504818197 03/14/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4864932

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SAADYAH AVERICK	02/26/2018
AHMED BADR	03/02/2018
SHAOHUA LI	03/05/2018
KEITH LEJEUNE	03/05/2018

RECEIVING PARTY DATA

Name:	ALLEGHENY-SINGER RESEARCH INSTITUTE	
Street Address:	320 EAST NORTH AVENUE	
Internal Address:	10TH FLOOR, SOUTH TOWER	
City:	PITTSBURGH	
State/Country:	PENNSYLVANIA	
Postal Code:	15212	

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	15757162
Application Number:	62214004

CORRESPONDENCE DATA

Fax Number: (609)896-1469

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: 609-896-3600

Email: ipdocket@foxrothschild.com

Correspondent Name: FOX ROTHSCHILD LLP PRINCETON PIKE CORPOR

Address Line 1: 997 LENOX DRIVE

Address Line 2: BLDG. #3

Address Line 4: LAWRENCEVILLE, NEW JERSEY 08648

ATTORNEY DOCKET NUMBER:	106641.07301
NAME OF SUBMITTER:	MARY P. MCDERMOTT
SIGNATURE:	/Mary P. McDermott/
DATE SIGNED:	03/14/2018

PATENT 504818197 REEL: 045199 FRAME: 0436

Total Attachments: 5 source=executed_Assignment#page1.tif source=executed_Assignment#page2.tif source=executed_Assignment#page3.tif source=executed_Assignment#page4.tif source=executed_Assignment#page5.tif

PATENT REEL: 045199 FRAME: 0437

ASSIGNMENT OF INVENTION

In consideration of the payment by ASSIGNEE to ASSIGNOR(S) of the sum of One Dollar (\$1.00) and for other good and valuable consideration, the receipt of which is hereby acknowledged, by this document

ASSIGNOR(S):		
Name	Address	
Saadyah Averick Ahmed Badr Shaohua Li Keith LeJeune	233 Anita Avenue, Pittsburgh, PA 15217 194 Campmeeting Road extension, Sewickley, PA 15143 504 Orchard Avenue, Pittsburgh, PA 15202 1002 Manor Valley Court, Export, PA 15632	
assigns and transfers to:		
ASSIGNEE:	1	
Allegheny-Singer Research Institute	320 East North Avenue, 10th Floor, South Tower, Pittsburgh, PA 15212	
the entire right, title and interest in and to the invention entitled:		
HYDROPHILIC FENTANYL DERIVATIVES		

and which is found in (check one or more):

\boxtimes	U.S. patent application no. 15/757,162, filed March 2, 2018
茵	U.S. provisional application no. 62/214,004, filed September 3, 2015
$\overline{\boxtimes}$	International Patent Application no. PCT/US2016/050398, filed September 6, 2016
	U.S. patent no, issued

and in and to:

- all patent applications filed and letters patent obtained for the invention, whether foreign and domestic, and all continuations, continuations-in-part, divisions, renewals, reissues, reexaminations, or substitutes of any such patent or patent application; and any patents and patent applications to which any such patent or patent application claims priority;
- all rights to any legal equivalent thereof in a foreign country such as patents of addition, utility models, patents of importation, revalidation patents and inventor certificates;
- the right to apply for patents and inventor certificates relating to the invention, and the right to claim priority to all applications throughout the world in respect of the invention; and
- · the right to sue and recover any and all damages and profits, and any and all other remedies, for past, present, or future infringements of patents directed to the invention.

ASSIGNOR(S) authorizes ASSIGNEE or its legal representative to insert in this instrument the filing date, serial number, and any other information that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office or any other domestic or foreign government entity for the recordation of this document.

ASSIGNOR(S) warrants and agrees that:

- no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;
- upon request, ASSIGNOR(S) will promptly provide ASSIGNEE with all pertinent facts and documents relating to the invention as may be known and accessible to ASSIGNOR(S);

ASSIGNOR(S) will, at ASSIGNEE's expense, testify as to the same in any interference, litigation
or proceeding related to the invention; and

 ASSIGNOR(s) will promptly execute and deliver to ASSIGNEE, its assigns or its legal representatives, without further or additional consideration, any and all papers, instruments or affidavits required, render all necessary assistance, and do such additional acts as ASSIGNEE or its successors or assigns may deem necessary or desirable, to apply for, obtain, maintain, issue and enforce any resulting patents or patent applications.

ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks and any foreign counterpart to issue any and all letters patent for the invention to ASSIGNEE, for ASSIGNEE's sole use and benefit, and for the use and benefit of ASSIGNEE's successors and assigns, to the full end of the term for which any such patent may be granted.

ASSIGNOR(S) agrees that this document shall bind and inure to the benefit of the heirs, assigns and legal representatives of both ASSIGNOR(S) and ASSIGNEE.

Name: Saadyah Averick Saadyah Averick	Date: 02/26/2018
Name: Anmed Badr	Date: 3/2/2018
Name: Shaohua Li	Date:
Name: Keith LeJeune	Date:

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Name:	Saadyah Averick Saadyah Averick	Date:	02/26/2018
Name:	Ahmed Badr	Date:	
Name:	Shaohua Li	Date:	
Name: ,	Keith Lebeune	Date:	3-5-18

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ASSIGNOR(S):

Name	Address
Saadyah Averick	233 Anita Avenue, Pittsburgh, PA 15217
Ahmed Badr	194 Campmeeting Road extension, Sewickley, PA 15143
Shaohua Li	504 Orchard Avenue, Pittsburgh, PA 15202
Keith LeJeune	1002 Manor Valley Court, Export, PA 15632
assigns and transfers to: ASSIGNEE:	
Allegheny-Singer Research Institute	320 East North Avenue, 10th Floor, South Tower, Pittsburgh, PA 15212

the entire right, title and interest in and to the invention entitled:

HYDROPHILIC FENTANYL DERIVATIVES

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- all patent applications filed and letters patent obtained for the invention, whether foreign and domestic, and all continuations, continuations-in-part, divisions, renewals, reissues, reexaminations, or substitutes of any such patent or patent application; and any patents and patent applications to which any such patent or patent application claims priority;
- all rights to any legal equivalent thereof in a foreign country such as patents of addition, utility models, patents of importation, revalidation patents and inventor certificates;
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1 of 2

- ASSIGNOR(S) will, at ASSIGNEE's expense, testify as to the same in any interference, litigation
 or proceeding related to the invention; and
- ASSIGNOR(s) will promptly execute and deliver to ASSIGNEE, its assigns or its legal representatives, without further or additional consideration, any and all papers, instruments or affidavits required, render all necessary assistance, and do such additional acts as ASSIGNEE or its successors or assigns may deem necessary or desirable, to apply for, obtain, maintain, issue and enforce any resulting patents or patent applications.

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Name:	Saadyah Averick	Date:
Name:	Ahmed Badr	Date:
Name:	Shaohua Li	Date: 3/5/2018
Name:	Keith LeJeune	Date: