

## TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

ETAS ID: TM372995

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	Intellectual Property Security Agreement		
<b>CONVEYING PARTY DATA</b>			
<b>Name</b>	<b>Formerly</b>	<b>Execution Date</b>	<b>Entity Type</b>
Jaguar Animal Health, Inc.		08/18/2015	CORPORATION: DELAWARE
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	Hercules Technology Growth Capital, Inc., as agent		
<b>Street Address:</b>	400 Hamilton Avenue		
<b>Internal Address:</b>	Suite 310		
<b>City:</b>	Palo Alto		
<b>State/Country:</b>	CALIFORNIA		
<b>Postal Code:</b>	94301		
<b>Entity Type:</b>	CORPORATION: MARYLAND		
<b>PROPERTY NUMBERS Total: 4</b>			
<b>Property Type</b>	<b>Number</b>	<b>Word Mark</b>	
<b>Serial Number:</b>	86295544	JAGUAR ANIMAL HEALTH	
<b>Serial Number:</b>	86295553	JAGUAR ANIMAL HEALTH	
<b>Serial Number:</b>	86295519	CANALEVIA	
<b>Serial Number:</b>	86295513	NEONORM	
<b>CORRESPONDENCE DATA</b>			
<b>Fax Number:</b>	2128366337		
<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>			
<b>Phone:</b>	212-836-7319		
<b>Email:</b>	paul.somelofske@kayescholer.com		
<b>Correspondent Name:</b>	Paul J. Somelofske c/o Kaye Scholer LLP		
<b>Address Line 1:</b>	250 West 55th Street		
<b>Address Line 2:</b>	Room 1119		
<b>Address Line 4:</b>	New York, NEW YORK 10019-9710		
<b>ATTORNEY DOCKET NUMBER:</b>	29935-0002-05948		
<b>NAME OF SUBMITTER:</b>	Paul J. Somelofske		
<b>SIGNATURE:</b>	/Paul J, Somelofske/		
<b>DATE SIGNED:</b>	02/12/2016		

CH \$115.00 86295544

**Total Attachments: 25**

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## INTELLECTUAL PROPERTY SECURITY AGREEMENT

This INTELLECTUAL PROPERTY SECURITY AGREEMENT ("Agreement"), dated as of August 18, 2015, is made by and between JAGUAR ANIMAL HEALTH, INC., a Delaware corporation (together with its Qualified Subsidiaries, collectively, "Borrower"), and HERCULES TECHNOLOGY GROWTH CAPITAL, INC., a Maryland corporation ("Agent"), as agent for Lender under the Loan Agreement referenced below (the "Secured Parties").

### RECITALS

A. Borrower has entered into a Loan and Security Agreement dated as of August 18, 2015 (the "Loan Agreement") among Agent and Lender.

B. As a condition to the transactions contemplated by the Loan Agreement and Lender's obligations to make the loans under the Loan Agreement, Borrower has agreed to execute and deliver this Agreement.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Borrower agrees with Agent as follows:

1. **Incorporation of Loan Agreement.** The Loan Agreement and the terms and provisions thereof are hereby incorporated in their entirety by this reference thereto. The provisions of the Loan Agreement shall supersede and control over any conflicting or inconsistent provision herein. The rights and remedies of Agent with respect to the IP Collateral (as defined below) are as provided by the Loan Agreement, and nothing in this Agreement shall be deemed to limit such rights and remedies. Capitalized terms used herein which are not defined herein, but are defined in the Loan Agreement, shall have the meanings given to them in the Loan Agreement.

2. **Grant of Security Interest.** To secure the complete and timely satisfaction of the Secured Obligations, Borrower hereby pledges and grants to Agent, for the benefit of Lender, a security interest in and to all of Borrower's right, title and interest in, to and under the following, whether now existing or hereafter arising (the "IP Collateral"):

(a) patents and patent applications, including, without limitation, those set forth in Schedule 1, and all reissues, divisions, continuations, continuations-in-part, renewals, extensions and reexaminations thereof and amendments thereto (collectively, the "Patents");

(b) trademark registrations and applications, including, without limitation, those set forth in Schedule 2, together with the goodwill connected with the use thereof and symbolized thereby and all extensions and renewals thereof (collectively, the "Trademarks");

(c) copyrights, copyright registrations, and copyright applications, including, without limitation, those set forth in Schedule 3, and all extensions and renewals thereof (collectively, the "Copyrights");

(d) Borrower's rights under agreements granting to Borrower any right to use any Patents, Trademarks or Copyrights, including, without limitation, the Licenses set forth in Schedule 4 (collectively, the "Licenses");

(e) all rights of any kind whatsoever of Borrower accruing under any of the foregoing provided by applicable law of any jurisdiction, by international treaties and conventions and otherwise throughout the world;

(f) any and all royalties, fees, income, payments and other proceeds now or hereafter due or payable with respect to any and all of the foregoing; and

(g) any and all claims and causes of action with respect to any of the foregoing, whether occurring before, on or after the date hereof, including all rights to and claims for damages, restitution and injunctive and other legal and equitable relief for past, present and future infringement, dilution, misappropriation, violation, misuse, breach or default, with the right but no obligation to sue for such legal and equitable relief and to collect, or otherwise recover, any such damages.

Notwithstanding the foregoing, the IP Collateral does not include any Collateral (as defined in the Loan Agreement) excluded from the grant of security interest under the Loan Agreement pursuant to Section 3.2 of the Loan Agreement (the "Excluded Assets").

3. **After-Acquired Intellectual Property.** Borrower agrees that should it obtain an ownership interest in any item of the type set forth in Section 2, other than any Excluded Asset, that is not on the date hereof a part of the IP Collateral ("After-Acquired Intellectual Property") (i) the provisions of this Agreement shall automatically apply thereto, and (ii) any such After-Acquired Intellectual Property and, in the case of trademarks, the goodwill symbolized thereby, shall automatically become part of the IP Collateral subject to the terms and conditions of this Agreement with respect thereto. Borrower hereby authorizes Agent to modify this Agreement by noting any After-Acquired Intellectual Property constituting IP Collateral on Schedule 1, 2, 3 or 4, as applicable; provided, however, that the failure of Agent to make any such notation shall not limit or affect the obligations of Borrower or rights of Agent hereunder.

4. **Recordation.** Borrower authorizes the Commissioner for Patents, the Commissioner for Trademarks and the Register of Copyrights and any other government officials to record and register this IP Security Agreement upon request by the Agent.

5. **Execution in Counterparts.** This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an

executed counterpart of a signature page to this Agreement by facsimile or in electronic format shall be effective as delivery of a manually executed counterpart of this Agreement.

6. **Successors and Assigns.** This Agreement will be binding on and shall inure to the benefit of the parties hereto and their respective successors and assigns.

7. **Governing Law.** This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

*[Remainder of page intentionally left blank]*

IN WITNESS WHEREOF, Borrower has caused this Agreement to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

JAGUAR ANIMAL HEALTH, INC.

By: *Lisa A. Conte*

Name: Lisa A. Conte

Title: Chief Executive Officer & President

AGREED TO AND ACCEPTED:

HERCULES TECHNOLOGY  
GROWTH CAPITAL, INC.

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

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IN WITNESS WHEREOF, Borrower has caused this Agreement to be duly executed and delivered by its officer hereunto duly authorized as of the date first above written.

JAGUAR ANIMAL HEALTH, INC.

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

AGREED TO AND ACCEPTED:

HERCULES TECHNOLOGY  
GROWTH CAPITAL, INC.

By: Christine Fero  
Name: Christine Fero  
Title: Director of Contract  
Origination

Schedule 1

Patents

See attached.



LICENSED PATENT RIGHTS

Patent Number	Country	Applicant	Filing Date	Priority Date	Patent Title	US Patent No.	Pub. No.	Pub. Date	Assignor	Status
119557-03001	US	United States of America	00797074	01-May-2008	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME				N/A	Expired
119557-03002	US	United States of America	11570152	24-Aug-2008	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	US-2007-0254050-A1		01-Nov-2007	N/A	Abandoned on December 14, 2011
119557-03003	US	United States of America	130304004	25-Nov-2011	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	US-2012-0183725-A1	8,846,113	30-Sep-2014	Nepto Pharmaceuticals, Inc. Pharmaceuticals, Inc. Assignment not recorded	Notice of Allowance - May 23, 2014
119557-03101	US	United States of America	00797078	01-May-2008	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME				N/A	Expired
119557-03102	US	United States of America	11731786	30-Apr-2007	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	US-2008-0031939 A1	7,538,801	07-Jul-2009	Nepto Pharmaceuticals, Inc.	Granted
119557-03103	US	United States of America	01270550	02-Jun-2009	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME		8,670,411	28-Nov-2011	Nepto Pharmaceuticals, Inc. (Assignment not available. Listed on face of Patent)	Granted
119557-03104	US	United States of America	13271824	12-Oct-2011	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	US-2012-0123797-A1		24-May-2012	N/A	Pending Awaiting First Action
119557-03201	US	United States of America	00797075	01-May-2008	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER					Expired
119557-03202	US	United States of America	11741797	30-Apr-2007	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER	US-2008-0031984 A1	8,652,848	07-Feb-2008	Nepto Pharmaceuticals, Inc.	Granted Notice of Allowance - June 5, 2014 Final Rejection - December 23, 2013
119557-03301	US	United States of America	14476238	08-Sep-2014	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER					Pending - Divisional of US 11741797
119557-03301	US	United States of America	00002970	18-Oct-1985	USE OF PROANTHOCYANIDIN POLYMERIC COMPOSITIONS FOR TREATMENT OF SECRETORY DIARRHEAS					Expired

TRADEMARK

LICENSED PATENT RIGHTS

Patent No.	Country	State	Class	Inventor	Priority Date	Grant Date	Expiration Date	Patent Description	Applicant	Status	Remarks
119557-03302	US	United States of America	061669396		15-Nov-1995			USE OF PROANTHOCYANIDIN POLYMERIC COMPOSITIONS FOR TREATMENT OF SECRETORY DIARRHEAS		Abandoned - Not Publicly Available	
119557-03303	US	United States of America	06730772		16-Oct-1996			ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMERS ANTIDIARRHEAL COMPOSITIONS	Shattari Pharmaceuticals, Inc.	Abandoned on January 11, 2001	
119557-03304	US	United States of America	050866988		23-Apr-1998			ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS		Granted	
119557-03305	US	United States of America	05712053		14-Nov-2000		7341744	METHOD OF TREATING SECRETORY DIARRHEA WITH ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER	Nepco Pharmaceuticals, Inc.	Granted	Court Proceedings terminated on 5/18/10 2/26/13 - PTE of 1075 days filed
119557-03306	US	United States of America	100819886		17-Aug-2004	27-Jan-2005	7323195	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	Nepco Pharmaceuticals, Inc.	Granted	2/28/13 - PTE for 1096 days filed
119557-03307	US	United States of America	119998170		26-Nov-2007		N/A	PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS		Abandoned on September 2, 2008	
119557-03308	US	United States of America	119988171		29-Nov-2007		N/A	METHOD OF TREATMENT WITH PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS		Abandoned on September 2, 2008	
119557-03309	US	United States of America	107175131		17-Jul-2003	11-Jun-2008	8674634 B2	COMPOSITIONS AND METHODS OF TREATMENT WITH PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	Nepco Pharmaceuticals, Inc.	Granted	
					11-Sep-2013	05-Jan-2014	US20140011961 9	COMPOSITIONS AND METHODS OF TREATMENT WITH PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	Nepco Pharmaceuticals, Inc.	Abandoned	5/13/14 - ECT filed in favor of CON
119557-03340	US	United States of America	07737077		29-Jul-1991		5211944	METHODS FOR USING PROANTHOCYANIDIN POLYMERS HAVING ANTIDIARRHEAL ACTIVITY	Nepco Pharmaceuticals, Inc.	Granted	Pending CCN of US 14/023698 - filed on May 13, 2014 Notice to Correct Application Papers - May 29, 2014
					16-May-1839					Expired	

TRADEMARK

LICENSED PATENT RIGHTS

118557-05402	US	United States of America	06/19/1779	05-Feb-1994	METHODS FOR USING PROGANTHOCYANDIN POLYMERS HAVING ANTIFURAL ACTIVITY		5494861	27-Feb-1996	Napo Pharmaceuticals, Inc.	Expired
118557-06001	US	United States of America	5/14/08522	31-Oct-2010	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA				N/A	Expired
118557-06007	US	United States of America	6/14/09335	02-Nov-2010	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA				N/A	Expired
118557-06003	US	United States of America	6/14/09338	22-Nov-2010	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA				N/A	Expired
118557-06004	US	United States of America	6/14/09379	19-Jan-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA				N/A	Expired
118557-06005	US	United States of America	13/294307	11-Nov-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	US 2012-0107370 A1	03-May-2012		Salix Pharmaceuticals, Ltd. And Napo Pharmaceuticals, Inc.	Pending 12/17/13 - Final Rejection
118557-06006	US	United States of America	13/294397	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	US 2012-0184809 A1	13-Jul-2012		Salix Pharmaceuticals, Ltd. And Napo Pharmaceuticals, Inc.	Abandoned in favor of CON 03/13/14 - Final Rejection
118557-06007	US	United States of America	14/307170	17-Jun-2014	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	US 2014-0284503 A1	02-Oct-2014		Salix Pharmaceuticals, Ltd. And Napo Pharmaceuticals, Inc.	Pending (CON at US 13/294,907) Continuation application filed on June 17, 2014 Application published on October 2, 2014
118557-06001	US	United States of America	13/500593	05-Oct-2010	METHODS OF TREATING DISEASES WITH PROGANTHOCYANDIN OLIGOMERS SUCH AS CROFELIMER	2012027375	08-Aug-2012		The Regents of the University of California and Napo Pharmaceuticals, Inc.	Pending 2/27/14 - Rejection
118557-06001	US	United States of America	6/17/04801	07-Dec-2010	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA					Expired
118557-06001	US	United States of America	13/433610	23-Apr-12	PHARMACOLOGICALLY OPTIMIZED MULTICOMPOUND DRUG DELIVERY	US2013001147 B	1-Oct-13		Napo Pharmaceuticals, Inc.	Pending Awaiting further Action from USPTO 1/7/14 - Supplemental Response filed
118557-06002	US	United States of America	13/871993	6-Jun-13	PHARMACOLOGICALLY OPTIMIZED MULTICOMPOUND DRUG DELIVERY	US 2013027436R	17-Oct-13		Napo Pharmaceuticals, Inc.	Pending 5/8/14 - Final Rejection
118557-06002	US	United States of America	62/004641	29-May-14	METHODS OF TREATING DIARRHEA IN NEONATAL AND YOUNG NON-HUMAN ANIMALS				Jaguar Animal Health (Parsippany, NJ) 03/29/2013, May 30, 2014	Pending

