#### 505988120 03/27/2020

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6034829

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
TESFAYE BIFTU	12/01/2017
XIANHAI HUANG	12/04/2017
WEIGUO LIU	12/04/2017
WEIDONG PAN	11/15/2017
MIN PARK	11/18/2017
ALEXANDER PASTERNAK	12/04/2017
WANYING SUN	12/04/2017
HAIFENG TANG	11/17/2017
YI ZANG	11/14/2017

### **RECEIVING PARTY DATA**

Name:	MERCK SHARP & DOHME CORP		
Street Address:	126 EAST LINCOLN AVENUE		
Internal Address:	RY86-2011A		
City:	RAHWAY		
State/Country:	NEW JERSEY		
Postal Code:	07065		

### **PROPERTY NUMBERS Total: 1**

Property Type	Number	
Application Number:	16651456	

### CORRESPONDENCE DATA

Fax Number: (732)594-4720

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: 732 594-4000 Email: us efs@merck.com MERCK & CO., INC. Correspondent Name: Address Line 1: P. O. BOX 2000 Address Line 2: RY86-2011A

Address Line 4: RAHWAY, NEW JERSEY 07065

ATTORNEY DOCKET NUMBER: 24514-US-PCT

REEL: 052251 FRAME: 0509 505988120

PAIENI

NAME OF SUBMITTER:	PAMELA SPALDING
SIGNATURE:	/Pamela Spalding/
DATE SIGNED:	03/27/2020

**Total Attachments: 30** 

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> PATENT REEL: 052251 FRAME: 0510

#### WORLDWIDE ASSIGNMENT

#### WHEREAS, IME,

- (1) Tesfaye Biftu, located at Freehold, NJ
- (2) Xianhai Huang, located at Warren, NJ
- (3) Weiguo Liu, located at Princeton, NJ
- (4) Weidong Pan, located at Hillsborough, NJ
- (5) Min Park, located at Whippany, NJ

- (6) Alexander Pasternak, located at Princeton, NJ
- (7) Wanying Sun, located at Edison, NJ
- (8) Haifeng Tang, located at Metuchen, NJ
- (9) Yi Zang, located at Princeton, NJ

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

CHROMANE MONOBACTAM COMPOUNDS FOR THE TREATMENT OF BACTERIAL INFECTIONS

and/or in the following application(s):

U.S. Provisional Appl	ication No. <u>6</u>	2/566,799 filed on 10/02/20	<u>017</u> ;	
U.S. Application No.	16/651,456	having a fil	ling date of3/27/2020	; and
PCT International Ap	plication No.	PCT/US2018/053039	having a filing date of	9/27/2018

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize **ASSIGNEE** to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Merck Sharp & Dohme, Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp., 11/04/2010

Executed this day	of, 2	0	
Tesfaye Biftu			
ACKNOWLEDGEMENT			
State of New Jersey	) ) s.s.:		
County of Monmouth	)		
On this on the known, and known by me acknowledged that he (she) of the control of the co	tay of to be the same person(s) de executed the same, of his (her	, 20, personally a scribed in and who execute r) own free will for the purp	appeared before me <b>Tesfaye Biftu</b> to ed the foregoing instrument, and eose set forth.
(Seal)			
		Notary Public	
Executed this 4th day o	December	. 20 <u>17</u> .	
Xianhai Huang	200000		
ACKNOWLEDGEMENT			
State of New Jersey	) <sub>(</sub>		
County of Union	) s.s.: )		
On this 4th dome known, and known by me acknowledged that he (she)	tay of <u>December</u> to be the same person descr executed the same, of his (her	, 20 <u>177</u> , personally a ibed in and who executed own free will for the purp	ppeared before me <b>Xianhai Huang</b> to the foregoing instrument, and ose set forth.
(Seal)		nela (5. (6	sono de oc
	109	Notary Public	PAMELA S. SPALDING Notary Public, State of New Jersey My Commission Expires
			January 06, 2019

