

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM460635

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|---|--|-------------------------|-----------------------|
| SUBMISSION TYPE: | NEW ASSIGNMENT | | |
| NATURE OF CONVEYANCE: | SECURITY INTEREST | | |
| CONVEYING PARTY DATA | | | |
| Name | Formerly | Execution Date | Entity Type |
| TITAN PHARMACEUTICALS, INC. | | 02/02/2018 | Corporation: DELAWARE |
| RECEIVING PARTY DATA | | | |
| Name: | HORIZON CREDIT II LLC, AS ASSIGNEE OF HORIZON TECHNOLOGY FINANCE CORPORATION | | |
| Street Address: | 312 Farmington Avenue | | |
| City: | Farmington | | |
| State/Country: | CONNECTICUT | | |
| Postal Code: | 06032 | | |
| Entity Type: | Limited Liability Company: DELAWARE | | |
| PROPERTY NUMBERS Total: 6 | | | |
| Property Type | Number | Word Mark | |
| Registration Number: | 4102980 | PROBUPHINE | |
| Serial Number: | 87457505 | TITAN PHARMACEUTICALS | |
| Serial Number: | 86309090 | PRONEURA | |
| Serial Number: | 87009766 | BUPLANT | |
| Serial Number: | 87278810 | T | |
| Serial Number: | 87278812 | T TITAN PHARMACEUTICALS | |
| CORRESPONDENCE DATA | | | |
| Fax Number: | 8606768655 | | |
| <i>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.</i> | | | |
| Phone: | 860-284-9878 | | |
| Email: | lucia@horizontechfinance.com | | |
| Correspondent Name: | Horizon Technology Finance | | |
| Address Line 1: | 312 Farmington Avenue | | |
| Address Line 4: | Farmington, CONNECTICUT 06032 | | |
| NAME OF SUBMITTER: | Eric S. Darmofal | | |
| SIGNATURE: | /s/Eric S. Darmofal | | |
| DATE SIGNED: | 02/02/2018 | | |

OP \$165.00 4102980

Total Attachments: 7

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GRANT OF SECURITY INTEREST
TRADEMARKS

THIS GRANT OF SECURITY INTEREST, dated as February 2, 2018, is executed by TITAN PHARMACEUTICALS, INC., a Delaware corporation with an address of 400 Oyster Point Blvd., Suite 505, South San Francisco, CA 94080 ("Debtor"), in favor of HORIZON CREDIT II LLC, as assignee of HORIZON TECHNOLOGY FINANCE CORPORATION, a Delaware corporation with an address of 312 Farmington Avenue, Farmington, Connecticut 06032 ("Secured Party").

A. Pursuant to a certain Venture Loan and Security Agreement, dated as of July 27, 2017 (as amended, restated, supplemented or otherwise modified from time to time, (the "Agreement") by and between Debtor and the Secured Party, the Secured Party has agreed to extend certain credit facilities to Debtor upon the terms and subject to the conditions set forth therein;

B. Debtor owns the registered trademarks, service marks (and applications and registrations therefor), of the United States, more particularly described on Schedules I-A and I-B annexed hereto as part hereof (collectively, the "Trademarks");

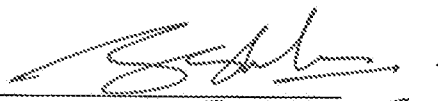
C. Pursuant to the Agreement, Debtor has granted to Secured Party a security interest in all right, title and interest of Debtor in and to the Trademarks, together with associated goodwill, and all proceeds thereof, including any and all causes of action which may exist by reason of infringement thereof for the full term of the Trademarks (the "Collateral"), to secure the prompt payment, performance and observance of the Obligations (as defined in the Agreement);

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, Debtor does hereby further grant to Secured Party a security interest in the Collateral to secure the prompt payment, performance and observance of the Obligations.

Debtor does hereby further acknowledge and affirm that the rights and remedies of Secured Party with respect to the security interest in the Collateral granted hereby are more fully set forth in the Agreement, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein.


IN WITNESS WHEREOF, Debtor has caused this instrument to be executed as of the day and year first written above.

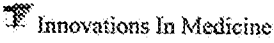
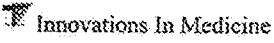
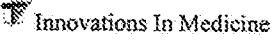
TITAN PHARMACEUTICALS, INC.

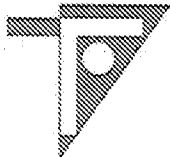
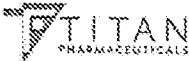
By: 
Name: SUNIL BHONSLE
Title: PRESIDENT & CEO

SCHEDULE 1-A TO GRANT OF SECURITY INTEREST

TRADEMARKS

| Trademark | Country | Owner | Registration Number | Registration Date |
|---|--------------------------|-----------------------------|---------------------|-------------------|
| T & DESIGN  | Japan | Titan Pharmaceuticals, Inc. | 4656286 | 03/20/2003 |
| PROBUPHINE. | United States of America | Titan Pharmaceuticals, Inc. | 4,102,980 | 02/21/2012 |
| PROBUPHINE | European Union | Titan Pharmaceuticals, Inc. | 002707743 | 10/27/2003 |
| PROBUPHINE | Japan | Titan Pharmaceuticals, Inc. | 4707954 | 09/05/2003 |
| PROBUPHINE | Switzerland | Titan Pharmaceuticals, Inc. | 502931 | 05/17/2002 |
| PROBUPHINE | European Union | Titan Pharmaceuticals, Inc. | 010891646 | 10/11/2012 |
| PROBUPHINE | Switzerland | Titan Pharmaceuticals, Inc. | 631889 | 07/16/2012 |
| PROBUPHINE | Australia | Titan Pharmaceuticals, Inc. | 1545572 | 12/16/2013 |
| PROBUPHINE | Mexico | Titan | 1380691 | 07/03/2013 |