TRADEMARK

LICENSED PATENT RIGHTS

21605-105002P2	US	United States of America	62/067,203	3-Dec-13	METHODS OF TREATING DIARRHEA IN NEONATAL AND YOUNG NON-HUMAN ANIMALS	Jaguar Animal Health (Reel/Frame: 034607/0955) February 6, 2015)	Pending
21605-105002P3	US	United States of America	62/121,206	26-Feb-15	METHODS OF TREATING DIARRHEA AND PROMOTING INTESTINAL HEALTH IN NON-HUMAN ANIMALS	Jaguar Animal Health (Reel/Frame: 032993/0556, May 30, 2014)	Pending
21605-105003	US	United States of America	62/004,650	28-May-14	METHODS OF TREATING DIARRHEA IN ADULT NON-HUMAN ANIMALS	Awelling executed Assignment	Pending
21605-105003P2	US	United States of America	62/087,207	3-Dec-14	METHODS OF TREATING DIARRHEA IN ADULT NON-HUMAN ANIMALS	Jaguar Animal Health (Reel/Frame: 033958/0594, May 30, 2014)	Pending
21605-105004	US	United States of America	62/004,657	29-May-14	METHODS OF TREATING SALMONELLA-INDUCED DIARRHEA IN NON-HUMAN ANIMALS	Jaguar Animal Health (Reel/Frame: 034507/0964 February 6, 2015)	Pending
21605-105004P2	US	United States of America	62/067,210	3-Feb-14	METHODS OF TREATING SALMONELLA-INDUCED DIARRHEA IN NON-HUMAN ANIMALS	Jaguar Animal Health (Reel/Frame: 034507/0964 November 11, 2014)	Pending
21605-105006	US	United States of America	62/074,936	4-Nov-14	METHODS OF TREATING ULCERS AND RELATED SYMPTOMS IN NON-HUMAN ANIMALS	Jaguar Animal Health (Reel/Frame: 034194/0296, November 11, 2014)	Pending
21605-105007	US	United States of America	62/101,663	9-Jan-15	METHODS OF TREATING DIARRHEA IN COMPANION ANIMALS	Jaguar Animal Health (Reel/Frame: 034867/0906 February 6, 2015)	Pending
21605-105007P2	US	United States of America	62/117,827	18-Feb-15	METHODS OF TREATING DIARRHEA IN COMPANION ANIMALS		Pending
21605-105008P2	US	United States of America	62/121,206	28-Feb-15	USE OF CROTON-OR CALOPHYLLUM-DERIVED PROANTHOCYANIDIN POLYMERS OR BOTANICAL EXTRACTS IN COMBINATION WITH RIFAXIMIN FOR THE TREATMENT OF DIARRHEA IN NON-HUMAN ANIMALS		Pending
1605-105002P4	US	United States of America	62/172,673	5-Jun-15	METHODS OF TREATING DIARRHEA AND CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME		Pending
11605-03186	GB	United Kingdom	10007687.6	23-Jul-2010	METHODS OF TREATING DIARRHEA AND CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	None	Granted
11605-03186	GB	United Kingdom	8781279.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	None	Granted

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LICENSED PATENT RIGHTS

119557-03426	GB	United Kingdom	818157.54.1	10-Oct-1997	PROANTHOCYANIDIN POLYMERS HAVING ANTIPRAL ACTIVITY AND METHODS OF OBTAINING SAME	EPO555353	04-Aug-1993	EP0659253	05-Jul-2000	None	Sharnan Pharmaceuticals, Inc.	Expired
119557-03187	TR	Turkey	10007637.0	29-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	19-Dec-2012	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03064	TH	Thailand	0701002130	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	200810772	01-Mar-2008				Nappo Pharmaceuticals, Inc./Tire Pharmaceuticals, Inc.	Pending Status inquiry filed on May 21, 2014
119557-03063	TW	Taiwan	98115334	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	200810772	01-Mar-2008			N/A	Nappo Pharmaceuticals, Inc./Tire Pharmaceuticals, Inc.	Pending Response to CA Req'd June 17, 2014 1/8/14 - Petition for re-examination filed
119557-03363	TW	Taiwan	103112982	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME						Nappo Pharmaceuticals, Inc.	Pending (OIA of TW) 96115034
119557-03180	CH	Switzerland	10007637.0	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	18-Dec-2012	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03379	CH	Switzerland	97912779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	537898	21-Jun-2003	179821	21-Jun-2003	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03196	SE	Sweden	10007637.0	28-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	06-May-2009	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03396	SE	Sweden	97912779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0835417	23-Apr-1998	0835417	06-May-2009	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03183	ES	Spain	10007637.0	28-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	19-Dec-2012	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03365	ES	Spain	97912779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0835417	23-Apr-1998	0835417	06-May-2009	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03061	ZA	South Africa	201303136	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	EP0835417	23-Apr-1998	0835417	06-May-2009	None	Salix Pharmaceuticals, Ltd. And Nappo Pharmaceuticals, Inc.	Pending Acceptance of Application can be delayed until July 29, 2015