Page 2 of 6
Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Executed this 4th day of December, 2017.
Weiguo Liu
ACKNOWLEDGEMENT
State of New Jersey )
County of Union ) , s.s.:
On this 14h day of 2ecenber, 2017, personally appeared before me Weiguo Liu to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.
(Seal)  Pamela S. Spalding Notary Public PAMELA S. SPALDING Notary Public, State of New Jersey My Commission Expires January 06, 2019
Executed this day of, 20
Weidong Pan
ACKNOWLEDGEMENT
State of New Jersey )
) s.s.: County of Somerset )
On this day of, 20, personally appeared before me <b>Weidong Pan</b> to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.
(Seal)  Notary Public

Executed this	day of	, 20	
Min Park			
ACKNOWLEDGEMEN	T		
State of New Jersey County of Morris	) )s.s.: )		
On this known, and known by	day of me to be the same pe	, 20, personally appeared before me <b>Min Park</b> to me rson(s) described in and who executed the foregoing instrument, and me, of his (her) own free will for the purpose set forth.	Э
(Seal)		Notary Public	
	Men	ber 2017	
ACKNOWLEDGEMEN	٧T		
Pasternak to me know	/n, and known by me∶	pmber, 20 17, personally appeared before me <b>Alexander</b> o be the same person described in and who executed the foregoing instrume e same, of his (her) own free will for the purpose set forth.	ient,
(Seal)		Notary Public PAMELA J. SPALDING Notary Public, State of New Jers My Commission Expires January 06, 2019	

Page 4 of 6
Computer Generated Template "Assignment-Merck Sharp & Dohme, Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Executed this 4th day of December, 2017.
Wanying Sun
ACKNOWLEDGEMENT
State of New Jersey ) s.s.:  County of Union  On this Hh day of December, 2017, personally appeared before me Wanying Sun to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.
(Seal)  Notary Public  PAMELA S. SPALDING  Notary Public, State of New Jersey  My Commission Expires  January 06, 2019
Executed this day of, 20
Haifeng Tang
ACKNOWLEDGEMENT
State of New Jersey ) ) s.s.: County of Middlesex )
On this day of, 20, personally appeared before me <b>Haifeng Tang</b> to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.
(Seal)
Notary Public

Executed this 14th	day of Nove	mber	, 20 <u>17</u>
Yi Zang			

#### **ACKNOWLEDGEMENT**

State of New Jersey ) s.s.:
County of Union )

On this 12+1 day of November, 2017, personally appeared before me Yi Zang to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)

nela S. Spalding Notary Public

PAMELA S. SPALDING
Notary Public, State of New Jersey
My Commission Expires
January 06, 2019

#### **WORLDWIDE ASSIGNMENT**

#### WHEREAS, IWE,

- (1) Tesfaye Biftu, located at Freehold, NJ
- (2) Xianhai Huang, located at Warren, NJ
- (3) Weiguo Liu, located at Princeton, NJ
- (4) Weidong Pan, located at Hillsborough, NJ

and that I/we have the full right to convey the same as herein expressed.

(5) Min Park, located at Whippany, NJ

- (6) Alexander Pasternak, located at Princeton, NJ
- (7) Wanying Sun, located at Edison, NJ
- (8) Haifeng Tang, located at Metuchen, NJ
- (9) Yi Zang, located at Princeton, NJ

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

CHROMANE MONOBACTAM COMPOUNDS FOR THE TREATMENT OF BACERIAL INFECTIONS

and/or in the following application(s):			
U.S. Provisional Application No. 62/566,799 filed	on <u>10/02/2017;</u>		
U.S. Application No. 16/651,456	_having a filing date of _	3/27/2020	; and

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter ASSIGNEE), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize **ASSIGNEE** to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Executed this day	or <u>December</u> , 2017.
	34gr.
Tesfaye Biftu	
ACKNOWLEDGEMENT	
State of New Jersey	) ) s.s.:
County of Monmouth	)
the known, and known by the	ay of
	;
ALYCE J. PA	
(Se <b>AIOTARY PUBLIC OF</b> My Commission Expl	as July 1, 2021  Notary Public
Executed this day o	, 20
Xianhai Huang	
ACKNOWLEDGEMENT	
State of New Jersey	) () s.s.;
County of Union	<b>) 3.3</b>
On thisc me known, and known by me acknowledged that he (she) e	ay of, 20, personally appeared before me <b>Xianhai Huang</b> to to be the same person described in and who executed the foregoing instrument, and xecuted the same, of his (her) own free will for the purpose set forth.
(Seal)	
	Notary Public