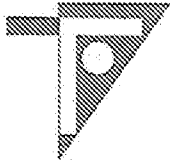
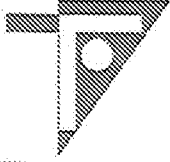
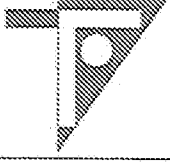
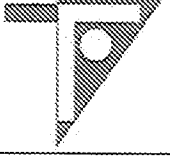
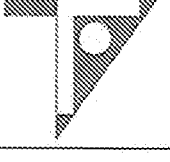
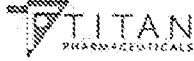
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| | | Pharmaceuticals, Inc. | | |
| TITAN PHARMACEUTICALS | Japan | Titan Pharmaceuticals, Inc. | 2002045667 | 01/10/2003 |
| PRONEURA | Japan | Titan Pharmaceuticals, Inc. | 4821226 | 11/26/2004 |
| PRONEURA | Switzerland | Titan Pharmaceuticals, Inc. | 524391 | 08/17/2004 |
| PRONEURA | European Union | Titan Pharmaceuticals, Inc. | 004940359 | 02/13/2007 |
| T LOGO PLUS INNOVATIONS IN MEDICINE  | Switzerland | Titan Pharmaceuticals, Inc. | 532111 | 02/25/2005 |
| T LOGO PLUS INNOVATIONS IN MEDICINE  | Japan | Titan Pharmaceuticals, Inc. | 4933523 | 03/03/2006 |
| T LOGO PLUS INNOVATIONS IN MEDICINE  | European Union | Titan Pharmaceuticals, Inc. | 004591483 | 08/22/2006 |
| BUPLANT | Madrid Protocol | Titan Pharmaceuticals, Inc. | IR1320700 | 08/26/2016 |

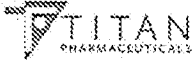

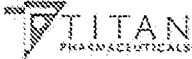
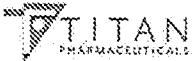
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| BUPLANT | Australia | Titan Pharmaceuticals, Inc. | IR1320700 | 08/26/2016 |
| BUPLANT | European Union | Titan Pharmaceuticals, Inc. | IR1320700 | 08/26/2016 |
| BUPLANT | Mexico | Titan Pharmaceuticals, Inc. | IR1320700 | 08/26/2016 |
| BUPLANT | Switzerland | Titan Pharmaceuticals, Inc. | IR1320700 | 08/26/2016 |
| T & DESIGN  | Madrid Protocol | Titan Pharmaceuticals, Inc. | IR1370158 | 06/16/2017 |
| TITAN PHARMACEUTICALS & DESIGN  | Madrid Protocol | Titan Pharmaceuticals, Inc. | IR1366454 | 06/16/2017 |

SCHEDULE 1-B TO GRANT OF SECURITY INTEREST

TRADEMARK APPLICATIONS

| Trademark Application | Country | Owner | Application Number | Application Date |
|------------------------------|--------------------------|-----------------------------|---------------------------|-------------------------|
| PROBUPHINE | Canada | Titan Pharmaceuticals, Inc. | 1612370 | 02/01/2013 |
| PROBUPHINE | European Union | Titan Pharmaceuticals, Inc. | 017362781 | 10/18/2017 |
| PROBUPHINE | Switzerland | Titan Pharmaceuticals, Inc. | 629852017 | 10/17/2017 |
| TITAN PHARMACEUTICALS | United States of America | Titan Pharmaceuticals, Inc. | 87/457,505 | 05/19/2017 |
| PRONEURA | United States of America | Titan Pharmaceuticals, Inc. | 86/309,090 | 06/13/2014 |
| PRONEURA | Canada | Titan Pharmaceuticals, Inc. | 1494136 | 08/31/2010 |
| BUPLANT | United States of America | Titan Pharmaceuticals, Inc. | 87/009,766 | 04/21/2016 |
| T & DESIGN | United States of America | Titan Pharmaceuticals, Inc. | 87/278,810 | 12/22/2016 |

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| T & DESIGN  | Canada | Titan Pharmaceuticals, Inc. | 1843050 | 06/16/2017 |
| T & DESIGN  | European Union | Titan Pharmaceuticals, Inc. | IR1370158 | 06/16/2017 |
| T & DESIGN  | Japan | Titan Pharmaceuticals, Inc. | IR1370158 | 06/16/2017 |
| T & DESIGN  | Switzerland | Titan Pharmaceuticals, Inc. | IR1370158 | 06/16/2017 |
| TITAN PHARMACEUTICALS & DESIGN  | United States of America | Titan Pharmaceuticals, Inc. | 87/278,812 | 12/22/2016 |

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| <p>TITAN PHARMACEUTICALS & DESIGN</p>  | Canada | Titan Pharmaceuticals, Inc. | 1843052 | 06/16/2017 |
| <p>TITAN PHARMACEUTICALS & DESIGN</p>  | European Union | Titan Pharmaceuticals, Inc. | IR1366454 | 06/16/2017 |
| <p>TITAN PHARMACEUTICALS & DESIGN</p>  | Japan | Titan Pharmaceuticals, Inc. | IR1366454 | 06/16/2017 |
| <p>TITAN PHARMACEUTICALS & DESIGN</p>  | Switzerland | Titan Pharmaceuticals, Inc. | IR1366454 | 06/16/2017 |