## 505565659 07/10/2019

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
DAVID CHARLES DONNELL BUTLER	03/01/2018
PACHAMUTHU KANDASAMY	03/01/2018
SUBRAMANIAN MARAPPAN	03/01/2018
IK-HYEON PAIK	03/01/2018
JAYAKANTHAN KUMARASAMY	03/01/2018
GOPAL REDDY BOMMINENI	03/01/2018

### **RECEIVING PARTY DATA**

Name:	WAVE LIFE SCIENCES LTD.
Street Address:	7 STRAITS VIEW #12-00
Internal Address:	MARINA ONE EAST TOWER
City:	SINGAPORE
State/Country:	SINGAPORE
Postal Code:	018936

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

Property Type	Number
Application Number:	16463328

### **CORRESPONDENCE DATA**

**Fax Number:** (617)502-5002

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:** 617-248-5000

Email: PatentDocket@choate.com

Correspondent Name: CHOATE HALL & STEWART LLP-PATENT DOCKET

Address Line 1: TWO INTERNATIONAL PLACE

Address Line 4: BOSTON, MASSACHUSETTS 02110

ATTORNEY DOCKET NUMBER:	2010581-0665
NAME OF SUBMITTER:	LONGLE MA, PHD
SIGNATURE:	/Longle Ma/
DATE SIGNED:	07/10/2019

PATENT 505565659 REEL: 049719 FRAME: 0034

# Total Attachments: 10 source=2010581-0665\_Assignment#page1.tif source=2010581-0665\_Assignment#page2.tif source=2010581-0665\_Assignment#page3.tif source=2010581-0665\_Assignment#page4.tif source=2010581-0665\_Assignment#page5.tif source=2010581-0665\_Assignment#page6.tif source=2010581-0665\_Assignment#page7.tif source=2010581-0665\_Assignment#page8.tif source=2010581-0665\_Assignment#page9.tif source=2010581-0665\_Assignment#page9.tif

PATENT REEL: 049719 FRAME: 0035

# JOINT ASSIGNMENT

WHEREAS, each of the below-named inventors whose name and residence is set forth in the following Table 1:

Inventor Name	City, State	
1. David Charles Donnell Butler	Medford, Massachusetts	
2. Pachamuthu Kandasamy	Belmont, Massachusetts	
3. Subramanian Marappan	Acton, Massachusetts	
4. Ik-Hyeon Paik	Needham, Massachusetts	
5. Jayakanthan Kumarasamy	Arlington, Massachusetts	
6. Gopal Reddy Bommineni	Belmont, Massachusetts	

Table 1

hereby declares and agrees, on behalf of himself/herself and all of his/her successors and assigns that each is aware of the patent application(s) entitled:

# COMPOSITIONS AND METHODS FOR PHOSPHORAMIDITE AND OLIGONUCLEOTIDE SYNTHESIS; and

ic	lentified by United States Applicat Inited States Patent and Trademark	ion Serial l	No.	
filed in the U	Jnited States Patent and Trademark	c Office on	·	; an
$\begin{bmatrix} \mathbf{x} \end{bmatrix}$ id	entified by International Patent Ap November 22, 2017	plication N ; and	lo. <u>PCT/US20</u>	)17/062996
[x] a	nd is also aware of the following p	riority appl	ications:	
,	Serial No.		Filed	1
	62/426,079	N	lovember 23, 2016	j

WHEREAS, WAVE LIFE SCIENCES LTD. (hereinafter "ASSIGNEE"), having a usual place of business at 7 Straits View #12-00, Marina One East Tower, Singapore 018936, REPUBLIC OF SINGAPORE, desires to acquire or confirm an interest therein;

NOW, THEREFORE, to all whom it may concern be it known that, in consideration of agreements previously and duly entered into between the parties, and/or for other good and valuable consideration, the receipt of which is hereby acknowledged, each of us has sold, assigned, and transferred and/or do hereby sell, assign, and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title, and interest in and throughout