Executed this	day of	. 20
Weiguo Liu		
ACKNOWLEDGEMEN	<b>VT</b>	
State of New Jersey	) ) s.s.:	
County of Union	)	
On this known, and known by acknowledged that he	day of me to be the same person (she) executed the sam	, 20, personally appeared before me <b>Weiguo Liu</b> to me on(s) described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public
Executed this	_day of	, 20
Weidong Pan	······································	
ACKNOWLEDGEMEN	NT	
State of New Jersey	) ):s.s.:	
County of Somerset	) s.s.: )	
On this known, and known by acknowledged that he	day of me to be the same pers (she) executed the sam	, 20, personally appeared before me <b>Weidong Pan</b> to me on described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Page 3 of 6
Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Executed this	day of	, 20
Min Park		<del></del>
ACKNOWLEDGEME	NT	
State of New Jersey	) ) s.s.:	
County of Morris	Ì	
On this known, and known by acknowledged that he	day of or me to be the same perece (she) executed the sa	, 20, personally appeared before me <b>Min Park</b> to me son(s) described in and who executed the foregoing instrument, and ne, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public
	day of	, 20
Alexander Pasterna	k	
ACKNOWLEDGEME	ENT	
State of New Jersey	)	
County of Union	) s.s.: )	
On this Pasternak to me kno and acknowledged th	day of wn, and known by me t at he (she) executed th	, 20, personally appeared before me <b>Alexander</b> be the same person described in and who executed the foregoing instrume same, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Page 4 of 6
Computer Generated Template "Assignment-Merck: Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck: Sharp & Dohme Corp. 11/04/2010

Executed this day of	
Wanying Sun	
ACKNOWLEDGEMENT	
State of New Jersey ) s.s.:	
County of Union )	
me known, and known by me to be the same pe	, 20, personally appeared before me <b>Wanying Sun</b> to erson(s) described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)	
	Notary Public
Executed this day of	, 20
Haifeng Tang	
ACKNOWLEDGEMENT	
State of New Jersey )	
County of Middlesex ) s.s.:	
known, and known by me to be the same perso	, 20, personally appeared before me <b>Haifeng Tang</b> to me on described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)	
	Notary Public

Page 5 of 6
Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Executed this	day of	, 20		
Yi Zang		<del></del>		
•				
ACKNOWLEDGEMENT				
State of New Jersey	) ) s,s.:			
County of Union	)			
known, and known by me	e to be the same pe	. 20, 20 erson(s) described in and ame, of his (her) own free	who executed the forego	oing instrument, and
(Seal)				
			Notary Public	<del>*************************************</del>

### WORLDWIDE ASSIGNMENT

#### WHEREAS, I/WE,

- (1) Tesfaye Biftu, located at Freehold, NJ
- (2) Xianhai Huang, located at Warren, NJ
- (3) Weiguo Liu, located at Princeton, NJ
- (4) Weidong Pan, located at Hillsborough, NJ
- (5) Min Park, located at Whippany, NJ

- (6) Alexander Pasternak, located at Princeton, NJ
- (7) Wanying Sun, located at Edison, NJ
- (8) Haifeng Tang, located at Metuchen, NJ
- (9) Yi Zang, located at Princeton, NJ

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

100 Participal Application No. 201500 T00 ES-2 - 4010010047

CHROMANE MONOBACTAM COMPOUNDS FOR THE TREATMENT OF BACTERIAL INFECTIONS

and/or in the following application(s):

U.S. Provisional Application No. 62/366,799 Tiled	on <u>10/02/2017;</u>
U.S. Application No. 16/651,456	having a filing date of 3/27/2020; and
PCT International Application No. PCT/US2018/05	3039 having a filing date of 9/27/2018

