505837669 12/26/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
XIAO-YI XIAO	12/16/2013
ROGER B. CLARK	12/16/2013
DIANA K. HUNT	12/16/2013
CUIXIANG SUN	12/16/2013
MAGNUS P. RÖNN	10/29/2014
WU-YAN ZHANG	10/29/2014
MINSHENG HE	10/29/2014

RECEIVING PARTY DATA

Name:	TETRAPHASE PHARMACEUTICALS, INC.
Street Address:	480 ARSENAL ST., SUITE 110
City:	WATERTOWN
State/Country:	MASSACHUSETTS
Postal Code:	02472

PROPERTY NUMBERS Total: 1

Property Type	Number		
Application Number:	16393725		

CORRESPONDENCE DATA

Fax Number: (617)832-7000

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: (617) 988-3522

Email: patentdocketing@foleyhoag.com, rcc@foleyhoag.com

Correspondent Name: FOLEY HOAG LLP

Address Line 1: 155 SEAPORT BLVD., SEAPORT WEST
Address Line 4: BOSTON, MASSACHUSETTS 02210-2600

ATTORNEY DOCKET NUMBER:	TPQ-06503		
NAME OF SUBMITTER: ROBERT CAMPBELL			
SIGNATURE: /Robert Campbell/			
DATE SIGNED:	12/26/2019		

PATENT REEL: 051368 FRAME: 0855

Total Attachments: 7 source=TPQ06503_Exd_Assn_Ronn_Zhang_He_Dec_2019#page1.tif source=TPQ06503_Exd_Assn_Ronn_Zhang_He_Dec_2019#page2.tif source=TPQ06503_Exd_Assn_Ronn_Zhang_He_Dec_2019#page3.tif source=TPQ06503_Exd_Assn_Xiao_Clark_Hunt_Sun_Dec_2019#page1.tif source=TPQ06503_Exd_Assn_Xiao_Clark_Hunt_Sun_Dec_2019#page2.tif source=TPQ06503_Exd_Assn_Xiao_Clark_Hunt_Sun_Dec_2019#page3.tif

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PATENT REEL: 051368 FRAME: 0856

Multi-Joint

ASSIGNMENT

WHEREAS, we, Magnus Ronn, Wu-Yan Zhang and Minsheng He, together with coinventor(s) Xiao-Yi Xiao, Roger B. Clark, Diana Katharine Hunt and Cuixiang Sun, have invented a certain improvement in Tetracycline Compounds described in an application for Patent,

	the specification of which is about to be filed in the United States Patent Office (use for utility (37 CFR § 1.53(b)) and design filings only);				
	is about to be filed in the United States Patent Office as a Provisional Applicati				
	the specification of which is United States Application No. [], filed [];				
\boxtimes	the specification of which is a Patent Cooperation Treaty Application, International Application No. PCT/US2013/057690, filed August 30, 2013, which designates the United States of America;				
	which was patented under United States Patent No. [].				

WHEREAS, Tetraphase Pharmaceuticals, Inc. (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State of Delaware, and having a usual place of business at 480 Arsenal Street, Suite 110, Watertown, MA 02472 desires to confirm its interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for any and all related provisional and nonprovisional, international and national phase applications, including any and all substitution, reissue, divisional, continuation, and continuation-in-part applications, and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein; I hereby expressly authorize the filing of an International Patent Application under the

> PATENT REEL: 051368 FRAME: 0857

Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any further applications including substitution, reissue, divisional or continuation, continuation-in-part applications, and all related provisional and nonprovisional, international and national phase applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved:

AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOR, date set forth below.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	W Maxwo WW W	
Inventor's Signature:	V		
	Magnus Ronn		
State/Commonwealth			
of_ <u>MassaGusetts</u>			
- 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19			
On this 29⁴⁸ day of Octob public, personally appeared Magnus Ro		before me, the ur	ndersigned notary
7) 	*****		
personally known to me, or			
proved to me through satisfacto	rv evidence of identific	cation, which wa	is:
to be the person whose name was signe			
acknowledged that he/she signed the fo	regoing instrument as	his/her free act a	ind deed.
(SEAL)	Notary Public		<i>5 / フ</i> ;
SHANA DOBSON		n Ubson	/ (print name
Notary Public COMMONWEALTH OF MASSACHUSETTS	· · · · · · · · · · · · · · · · · · ·	expires 04/	
My Commission Expires April 1, 2016	my Commission	respires/	

Inventor's Signature:	
	/u-Yan Zhang
State/Commonwealth	
or Massachusetts	
County of Middlesex	
On this <u>29th</u> day of <u>October</u>	20 14, before me, the undersigned notary
oublic, personally appeared Wu-Yan Zhan	<i>E</i> ,
personally known to me, or	
proved to me through satisfactory of	evidence of identification, which was
to be the person whose name was signed o	on the foregoing instrument in my presence, and
acknowledged that he/she signed the foreg	oing instrument as his/her free act and deed.
(SEAL SHANA DOBSON	Notary Public 222
COMMONWEALTH OF MASSACHUSETTS	Notary Public
My Commission Expires April 1, 2016	My Commission expires 64 / 01 / 2016
Inventor's Signature:	
	Minsheng He
State/Commonwealth	
of <u>Massachosells</u> County of <i>Middlesex</i>	
On this <u>29th</u> day of <u>October</u>	
public, personally appeared Minsheng He	
personally known to me, or	
proved to me through satisfactory	evidence of identification, which was
to be the person whose name was signed of acknowledged that he/she signed the fore;	on the foregoing instrument in my presence, and going instrument as his/her free act and deed.
(SEA 15k), SHANA DOBSON Notary Plants	Notary Public 222
COMMONWEALTH OF MASSACHUSETTS My Commission Exchise	Shana Dobson (print name
April 1, 2016	My Commission expires 04/0/ /2016

-3-

Joint -

ASSIGNMENT

WHEREAS, we, Xiao-Yi Xiao, Roger B. Clark, Diana Katharine Hunt and Cuixiang Sun, have invented a certain improvement in Tetracycline Compounds described in an application for Patent,

the specification of which is about to be filed in the United States Patent Office (use for utility (37 CFR § 1.53(b)) and design filings only);
is about to be filed in the United States Patent Office as a Provisional Application;
the specification of which is United States Application No. [], filed [];
the specification of which is a Patent Cooperation Treaty Application, International Application No. PCT/US2013/057690, filed August 30, 2013 which designates the United States of America;
which was patented under United States Patent No. [].

WHEREAS, Tetraphase Pharmaceuticals, Inc. (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State of Delaware, and having a usual place of business at 480 Arsenal Street, Suite 110, Watertown, Massachusetts 02472 desires to confirm its interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for any and all related provisional and nonprovisional, international and national phase applications, including any and all substitution, reissue, divisional, continuation, and continuation-in-part applications, and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein; we hereby expressly authorize the filing of an International Patent Application under the Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application;

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AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any future applications including substitution, reissue, divisional or continuation, continuation-in-part applications, and all related provisional and nonprovisional, international and national phase applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor's Signature:	
State/Commonwealth of Massachusetts County of Middlesex	iao-Yi Xiao
On this day of December public, personally appeared Xiao-Yi Xiao,	20/3, before me, the undersigned notary
personally known to me, or	
proved to me through satisfactory ex	vidence of identification, which was
to be the person whose name was signed on acknowledged that he/she signed the forego (SEAL)	
(SEAL)	Notary Public (print name)
SHANA DOBSON Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires April 1, 2016	My Commission expires 04 101 / 2016

Inventor's Signature:	OC_
State/Commonwealth of M45Sachuse 45 County of Middlesex	oger B. Clark
On this day of day of	
	vidence of identification, which was
	Notary Public
Inventor's Signature: Diana State/Commonwealth of Massachuse#s County of Middlesex	2. Musta a Katharine Hunt
On this day of day of becember public, personally appeared Diana Katharin personally known to me, or	
	n the foregoing instrument in my presence, and oing instrument as his/her free act and deed.
SHANA DOBSON Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires April 1, 2016	Notary Public (print name) My Commission expires 4 101 12016

Docket No. 4142.1065-001

				- AV79000 I	
Inventor's Signature:	Consony	Sun			
Cuixiang Sun					
State/Commonwealth		J			
of Massachusetts					
County of Middle sex					
On this day of public, personally appeared Cui		20/3	, before me	e, the unders	igned notary
personally known to me	, or				
proved to me through satisfactory evidence of identification, which was					
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed. SHANA DOBSON Note: The Dell's and the signed the foregoing instrument as his/her free act and deed.					
Notary Public COMMONWEALTH OF MASS My Commission Exapril 1, 2016	SACHUSETTS KPIRES —	otary Public_ <i>Shan</i> Iy Commissio	n expires	04/01	(print name) _/ <i>QOL</i> 6