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## LICENSED PATENT RIGHTS

Patent No.	IPC Class.	Country	Pub. No.	Pub. Date	App. No.	App. Date	Priority Date	Inventor	Assignor	Term	Grant Date	Status
119557-03198	S1	Slovenia	10007687.6	29-Jul-2010	2241318	29-Oct-2010	2241318		Nano Pharmaceuticals, Inc.	None	Granted	
119557-03168	S1	Slovenia	10007687.6	23-Jul-2010	2241318	20-Oct-2010	2241318		Kipco Pharmaceuticals, Inc.	None	Granted	
119557-03180	S5	Singapore	200807987.8	30-Apr-2007					Nano Pharmaceuticals, Inc.	N/A	Abandoned	
119557-03198	S5	Singapore	201105528.4	01-Aug-2011	174025	28-Sep-2011			Nano Pharmaceuticals, Inc.	N/A	Pending	
119557-03180	S5	Singapore	200807987.8	30-Apr-2007					Nano Pharmaceuticals, Inc.	N/A	Withdrawn	
119557-03176	S5	Singapore	201002384.7	09-Apr-2010	181258	27-May-2010	181258		Nano Pharmaceuticals, Inc.	None	Granted	
119557-03180	S5	Singapore	9538125.2	19-Oct-1991	52707	29-Sep-1998			Nano Pharmaceuticals, Inc.	None	Expired	
119557-03189	S5	Serbia	10007687.6	23-Jul-2010	2241318	26-Oct-2010	2241318		Nano Pharmaceuticals, Inc.	None	Granted	
119557-03187	S1	San Marino	10007687.6	29-Jul-2010	2241318	20-Oct-2010	2241318		Nano Pharmaceuticals, Inc.	None	According to EPO associate, this country was not designated/validate	
119557-03181	R1	Romania	10007687.6	23-Jul-2010	2241318	20-Oct-2010	2241318		Nano Pharmaceuticals, Inc.	None	Granted	
119557-03184	PT	Portugal	10007687.6	29-Jul-2010	2241318	19-Oct-2010	2241318		Nano Pharmaceuticals, Inc.	None	Granted	
119557-03195	PT	Portugal	9791273.2	14-Oct-1997	EP0895417	23-Apr-1998	0855417		Nano Pharmaceuticals, Inc.	None	Granted	
119557-03115	PL	Poland	10007687.6	29-Jul-2010	2241318	20-Oct-2010	2241318		Nano Pharmaceuticals, Inc.	None	Granted	
119557-03357	P1	Philippines	1.562.35	16-Oct-1997					Shaman Pharmaceuticals, Inc.	None	Abandoned	
119557-03196	PE	Peru	553-2007	05-May-2007					Kipco Pharmaceuticals, Inc./Trio Pharmaceuticals, Inc.	None	Abandoned	
119557-03020	WO	Patent Cooperation Treaty	PCT/US2007/067725	31-Oct-2011	382014	31-Jan-2014			Salix Pharmaceuticals, Ltd. And Nano Pharmaceuticals, Inc.	Opposition filed by Farniudora SA	Response to Opposition sent to FA on July 2, 2014	National

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REEL: 005730 FRAME: 0532

LICENSED PATENT RIGHTS

119557-0310	W/O	Patent Cooperation Treaty	PCT/US2007/027759	30-Apr-2007	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	WO 2007/13082	15-Nov-2007				Nepco Pharmaceuticals, Inc. and Tirno Pharmaceuticals, Inc.	National
119557-0320	W/O	Patent Cooperation Treaty	PCT/US2007/027741	30-Apr-2007	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOISIS AND COLON CANCER	WO200711308 83	15-Nov-2007					National
119557-0330	W/O	Patent Cooperation Treaty	PCT/US1997/018645	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMERS HAVING ANTIARRHEAL COMPOSITIONS	WO 1998/19111	23-Apr-1998				Nepco Pharmaceuticals, Inc.	National
119557-0340	W/O	Patent Cooperation Treaty	PCT/US1991/007679	10-Oct-1991	PROANTHOCYANIDIN POLYMERS HAVING ANTIVIRAL ACTIVITY AND METHODS OF OBTAINING SAME	WO19920096 95	30-Apr-1992				Pharmaceuticals, Ltd. And Nepco Pharmaceuticals, Inc.	National
119557-0600	W/O	Patent Cooperation Treaty	PCT/US2011/038549	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	WO20120686 84	09-May-2012		N/A			National
119557-0840	W/O	Patent Cooperation Treaty	PCT/US2011/001395	15-Mar-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	WO20140586 21	12-Jun-2014					Pending
	W/O	Patent Cooperation Treaty	PCT/US2010/031530	06-Oct-2010	METHODS OF TREATING DISEASES WITH PROANTHOCYANIDIN OLIGOMERS SUCH AS COFFEINER	2011044187	14-Apr-2011				The Regents of the University of California and Nepco Pharmaceuticals, Inc.	National
	W/O	Patent Cooperation Treaty	PCT/US2012/034675	23-Apr-12	PHARMACOLOGICALLY OPTIMIZED MULTIMODAL DRUG DELIVERY SYSTEM FOR NORBHTROGUARIC ACID (INDICA)	2012145748	26-Oct-12				Nepco Pharmaceuticals, Inc.	National
	W/O	Patent Cooperation Treaty	US2015010080	24-Aug-10	METHODS FOR PRODUCING PROANTHOCYANIDIN POLYMER COMPO	WO201102404 9	3-Mar-11				Glennmark Pharmaceuticals, Inc. and Nepco Pharmaceuticals, Inc.	National - Filed in Eurasia only ( EA201200086)
119557-103002PC	W/O	Patent Cooperation Treaty	PCT/US2015/02498	09-May-15	METHODS OF TREATING DIARRHEA IN NEONATAL AND YOUNG NON-HUMAN ANIMALS							Pending
119557-103003PC	W/O	Patent Cooperation Treaty	PCT/US2015/02497	09-May-15	METHODS OF TREATING DIARRHEA IN ADULT NON-HUMAN ANIMALS							Pending
119557-103004PC	W/O	Patent Cooperation Treaty	PCT/US2015/02497	28-May-15	METHODS OF TREATING SALMONELLA-INDUCED DIARRHEA IN NON-HUMAN ANIMALS							Pending