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

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NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize **ASSIGNEE** to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Executed this	_day of	, 20
Tesfaye Biftu		
ACKNOWLEDGEMEN	Τ	
State of New Jersey	) ) s.s.:	
County of Monmouth	ý	
me known, and known I	by me to be the same pers	, 20, personally appeared before me <b>Tesfaye Biftu</b> to son(s) described in and who executed the foregoing instrument, and of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public
	day of	, 20
Xianhai Huang		
ACKNOWLEDGEMEN	т	
State of New Jersey	)	
County of Union	) s.s.: )	
	by me to be the same pers	, 20, personally appeared before me <b>Xianhaì Huang</b> to described in and who executed the foregoing instrument, and of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Executed this	day of	, 20
Weiguo Liu		
ACKNOWLEDGEMEN	4T	
State of New Jersey	) ) s.s.:	
County of Union	)	
known, and known by	me to be the same person(s)	, 20, personally appeared before me <b>Weiguo Liu</b> to me described in and who executed the foregoing instrument, and his (her) own free will for the purpose set forth.
(Seal)		Notary Public
Executed this 15  \( \lambda \ \lamb	day of November	, 20 <u>17</u>
Trongong / an		
ACKNOWLEDGEMEN	<b>I</b> T	
State of New Jersey County of Somerset	) ) s.s.: )	
known, and known by		, 20 <u>17</u> , personally appeared before me <b>Weidong Pan</b> to me scribed in and who executed the foregoing instrument, and his (her) own free will for the purpose set forth.
JASON SOL Notary Put (Seal State of New My Commission Expire I.D.# 2447	Jersey s July 16, 2019	Notary Public

Executed this	day of	, 20	
		_	
Min Park			
ACKNOWLEDGEME	INT		
State of New Jersey	) ) s.s.; )		
County of Morris	) 5.5		
On this known, and known by acknowledged that he	day of me to be the same persections (she) executed the san	, 20, personally appeared before me <b>Min Park</b> to son(s) described in and who executed the foregoing instrument, and ne, of his (her) own free will for the purpose set forth.	) me
(Seal)			
		Notary Public	
Executed this	day of	, 20	
Alexander Pasterna	k		
ACKNOWLEDGEME	NT		
State of New Jersey	)		
County of Union	) s.s.: )		
On this	day of wn, and known by me to at he (she) executed the	, 20, personally appeared before me <b>Alexander</b> be the same person described in and who executed the foregoing inst same, of his (her) own free will for the purpose set forth.	rument
(a) is			
(Seal)			
		Notary Public	

Page 4 of 6
Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp., 11/04/2010

Executed this day of	
Wanying Sun	
ACKNOWLEDGEMENT	
State of New Jersey ) ) s.s.:	
County of Union )	
On this day of me known, and known by me to be the same pers acknowledged that he (she) executed the same, of	, 20, personally appeared before me <b>Wanying Sun</b> to son(s) described in and who executed the foregoing instrument, and of his (her) own free will for the purpose set forth.
(Seal)	
	Notary Public
Executed this day of	, 20
Haifeng Tang	<del></del>
ACKNOWLEDGEMENT	
State of New Jersey )	
County of Middlesex ) s.s.:	
On this day of known, and known by me to be the same person acknowledged that he (she) executed the same, or	, 20, personally appeared before me <b>Haifeng Tang</b> to me described in and who executed the foregoing instrument, and of his (her) own free will for the purpose set forth.
(Seal)	
	Notary Public

Executed this	day of	, 20
Yi Zang		<del></del>
ACKNOWLEDGEME	NT	
State of New Jersey	) ) s.s.:	
County of Union	) 5.5	
		, 20, personally appeared before me <b>Yi Zang</b> to me erson(s) described in and who executed the foregoing instrument, and ame, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

#### WORLDWIDE ASSIGNMENT

#### WHEREAS, I/WE,

- (1) Tesfaye Biftu, located at Freehold, NJ
- (2) Xianhai Huang, located at Warren, NJ
- (3) Weiguo Liu, located at Princeton, NJ
- (4) Weidong Pan, located at Hillsborough, NJ
- (5) Min Park, located at Whippany, NJ

(6) Alexander Pasternak, located at Princeton, NJ

(7) Wanying Sun, located at Edison, NJ

(8) Haifeng Tang, located at Metuchen, NJ

(9) Yi Zang, located at Princeton, NJ

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

CHROMANE MONOBACTAM COMPOUNDS FOR THE TREATMENT OF BACTERIAL INFECTIONS

and/or in the following application(s):

U.S. Provisional Application No. 6	<u>2/566,799</u> filed on <u>10/02/2017;</u>
U.S. Application No. 16/651,456	having a filing date of 3/27/2020; and
PCT International Application No.	PCT/US2018/053039 having a filing date of 9/27/2018

