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AUGUST 27, 2018

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UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

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PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE ASSIGNMENT RECORDATION BRANCH AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

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ASSIGNOR:
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ASSIGNEE:
IRONWOOD PHARMACEUTICALS, INC.
301 BINNEY STREET
CAMBRIDGE, MASSACHUSETTS 02142

APPLICATION NUMBER: 62639642
PATENT NUMBER:
TITLE: PROCESS FOR PREPARING SOLUBLE GUANYLATE CYCLASE STIMULATORS

FILING DATE: 03/07/2018
ISSUE DATE:

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

IRONWOOD PHARMACEUTICALS, INC.
301 Binney Street
Cambridge, Massachusetts 02142
United States of America

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to this invention relating to

PROCESS FOR PREPARING SOLUBLE GUANYLATE CYCLASE STIMULATORS

as set forth in the following Patent Application:

U.S. Provisional Application Serial No.: 62/639,642, filed March 7, 2018

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified applications and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the International Convention and any other international agreement to which the United States adheres; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES ASSIGNEE to file patent applications in any or all countries on the above-identified invention or inventions in the name of the undersigned or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable under the International Convention or otherwise.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of **McCarter & English, LLP** the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of **McCarter & English, LLP** do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

Executed this 17 day of August, 2018.



Thomas Storz

United States of America)
State of MA)
County of Middlesex)

On this 17th day of August, 2018 before me, the
the undersigned notary public, personally appeared Thomas Storz
(name of document signer), proved to me through satisfactory evidence of identification,
which was MA driver's license, to be the person whose name
is signed on the preceding or attached document in my presence.

 (official signature and seal of notary)

My commission expires 10/1/2021.



Acceptance of Assignment by the Assignee:

Executed this 17th day of August, 2018.

Karen E. Brown
Ironwood Pharmaceuticals, Inc.

Name: Karen E. Brown

Title: VP, Chief IP Counsel

United States of America)
State of MA)
County of Middlesex)

On this 17th day of August, 2018 before me, the
the undersigned notary public, personally appeared Karen E. Brown
(name of document signer), proved to me through satisfactory evidence of identification,
which was Known to me, to be the person whose name
is signed on the preceding or attached document in my presence.

Kathleen A. Shaffer (official signature and seal of notary)
My commission expires 10/1/2021.