PATENT REEL: 049719 FRAME: 0036 the United States of America, its territories and all foreign countries, in and to any and all inventions described in the patent application, and/or any priority applications noted above, including any right of priority thereto; and hereby confirm that my sale, assignment and transfer is and was effective at least as of the filing date of the patent application and/or priority application. Our sale, assignment and transfer applies to the above-referenced patent application, and to any application that is based in whole or in part on the patent application, including any divisional, continuing, substitute, renewal, reissue, reexamination and other applications, for example that claim priority to the patent application. Also, this sale, assignment and transfer pertains to any and all other rights arising under or pursuant to any and all international agreements, treaties, or laws relating to the protection of industrial property, including all rights of priority under the International Convention for the Protection of Industrial Property, and in and to any such patent(s) as may issue thereon including any and all original and reissued patents which have been or shall be issued in the United States and foreign countries; said inventions, applications, and patent(s) to be held and enjoyed by ASSIGNEE for its own use and for its successors, assigns and legal representatives, to the full end of the term for which said patent(s) may be granted as fully and entirely as the same would have been held by each of us had this sale, assignment and transfer not been made;

AND, each of us hereby acknowledges that this Assignment, being of our entire right, title, and interest in and to the inventions, carries with it the right in ASSIGNEE, by attorneys and agents of ASSIGNEE selection, to apply for and receive any and all patent(s) for said inventions in its own name;

AND, each of us hereby further agrees 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 patent(s) to ASSIGNEE, its successors, assignees, and legal representatives, but at its expense and charges, including the execution of application for patents in foreign countries, the execution of substitution, reissue, divisional or continuation applications, and the giving of testimony, preliminary statements, or other statements in any interference or other proceeding in which the inventions or any applications or patents directed to the inventions may be involved by communicating to the ASSIGNEE all facts we know relating to the inventions and their history, and generally by doing everything possible which ASSIGNEE shall consider desirable for aiding in securing and maintaining proper patent protection for the inventions and for vesting title in the inventions and all applications for patent and all patents on the inventions in ASSIGNEE;

AND, each of us further hereby authorizes ASSIGNEE or its attorneys or agents to insert the correct serial number(s) and/or filing date(s) into this assignment document, if appropriate;

AND, each of us hereby appoints ASSIGNEE as our common agent for purposes of prosecuting international patent applications and any national patent applications for which such common agency is recognized;

AND, each of us hereby requests the Commissioner for Patents of the United States Patent and Trademark Office to issue any and all patent(s) as shall be granted upon said

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application or applications based thereon to ASSIGNEE, its successors, assigns, and legal representatives;

AND, each of us covenants with said ASSIGNEE that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by us, and that full right to convey the same as herein expressed is possessed by us.

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Signature:	Date: 03.01.201
David Charles Donnell Butler	1 1
Witness Signature:	Date: 3/1/18
Witness Name (printed): FRANK W	
L. AMA	21.160
Witness Signature:	Date:
Witness Name (printed). LANGE VALLA-	

Signature:		Date:	3/11/8
Pachamuthu Kand	lasamy		
Witness Signature:	FERTINE	Date:	3/1/18
Witness Name (printed):	FRANKUN		¥. §
Witness Signature:		Date:	11111112 2018
Witness Name (printed)	LAURIE VALIA		

Signature:	JUI -	Date:	03/01/2019
Subramanian Marappa		in the same of the	# .x
Witness Signature:	<u> Shahada</u>	Date:	3/1/18
Witness Name (printed):	FLANK WU	ž.	
	MM2		, us sue not
Witness Signature:			1 MAR 2018
Witness Name (printed):	WURK UNLAL		

Signature: ///	4///	Date:	03/01/2018
Ik-Hyeon Pail Witness Signature:	y Spelen	Date:	3/1/18
Witness Name (printed):	FRANK UN	A- VONS. 5.	<del></del>
Witness Signature:		Date:	11111×2018
Witness Nome (minted).	PHIRIP WALLAR		

Signature: LTK		Date:	03/01/2018
Jayakanthan K	umarasamy		71
Witness Signature:	- Sadrund	Date:	3/1/18
Witness Name (printed):	Frank w		
Witness Signature:	<u> </u>	Date:	IMAR 2018
Witness Name (printed)	LAWEL WILM		

Signature:	4Celans	Date:	810,8 10   20
Gopal Reddy	Bommineni		1
Witness Signature:	ZFIZ-DD	Date:	3/1/18
Witness Name (printed):	- FLANK W		* "3
Witness Signature:		Date:	1MAX 2018
Witness Name (printed)	CAVEL VALAS-		

The undersigned (	whose title is supplied below) i	s authorized to ac	t on be	half of WAVE	
LIFE SCIENCES	LTD	:.		1	
Signature:	2-25		Date:	44/18	
Name (printed):	Paul B, Bolno	***************************************		** ***********************************	
Title (printed):	President and CEO				

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