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize **ASSIGNEE** to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Merck Sharp & Dohme, Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp., 11/04/2010

Executed this	_ day of	, 20
		,
Tesfaye Biftu		
ACKNOWLEDGEMEN	т	
State of New Jersey	) ) s.s.:	
County of Monmouth	)	
me known, and known	by me to be the same pers	, 20, personally appeared before me <b>Tesfaye Biftu</b> to con(s) described in and who executed the foregoing instrument, and of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public
Executed this	day of	, 20
Xianhai Huang		
ACKNOWLEDGEMEN	τ	
State of New Jersey	)	
County of Union	) s.s.: )	
me known, and known	by me to be the same pers	, 20, personally appeared before me <b>Xianhai Huang</b> to on described in and who executed the foregoing instrument, and if his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Executed this	day of	, 20
Weiguo Liu		
ACKNOWLEDGEME	NT	
State of New Jersey	) ) s.s.:	
County of Union	) (5.5	
On this known, and known by acknowledged that he	day of or me to be the same person er (she) executed the same	, 20, personally appeared before me <b>Weiguo Liu</b> to mon(s) described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public
Executed this	day of	, 20
		·
Weidong Pan		
ACKNOWLEDGEME	NT	
State of New Jersey	)	
County of Somerset	) s.s.: )	
known, and known by	me to be the same person	, 20, personally appeared before me <b>Weidong Pan</b> to men described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Executed this/k day of	November, 2017.
mi p	h
Min Park	
ACKNOWLEDGEMENT	
State of New Jersey )	· · · · · · · · · · · · · · · · · · ·
) s County of Morris	
On this <u>/8</u> day o known, and known by me to be th acknowledged that he (she) execu	of he same person(s) described in and who executed the foregoing instrument, and uted the same, of his (her) own free will for the purpose set forth.
(Se) JORGE L IDRO\ Notary Public - State of I My Commission Expires J	Now become Longe J- (NACL)
Executed this day of	
Alexander Pasternak	
ACKNOWLEDGEMENT	
State of New Jersey )	s.s.:
County of Union )	
On this day of Pasternak to me known, and kno and acknowledged that he (she) e	, 20, personally appeared before me <b>Alexander</b> wn by me to be the same person described in and who executed the foregoing instrumen executed the same, of his (her) own free will for the purpose set forth.
(See)	
(Seal)	Notary Public
	nutary rubiic

Executed this	day of	20
Wanying Sun		
ACKNOWLEDGEMEN	NT	
State of New Jersey	)	
County of Union	) ) s.s.: )	
On this me known, and known acknowledged that he	day of by me to be the same pers (she) executed the same, o	, 20, personally appeared before me <b>Wanying Sun</b> to on(s) described in and who executed the foregoing instrument, and if his (her) own free will for the purpose set forth.
(Seal)	4 · · · · · · · · · · · · · · · · · · ·	
ž.		Notary Public
	_day of	, 20
Haifeng Tang		
ACKNOWLEDGEMEN	VT:	
State of New Jersey	)	
County of Middlesex	) s,s,: )	
On thisknown, and known by acknowledged that he	day of me to be the same person ( (she) executed the same, c	, 20, personally appeared before me <b>Haifeng Tang</b> to me described in and who executed the foregoing instrument, and if his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Executed this	day of	, 20	
Yi Zang			
ACKNOWLEDGEMEN			
State of New Jersey	) ) s.s.:		
County of Union	)		
known, and known by	me to be the same p	, 20, personally appeared before me <b>Yi Zang</b> to erson(s) described in and who executed the foregoing instrument, and same, of his (her) own free will for the purpose set forth.	me
(Seal)		Notary Public	

#### WORLDWIDE ASSIGNMENT

WHEREAS, I/WE.