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REEL: 005730 FRAME: 0533

LICENSED PATENT RIGHTS

119557-03079	PY	Paraguay	19057C017	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	19-Dec-2012	None	None	None	Granted
119557-03078	PA	Paraguay	87248	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME					None	None	None	Granted
119557-03154	NO	Norway	10107897.0	29-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318							According to EPO associate, this country was not designated/available
119557-03081	NZ	New Zealand	572049	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME			872048	11-Dec-2012	None	None	None	Granted
119557-03091	NZ	New Zealand	595749	13-Oct-2011	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME			595749	04-Mar-2014	None	None	None	Accumulated annuities paid May 2014
119557-03092	NZ	New Zealand	605344		METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME								ACCEPTED (DIV of 595749 and 572048) Notice of Acceptance - August 5, 2014 Response to Examination Report sent to associate on July 9, 2014
119557-03151	NZ	New Zealand	572049	30-Apr-2007	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME			572049	11-Dec-2012	None	None	None	Granted
119557-03177	NZ	New Zealand	606280		METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME								Pending (DIV of 595679 which is a DIV of
119557-03191	NZ	New Zealand	555679	10-Oct-2011	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME					None	None	None	Granted
119557-03151	NZ	New Zealand	395317	14-Oct-1997	ENTERIC FORMULATIONS OF PRORHATHOCYANIN POLYMER ANTIDIARRHEAL COMPOSITIONS		23-Feb-2001	395317	08-Jun-2011	None	None	None	Granted
119557-03451	NZ	New Zealand	242200	11-Oct-1991	ANTIDIARRHEAL POLYMERS HAVING ANTIVIRAL ACTIVITY AND METHODS OF OBTAINING SAME			242200	18-Oct-1994	None	None	None	Expired
119557-03183	NL	Netherlands	1007987.8	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318		2241318	19-Dec-2012	None	None	None	Granted
119557-03399	NL	Netherlands	9791279.2	14-Oct-1997	ENTERIC FORMULATIONS OF PRORHATHOCYANIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0603417	23-Apr-1998	6995417	08-May-2003	None	None	None	Granted

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REEL: 005730 FRAME: 0534



LICENSED PATENT RIGHTS

Patent No.	Country	Applicant	Priority No.	Priority Date	IPC Class.	Inventor	Grant Date	Patent No.	Grant Date	Applicant	Notes	Expiration
119557-03493	NL	Netherlands	91919754.1	10-Oct-1991		PROANTHOCYANIN POLYMERS HAVING ANTIPURAL ACTIVITY AND METHODS OF USE THEREOF SAME	04-Aug-1993	EP0555353	04-Aug-1993	Shanahan Pharmaceuticals, Inc.	None	Expired
119557-03171	ME	Montserrat	10307687.6	25-Jul-2010		METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	20-Oct-2010	2241318	19-Dec-2012	Neppo Pharmaceuticals, Inc.	None	Granted
119557-03115	MC	Monaco	10307687.6	25-Jul-2010		METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	20-Oct-2010	2241318	19-Dec-2012	Neppo Pharmaceuticals, Inc.	None	Granted
119557-03062	MC	Monaco	97412779.2	14-Oct-1997		ENTERIC FORMULATIONS OF PROANTHOCYANIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0305417	08-May-2009	08-May-2009	Neppo Pharmaceuticals, Inc.	None	Granted
119557-03048	MX	Mexico	MX/97/03809/1871	30-Apr-2007		METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME				Neppo Pharmaceuticals, Inc.	None	Pending Response filed on May 29, 2014
119557-03058	MX	Mexico	MX/02/114008240	30-Apr-2007		METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME				Neppo Pharmaceuticals, Inc.	None	Pending IDIV of MX/02/008/0193771 Divisional application filed on May 29, 2014
119557-03148	MX	Mexico	0773870380013768	30-Apr-2007		METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	21-03-2008 26-Jul-2013	311804		Neppo Pharmaceuticals, Inc.	None	Granted
119557-03348	MX	Mexico	P/6/97993033517	14-Oct-1997		ENTERIC FORMULATIONS OF PROANTHOCYANIN POLYMER ANTIDIARRHEAL COMPOSITIONS			4-27-2012 25-Oct-2011	Neppo Pharmaceuticals, Inc.	None	Granted
119557-03397	MX	Mexico	MX/97/2112000911	10-Jan-2012		ENTERIC FORMULATIONS OF PROANTHOCYANIN POLYMER ANTIDIARRHEAL COMPOSITIONS				Neppo Pharmaceuticals, Inc.	None	Pending
119557-03443	MX	Mexico	9601703	07-May-1996		ANTIPURAL ACTIVITY AND METHODS OF OBTAINING SAME		217866	02-Dec-2003	PS Pharmaceuticals	None	Granted
119557-03477	MX	Mexico	811540	11-Oct-1991		PROANTHOCYANIN POLYMERS HAVING ANTIPURAL ACTIVITY AND METHODS OF OBTAINING SAME		192869	18-Sep-1996	Shanahan Pharmaceuticals, Inc.	None	Granted
119557-03164	MX	Mexico	201305004873	31-Oct-2011		METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	201304873	21-Aug-2013		Shanahan Pharmaceuticals, Inc.	None	Pending
119557-03164	MX	Mexico	10307687.6	25-Jul-2010		METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	19-Dec-2012	Neppo Pharmaceuticals, Inc.	None	Granted

