PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4842799

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| LOUIS RENZETTI | 07/29/2015 |

RECEIVING PARTY DATA

| Name: | PHARMACEUTICAL PRODUCT DEVELOPMENT, LLC (SUCCESSOR TO PHARMACEUTICAL PRODUCT DEVELOPMENT, INC.) |
|-----------------|---|
| Street Address: | 929 NORTH FRONT STREET |
| City: | WILMINGTON |
| State/Country: | NORTH CAROLINA |
| Postal Code: | 28401-3331 |

PROPERTY NUMBERS Total: 2

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15300762 |
| Application Number: | 15896905 |

CORRESPONDENCE DATA

Fax Number: (617)428-7045

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.

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Address Line 2: 15TH FLOOR

Address Line 4: BOSTON, MASSACHUSETTS 02110

| ATTORNEY DOCKET NUMBER: | 50920-007002,007003 | |
|-------------------------|--------------------------|--|
| NAME OF SUBMITTER: | KAREN L. ELBING, PH.D. | |
| SIGNATURE: | /Karen L. Elbing, Ph.D./ | |
| DATE SIGNED: | 02/27/2018 | |

Total Attachments: 2

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PATENT 504796067 REEL: 045054 FRAME: 0059

Attorney Docket No.: 50920-007WO2

50920-007001 Execution Copy

CONFIRMATORY ASSIGNMENT

Ι,

| Full Name of Assignor | City | State (and Country if not USA) |
|-----------------------|------------|--------------------------------|
| Louis RENZETTI | Wilmington | North Carolina |

acknowledge the assignment, as of the filing dates, to:

| Full Name of Assignee | State of Incorporation | Business Address |
|---|------------------------|---|
| Pharmaceutical Product Development, LLC (successor to Pharmaceutical Product Development, Inc.) | Delaware | 929 North Front Street Wilmington, NC 28401-3331 |

and to its successors and assigns (collectively hereinafter called the "ASSIGNEE"), for good and valuable consideration paid to ASSIGNOR by ASSIGNEE, the receipt and sufficiency of which is hereby acknowledged, the entire right, title, and interest in, to, and deriving from the invention(s) disclosed in the patent application(s) set forth below throughout the world by operation of law, contract, or otherwise, and any Letters Patent which may hereafter be granted on the same including any application claiming priority, divisions, renewals, continuations in whole or in part, substitutions, conversions, reissues, reexaminations, prolongations or extensions thereof.

| Title of Application | Filing Date | Serial Number |
|--|---------------|-------------------|
| SUBSTITUTED SPIROCYCLIC INHIBITORS OF AUTOTAXIN AND THEIR PREPARATION AND USE IN THE TREATMENT OF LPA-DEPENDENT OR LPA-MEDIATED DISEASES | April 4, 2014 | 61/975,123 |
| | April 3, 2015 | PCT/US2015/024338 |

Furthermore, we authorize and request the attorneys appointed in said application to hereafter complete this assignment by inserting above the filing date and serial number of said application when known; this assignment includes said application, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our names or in its own name for patents, utility models, design registrations, and like rights of exclusion, and for inventors' certificates for said inventions and improvements; and we agree for ourselves and our respective heirs, legal representatives and assigns, without further compensation, to perform such lawful acts and to sign such further applications, assignments, Preliminary Statements, and other lawful documents as the Assignee may reasonably request to effectuate fully this assignment. This assignment also includes the right to sue for past acts of infringement, whether based on any patents listed herein, patents issuing from applications listed herein, or provisional rights from any patent applications listed herein.

Attorney Docket No.: 50920-007WO2 50920-007001 Execution Copy

| IN WITNESS WHEREOF, I hereto set my hand and seal at, 20//. | |
|---|-----------------|
| Louis RENZETTI | L.S. |
| 11/5/h | MARCIA RENZETTI |

PRINTED NAME

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WITNESSED BY