- (1) Tesfaye Biftu, located at Freehold, NJ
- (2) Xianhai Huang, located at Warren, NJ
- (3) Weiguo Liu, located at Princeton, NJ
- (4) Weidong Pan, located at Hillsborough, NJ
- (5) Min Park, located at Whippany, NJ

- (6) Alexander Pasternak, located at Princeton, NJ
- (7) Wanying Sun, located at Edison, NJ
- (8) Haifeng Tang, located at Metuchen, NJ
- (9) Yi Zang, located at Princeton, NJ

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

CHROMANE MONOBACTAM COMPOUNDS FOR THE TREATMENT OF BACTERIAL INFECTIONS

PCT International Application No. PCT/US2018/053039 having a filing date of 9/27/2018

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize **ASSIGNEE** to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Merck Sharp & Dohme, Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp., 11/04/2010

Executed this	day of	
Tesfaye Biftu		
ACKNOWLEDGEMEN	Т	
State of New Jersey	) ) s.s.:	
County of Monmouth	Ĵ	
me known, and known	by me to be the same pers	, 20, personally appeared before me <b>Tesfaye Biftu</b> to son(s) described in and who executed the foregoing instrument, and of his (her) own free will for the purpose set forth.
(Seal)		Notary Public
Executed this	day of	, 20
Xianhai Huang		
ACKNOWLEDGEMEN	т	
State of New Jersey	)	
County of Union	) s.s.: )	
On this me known, and known acknowledged that he i	by me to be the same per:	, 20, personally appeared before me <b>Xianhai Huang</b> to son described in and who executed the foregoing instrument, and of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Executed this	day of	, 20
Weiguo Liu		
ACKNOWLEDGEME	NT	
State of New Jersey	) ) s.s.:	
County of Union		
On this known, and known by acknowledged that he	day of me to be the same person(set (she) executed the same, of	, 20, personally appeared before me <b>Weiguo Liu</b> to me s) described in and who executed the foregoing instrument, and if his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public
Executed this	_ day of	
Weidong Pan		<del></del>
ACKNOWLEDGEME	NT	
State of New Jersey	)	
County of Somerset	) s.s.: )	
On this known, and known by acknowledged that he	day ofday of me to be the same person on the same, on the same, of the same, of the same, of the same, of the same, or the same are the same and the same are the	, 20, personally appeared before me <b>Weidong Pan</b> to me described in and who executed the foregoing instrument, and if his (her) own free will for the purpose set forth.
(leas)		
(Seal)		Notary Public

Executed this	day of	, 20
Min Park		-
ACKNOWLEDGEME	NT	
State of New Jersey	) ) s.s.:	
County of Morris	)	
On this known, and known by acknowledged that he	day of me to be the same person (she) executed the same	, 20, personally appeared before me <b>Min Park</b> to me on(s) described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)		Notary Public
Evenuted this		, and the second
Alexander Pasternal		······································
* ************************************		
ACKNOWLEDGEME	NT	
State of New Jersey	)	
County of Union	) s.s.: )	
Pasternak to me know	wn, and known by me to	, 20, personally appeared before me <b>Alexander</b> be the same person described in and who executed the foregoing instruments same, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Page 4 of 6
Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Executed this day of	, 20		
Wanying Sun			
ACKNOWLEDGEMENT			
State of New Jersey ) s.s.	£		
County of Union )			
On this day of _ me known, and known by me to be t acknowledged that he (she) execute	, 20 ne same person(s) described in d the same, of his (her) own fre	, personally appeared before me n and who executed the foregoing ins se will for the purpose set forth.	Wanying Sun to trument, and
(Seal)			
		Notary Public	
Executed this 17 day of N	ovember, 20 17	7-	
Haifeng Tang			
ACKNOWLEDGEMENT			
State of New Jersey	)		
County of Middlesex	) s.s.: )		
On this day of known, and known by me to be the s acknowledged that he (she) execute	November , 20 17 same person described in and vid the same, of his (her) own free	_, personally appeared before me <b>Ha</b> who executed the foregoing instrume ee will for the purpose set forth.	ifeng Tang to me nt, and
FLOHENCE M ODHIAMS Notary Public (Seal) State of New Jersey My Commission Expires Sept. 2	Flores	M Odhi ambo  Notary Public	

Executed this	day of	, 20	
Yi Zang		<del></del>	
ACKNOWLEDGEMENT			
State of New Jersey	) )'s.s.:	;	
County of Union	) 5.5		
known, and known by me	e to be the same p	. 20, personally erson(s) described in and who executed ame, of his (her) own free will for the pu	the foregoing instrument, and
(Seal)			
		Notary Public	