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REEL: 005730 FRAME: 0535

LICENSED PATENT RIGHTS

Patent No.	Country	Pub. No.	Pub. Date	App. No.	App. Date	Grant Date	Applicant	Status
119557-03166	UK	10007687.6	23-Jul-2010	241316	20-Oct-2010	19-Dec-2012	Nappo Pharmaceuticals, Inc.	Granted
119557-03195	LU	10107687.6	23-Jul-2010	241316	20-Oct-2010	19-Dec-2012	Nappo Pharmaceuticals, Inc.	Granted
119557-03231	LU	97412779.2	14-Oct-1997	EP05035417	23-Apr-1998	08-May-2009	Nappo Pharmaceuticals, Inc.	Granted
119557-03162	LT	10107687.6	23-Jul-2010	241316	20-Oct-2010	19-Dec-2012	Nappo Pharmaceuticals, Inc.	Granted
119557-03158	LI	10007687.6	23-Jul-2010	241316	20-Oct-2010	19-Dec-2012	Nappo Pharmaceuticals, Inc.	Granted
119557-03276	LI	97412779.2	14-Oct-1997	EP05035417	23-Apr-1998	08-May-2009	Nappo Pharmaceuticals, Inc.	Granted
119557-03163	LV	10007687.6	23-Jul-2010	241316	20-Oct-2010	19-Dec-2012	Nappo Pharmaceuticals, Inc.	Granted
119557-03246	KR	10-2009-7028449	30-Apr-2007	15-2009-0009291	22-Jan-2009		Nappo Pharmaceuticals, Inc.	Pending Application under Examination
119557-03145	US	10-2009-7103447	30-Apr-2007				Nappo Pharmaceuticals, Inc.	Extension of Time filed - Response due October 24, 2014
119557-03145	KR	10-1999-7003905	14-Oct-1997	10-2003-0048206	25-Jun-2000	13-Jan-2005	Nappo Pharmaceuticals, Inc.	Granted
119557-03446	KR	10-1999-0701100	10-Oct-1991	19-1998-0702010	09-Sep-1993	14-Apr-1999	Shaman Pharmaceuticals, Inc./Nappo Pharmaceuticals, Inc.	Expired
119557-03043	JP	2009-509592	30-Apr-2007	2009-509992	30-Apr-2007	09-Oct-2013	Nappo Pharmaceuticals, Inc.	Granted
119557-03143	JP	2009-509592	30-Apr-2007				Nappo Pharmaceuticals, Inc.	Withdrawn
119557-03144	JP	2013-116945	30-Apr-2007				Nappo Pharmaceuticals, Inc.	Demand for trial has not been filed in response to the decision of retrial dated 29 July, 2013.
119557-03343	JP	19-519632	14-Oct-1997				Nappo Pharmaceuticals, Inc.	Pending (DIV of JP 2009-704992)
119557-03443	JP	05-518612	18-Oct-1991				Nappo Pharmaceuticals, Inc.	Application published on April 3, 2014. No. P2014-58548A
119557-03443	JP	20130536904	31-Oct-2011	2013540528	07-Nov-2013		Nappo Pharmaceuticals, Inc.	Granted

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REEL: 005730 FRAME: 0536

APPENDIX 1.28  
LICENSED PATENT RIGHTS

Patent No.	Country	Applicant	Priority No.	Priority Date	IPC Class.	Abstract	Pub. No.	Pub. Date	Term	Grant Date	Grant Status	Remarks
119557-03180	JP	Japan	20120530251	05-Oct-2010	A61P1/00	METHODS OF TREATING DISEASES WITH PROANTHOCYANIDIN OLIGOMERS SUCH AS CROFELMER		26-Feb-2013	None		Pending Application under Examination	
119557-03189	IT	Italy	10307887.8	29-Jul-2010	A61P1/00	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2018556716	20-Oct-2010	None	19-Dec-2012	Granted	
119557-03190	IT	Italy	97912773.2	14-Oct-1997	A61P1/00	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0835417	23-Apr-1998	None	06-May-2008	Granted	
119557-03189	IE	Ireland	10307887.8	29-Jul-2010	A61P1/00	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2014318	20-Oct-2010	None	19-Dec-2012	Granted	
119557-03189	IE	Ireland	97912773.2	14-Oct-1997	A61P1/00	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0835417	23-Apr-1998	None	06-May-2008	Granted	
119557-03040	IN	India	88120DELNP/2008	30-Apr-2007	A61P1/00	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME			None		Pending Application awaiting Examination	
119557-03140	IN	India	88110DELNP/2008	30-Apr-2007	A61P1/00	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME			None		Pending Application awaiting Examination	
119557-03040	IN	India	223778AS/1997	15-Oct-1997	A61P1/00	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	209532	04-Sep-2007	None		Granted	
119557-03077	IN	India	2700CHE/2007	15-Oct-1997	A61P1/00	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS			None		Rebut of Application	
119557-03089	IN	India	2120CHE/2011	22-Jul-2011	A61P1/00	Method of Treating Secondary Diarrhea with Enteric Formulations of Proanthocyanidin Polymer			None		Not yet published. Not Publicly Available	
	IN	India	4076CHENP/2013	31-Oct-2011	A61P1/00	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA			None		Pending	
	IN	India	8957CHENP/2013	8-Nov-13	A61P1/00	PHARMACOLOGICALLY OPTIMIZED MULTIMODAL DRUG DELIVERY SYSTEM FOR NORDIHYDROQUARIC ACID (DDGA)			None		Pending	
	IN	India	1992381NP/2005	26-Aug-08	A61P1/00	METHOD FOR PRODUCING PROANTHOCYANIDIN POLYMER COMPO			None		Pending Application under Examination	
119557-03184	IS	Iceland	10007687.8	23-Jun-2010	A61P1/00	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2014318	20-Oct-2010	None	19-Dec-2012	Granted	
119557-03117	HK	Hong Kong	10007687.8	23-Jun-2010	A61P1/00	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2014318	20-Oct-2010	None	19-Dec-2012	Granted	
119557-03039	HK	Hong Kong	09108148.6	30-Apr-2007	A61P1/00	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	1103681A	19-Nov-2009	N/A		Pending	
119557-03198	HK	Hong Kong	10116100.4	27-Oct-2010	A61P1/00	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	1148541A	07-Jan-2011	None		Granted	
119557-03230	HK	Hong Kong	09109039.6	30-Apr-2007	A61P1/00	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER	1131102A	15-Jan-2010	None		Pending	
119557-03223	HK	Hong Kong	11105280.3	27-May-2011	A61P1/00	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	1151189A	27-Jan-2012	None		Granted	

