502551749 10/30/2013

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT2597338

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HARDWIN O'DOWD	10/17/2013
DANIUS MACIKENAS	10/11/2013
BIN SONG	10/23/2013

RECEIVING PARTY DATA

Name:	VERTEX PHARMACEUTICALS INCORPORATED
Street Address:	130 WAVERLY STREET
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02139

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	13945257
PCT Number:	US1351008

CORRESPONDENCE DATA

 Fax Number:
 (617)341-6483

 Phone:
 8584045358

Email: usptopatents@vrtx.com

Correspondence will be sent via US Mail when the email attempt is unsuccessful.

Correspondent Name: VERTEX PHARMACEUTICALS INCORPORATED

Address Line 1: 130 WAVERLY STREET

Address Line 4: CAMBRIDGE, MASSACHUSETTS 02139

ATTORNEY DOCKET NUMBER:	VPI/12-118 US & WO
NAME OF SUBMITTER:	LAUREN M. DEVINCENZO
Signature:	/Lauren M. DeVincenzo/
	PAIFNI

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Date:	10/30/2013
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PATENT REEL: 031512 FRAME: 0019

ASSIGNMENT

We,

- (1) Hardwin O'Dowd, of Boston, Massachusetts;
- (2) Dainius Macikenas, of Watertown, Massachusetts; and
- (3) Bin Song, of Belmont 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 130 Waverly Street, Cambridge, MA 02139, 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: SOLID FORMS OF (R)-2-(5-(2-(3-ETHYLUREIDO)-6-FLUORO-7-(TETRAHYDROFURAN-2-YL)-1H-BENZO[d]IMIDAZOL-5-YL)PYRIMIDIN-2-YL)PROPAN-2-YL DIHYDROGEN PHOSPHATE AND SALTS THEREOF, and filed in the United States Patent and Trademark Office on July 18, 2013, under Application Number 13/945,257, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: SOLID FORMS OF (R)-2-(5-(2-(3-ETHYLUREIDO)-6-FLUORO-7-(TETRAHYDROFURAN-2-YL)-1H-BENZO[D]IMIDAZOL-5-YL)PYRIMIDIN-2-YL)PROPAN-2-YL DIHYDROGEN PHOSPHATE AND SALTS THEREOF, filed under the Patent Cooperation Treaty in the United States Receiving Office on July 18, 2013, under Application No.: PCT/US13/51008, 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;

Page 1 of 6

- (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):

61/673,104	United States of America	July 18, 2012

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 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.

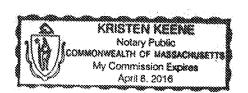
(1) Hardwin O'Dowd

Date: 10/17/2013

Commonwealth of Massachusetts County of Middlesex

On this ______ day of _October_, 2013, before me, the undersigned notary public, personally appeared Hardwin O'Dowd, proved to me through satisfactory evidence of identification which was/were: X 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.

My Commission Expires: 4/8/2016.



	(2) Dainius Macikenas
	Date:
Commonwealth of Massachusetts County of Middlesex	
appeared Dainius Macikenas, proved to me was/were: ☐ personal knowledge of identification, to be the person whose	B, before me, the undersigned notary public, personally through satisfactory evidence of identification which ity, a driver's license, other (please identify) name is signed on this document, and who swore or ument are truthful and accurate to the best of his/her
Notary Public	
My Commission Expires:	

	(3) Bin Song	
	Date:	
Commonwealth of Mass County of Middlesex	chusetts	
appeared Bin Song, prov was/were: ☐ personal k	, 2013, before me, the undersigned notary public, person d to me through satisfactory evidence of identification which owledge of identity, a driver's license, other (please identify) are person whose name is signed on this document, and who swore on the soft the document are truthful and accurate to the best of his/he	or
Notary Public My Commission Expires		

By: Stephen L. Nesbitt Vice President and Chief IP Counsel VERTEX PHARMACEUTICALS INCORPORATED Date: Commonwealth of Massachusetts County of Middlesex On this ______ day of _____, 2013, before me, the undersigned notary public, personally appeared Stephen L. Nesbitt (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.

Notary Public

My Commission Expires:_____.

ASSIGNMENT

We,

- (1) Hardwin O'Dowd, of Boston, Massachusetts;
- (2) Dainius Macikenas, of Cambridge, Massachusetts; and
- (3) Bin Song, of Belmont 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 130 Waverly Street, Cambridge, MA 02139, its successors and assigns, all hereinafter referred to as the ASSIGNEE:

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- (a) the application for United States Letters Patent entitled: SOLID FORMS OF (R)-2-(5-(2-(3-ETHYLUREIDO)-6-FLUORO-7-(TETRAHYDROFURAN-2-YL)-1H-BENZO[d]IMIDAZOL-5-YL)PYRIMIDIN-2-YL)PROPAN-2-YL DIHYDROGEN PHOSPHATE AND SALTS THEREOF, and filed in the United States Patent and Trademark Office on July 18, 2013, under Application Number 13/945,257, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: SOLID FORMS OF (R)-2-(5-(2-(3-ETHYLUREIDO)-6-FLUORO-7-(TETRAHYDROFURAN-2-YL)-1H-BENZO[D]IMIDAZOL-5-YL)PYRIMIDIN-2-YL)PROPAN-2-YL DIHYDROGEN PHOSPHATE AND SALTS THEREOF, filed under the Patent Cooperation Treaty in the United States Receiving Office on July 18, 2013, under Application No.: PCT/US13/51008, 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;

Page 1 of 6

- (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):

61/673,104	United States of America	July 18, 2012
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 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) Hardwin O'Dowd
	Date:
Commonwealth of Massachusetts County of Middlesex	
appeared Hardwin O'Dowd, proved to me to was/were: ☐ personal knowledge of identity, to be the person whose r	, before me, the undersigned notary public, personally through satisfactory evidence of identification which ty, a driver's license, other (please identify) than a signed on this document, and who swore or
affirmed to me that the contents of the docuknowledge and belief.	ament are truthful and accurate to the best of his/her
	·
Notary Public	
My Commission Expires:	

(2) Dainius Macikenas

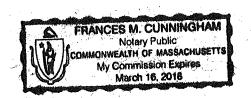
Date: Oct 11, 2013

Commonwealth of Massachusetts County of Middlesex

On this day of October, 2013, before me, the undersigned notary public, personall
appeared Dainius Macikenas, 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.

Notary Public

My Commission Expires: 3/16/2018



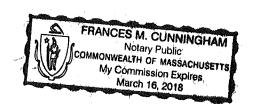
(3) Bin Song

Date: 2302 2012

Commonwealth of Massachusetts County of Middlesex

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knowled	ge and bel	lief,								
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Notary Public
My Commission Expires: 3/16/2018



ACKNOWLEDGMENT OF ASSIGNEE

By:			LOG	
·	Stephen I	. Nesbitt		

Vice President and Chief IP Counsel

VERTEX PHARMACEUTICALS INCORPORATED

Commonwealth of Massachusetts County of Middlesex

anth a li
On this day of cholse_, 2013, before me, the undersigned notary public, personally
appeared Stephen L. Nesbitt (name of document signer), proved to me through satisfactory
evidence of identification which was/were: \(\subseteq \text{personal knowledge of identity, } \subseteq \text{a driver's} \)
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.

My Commission Expires: 3/16/2018

