed Nan	ne of Witness:	
this	day of	Date of signing
Signature of	f witness: (2)	
Printed Nan	ne of Witness:	
this	day of	Date of signing

ACKNOWLEDGMENT OF ASSIGNEE

By: Lerry A. Flynn

Vice President and Chief IP Counsel

on behalf of Vertex Pharmaceuticals Incorporated

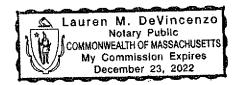
Date: March 28, 2016

Commonwealth of Massachusetts County of Suffolk

On this Ash day of March, 2015, before me, the undersigned notary public, personally appeared Kerry A. Flynn (name of document signer), proved to me through satisfactory evidence of identification which was/were: personal knowledge of identity, a driver's license, other (please identify), to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

<u>Yauren M DoVincenzo</u> Notary Public

My Commission Expires: 12 - 23 - 2002



ASSIGNMENT

We,

- (1) Mark Strohmeier, of Arlington, Massachusetts;
- (2) John P. Caesar, Jr., of Lancaster, Massachusetts;
- (3) Patrick Raymond Connelly, of Harvard, Massachusetts;
- (4) Majed Fawaz, of Foxboro, Massachusetts;
- (5) Eduard Luss-Lusis, of Belmont, Massachusetts;
- (6) Brian R. McClain, of Harvard, Massachusetts;
- (7) Ales Medek, of Winchester, Massachusetts;
- (8) Hai Miao, of Winchester, Massachusetts;
- (9) Kwame Wiredu Nti-Addae, of Tewksbury, Massachusetts;
- (10) Ping Yin, of Arlington, Massachusetts; and
- (11) Yuegang Zhang, of Wayland, Massachusetts,

for good and valuable consideration, receipt of which is hereby acknowledged, have assigned, sold and transferred to, by virtue of our agreement with Vertex Pharmaceuticals Incorporated and do hereby assign, sell and transfer to, Vertex Pharmaceuticals Incorporated, a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having an office and a place of business at 50 Northern Avenue, Boston, Massachusetts 02210, its successors and assigns, all hereinafter referred to as the ASSIGNEE:

- (1) the entire right, title and interest in the United States and in all countries throughout the world in and to any and all of my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: CO-CRYSTALS OF MODULATORS OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR, and filed in the United States Patent and Trademark Office on October 7, 2015, under Application Number 14/877, 414 i, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or

Page 1 of 15

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

- (b) the International Patent Application entitled: MODULATORS OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR, filed under the Patent Cooperation Treaty in the United States Receiving Office on October 7, 2015, under Application Notation 2, and designating all countries, including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof, and any substitute applications therefor;
- (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in my/our names at the election of the ASSIGNEE or its designee, on the aforesaid inventions, discoveries and applications in the United States and in any other country of the world;
- (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any other country of the world, and in and to any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof; 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 above inventions, discoveries and applications including, but not limited to, the following priority application(s):

62/060,828	United States of America	October 7, 2014	
Application No.	Country	Filing Date	
and all rights of priority in any country of the world deriving from the above-identified			
International Patent Application	ı .		

We hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to 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/us had this assignment, sale and transfer not been made.

We agree, at any time, upon the request of the ASSIGNEE to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any

² I/We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

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.

We further agree at any time to execute and to deliver upon request of the ASSIGNEE 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 the necessary to give full effect to and to perfect the rights of the ASSIGNEE 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.

	(1) Mark Strohmeier
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared Mark Strohmeier, pro- identification which was/were: personal (please identify)	, 2015, before me, the undersigned notary public, ved to me through satisfactory evidence of knowledge of identity, a driver's license, other, to be the person whose name is signed on this ne that the contents of the document are truthful and and belief.
Notary Public	
My Commission Expires:	

		(2) John P. Caesar
		Date:
Commonwea County of St	alth of Massachusetts uffolk	
personally ap which was/w identify) and who swo	ppeared <u>John P. Caesa</u> vere: personal knov	, 2015, before me, the undersigned notary public, ur, proved to me through satisfactory evidence of identification wledge of identity, \(\subseteq a \) driver's license, \(\subseteq \) other (please, to be the person whose name is signed on this document, that the contents of the document are truthful and accurate to belief.
Notary Publi		
My Commis	sion Expires:	

		(3) Patrick Raymond Connelly
		Date:
Commonwea County of Su	ulth of Massachusetts offolk	
personally ar identification (please identi document, ar	opeared <u>Patrick Raym</u> which was/were: ☐ ify)	, 2015, before me, the undersigned notary public, ond Connelly, proved to me through satisfactory evidence of personal knowledge of identity, □ a driver's license, □ other, to be the person whose name is signed on this med to me that the contents of the document are truthful and wledge and belief.
Notary Publi	c sion Expires:	

·		(4) Majed Fawaz
		Date:
IN WITNE	SS WHEREOF, I have	hereunto set hand and seal
Signature c	of witness: (1)	
Printed Na	me of Witness:	
this	day of	Date of signing
		Date of signing
Signature o	of witness: (2)	
Printed Nar	me of Witness:	
this	day of	
		Date of signing

		(5) Eduard Luss-Lusis
		Date:
	lth of Massachusetts	
County of Su	ffolk	
personally ap identification (please identi document, an	peared <u>Eduard Luss-L</u> which was/were: ☐ p fv)	, 2015, before me, the undersigned notary public, usis, proved to me through satisfactory evidence of ersonal knowledge of identity, , a driver's license, , to be the person whose name is signed on this ed to me that the contents of the document are truthful and ledge and belief.
Notary Public	>	
My Commice		

		(6) Brian R. McClain
		Date:
Commonwealth County of Suffe	n of Massachusetts olk	
personally apper identification w (please identify document, and	eared <u>Brian R. McC</u> which was/were: ☐ [v)	
Notary Public My Commissio	on Expires:	
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	(7) Ales Medek
	Date:
Commonwealth of Massachusetts County of Suffolk	
personally appeared Ales Medek, proved to which was/were: personal knowledge o identify), to be	, 2015, before me, the undersigned notary public, o me through satisfactory evidence of identification f identity, \[\sqrta \text{ a driver's license, } \[\sqrta other (please be the person whose name is signed on this document contents of the document are truthful and accurate to
Notary Public	
My Commission Expires:	

		(8) Hai Miao
		Date:
Commonwe County of St	alth of Massachusetts uffolk	
personally ap which was/w identify) and who swo	ppeared <u>Hai Miao,</u> pro vere: personal know	, 2015, before me, the undersigned notary public, ved to me through satisfactory evidence of identification vledge of identity, a driver's license, other (please, to be the person whose name is signed on this document hat the contents of the document are truthful and accurate to belief.
Notary Publi		
My Commis	sion Expires:	

	(9) Kwame Wiredu Nti-Addae
	Date:
Commonwealth of Massachusetts County of Suffolk	
identification which was/were: personal (please identify)	, 2015, before me, the undersigned notary public, ddae, proved to me through satisfactory evidence of knowledge of identity, □ a driver's license, □ other _, to be the person whose name is signed on this e that the contents of the document are truthful and d belief.
Notary Public My Commission Expires:	

		(10) Ping Yin
		Date:
Commonwea County of Su	alth of Massachusetts affolk	
personally apwas/were: swore or affin	opeared <u>Ping Yin,</u> pro personal knowledge to be	, 2015, before me, the undersigned notary public, wed to me through satisfactory evidence of identification which of identity, a driver's license, other (please identify) the person whose name is signed on this document, and who contents of the document are truthful and accurate to the best of
Notary Public		
My Commiss	sion Expires:	

IN WITNESS WHEREOF, I have hereunto set hand and seal
Signature of witness: (1)
Printed Name of Witness: YING YUAN ZHANG
this day of Man Chr 2016
Signature of witness: (2)
Printed Name of Witness: Man Ling Ling
this // day of March 2016 Date of signing

(11) Yuegang Zhang

Date: 03/11/20/6

ACKNOWLEDGMENT OF ASSIGNEE

By: Kerry A. Flynn Vice President and Chief IP Counsel on behalf of Vertex Pharmaceuticals Incorporated
Date: <u>March 38, 3016</u>
Commonwealth of Massachusetts County of Suffolk On this Ath day of Massachusetts, 2015, before me, the undersigned notary public, personally appeared Kerry A. Flynn (name of document signer), proved to me through satisfactory evidence of identification which was/were: personal knowledge of identity, a driver's license, other (please identify) to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.
Yaumu M. DeVimanzo Notary Public My Commission Expires: 12-23-2022