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REEL: 005730 FRAME: 0537

LICENSED PATENT RIGHTS

119557-03336	HK	Hong Kong	08110214.0	14-Oct-1987	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	1195158A	24-Dec-2009	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03439	HK	Hong Kong	08113195.1	11-Dec-1998	PROANTHOCYANIDIN POLYMERS HAVING ANTIVIRAL ACTIVITY AND METHODS OF OBTAINING SAME	1011831	23-Jul-1998	N/A	Shantou Pharmaceuticals, Inc.	Expired
119557-03637	GC	Gulf Cooperation Council	6001200719244	01-May-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241315	20-Oct-2010	None	Nepro Pharmaceuticals, Inc.	Pending Under examination
119557-03152	GR	Greece	1007687.6	28-Jun-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241315	19-Dec-2012	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03357	GR	Greece	07912779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0385417	23-Apr-1999	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03161	DE	Germany	600101027565.5	28-Jun-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241315	20-Oct-2010	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03381	DE	Germany	07912779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0385417	23-Apr-1999	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03186	FR	France	1007687.6	28-Jun-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241315	20-Oct-2010	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03385	FR	France	07912779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0385417	23-Apr-1999	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03196	FI	Finland	1007687.6	28-Jun-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241315	20-Oct-2010	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03384	FI	Finland	07912779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0385417	23-Apr-1999	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03035	EP	European Patent Convention	07761541.7	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	2634844	16-Mar-2009	N/A	Nepro Pharmaceuticals, Inc.	Response to Communication filed on June 12, 2014
119557-03155	EP	European Patent Convention	07761551.4	30-Apr-2007	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	EP2015629	21-Jan-2009	N/A	Nepro Pharmaceuticals, Inc.	Withdrawn on December 11, 2010
119557-03179	EP	European Patent Convention	1007687.6	28-Jun-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241315	20-Oct-2010	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03226	EP	European Patent Convention	07761539.2	30-Apr-2007	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER	2651327	27-May-2009	N/A	Nepro Pharmaceuticals, Inc.	Pending Awaiting Examination

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REEL: 005730 FRAME: 0538

LICENSED PATENT RIGHTS

119557-03279	EP	European Patent Convention	12.10.2010	10177942.9	35-Mar-2012	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLOR CANCER	2523659	05-Dec-2012			N/A	Napro Pharmaceuticals, Inc.	Pending Awaiting Examination
119557-03321	EP	European Patent Convention	05.03.2010	10177942.9	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP20563183	20-May-2009			N/A	Napro Pharmaceuticals, Inc.	Pending Response to OA due August 10, 2014
119557-03322	EP	European Patent Convention	10.02.1991	10177942.9	21-Sep-2010	Method of Treating Secretory Diarrhea With Enteric Formulations of Proanthocyanidin Polymers	2253681	01-Dec-2010			N/A	Napro Pharmaceuticals, Inc.	Pending Response to OA due August 6, 2014
119557-03335	EP	European Patent Convention	07.12.2010	978.12779.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0935447	03-Apr-1995	06-May-2008		None	Napro Pharmaceuticals, Inc.	Granted
119557-03435	EP	European Patent Convention	01.02.1991	919.19754.1	10-Oct-1991	PROANTHOCYANIDIN POLYMERS HAVING ANTIBIOTIC ACTIVITY AND METHODS OF OBTAINING SAME	EP0659253	04-Aug-1993	05-Jul-2000		None	Shaman Pharmaceuticals, Inc.	Expired
119557-03436	EP	European Patent Convention	10.02.1991	20110837.48	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	2632550	04-Sep-2013			N/A	Selix Pharmaceuticals, Ltd. And Napro Pharmaceuticals, Inc.	Pending 4/11/14 - Invitation to Proceed with Application and Response to EISR 7/26/2013
119557-03438	EP	European Patent Convention	10.02.1991	10027697.4	07-06-2010	METHODS OF TREATING DISEASES WITH PROANTHOCYANIDIN OLIGOMERS SUCH AS CROFELIMER	2466586	05-Aug-2012			N/A	The Regents of the University of California and Napro Pharmaceuticals, Inc.	EDT filed - Response due September 3, 2014 3/3/14 - Communication forwarded to EISR
119557-03457	EE	Estonia	20.12.2010	10007697.6	29-Apr-12	PHARMACOLOGICALLY OPTIMIZED MULTIMODAL DRUG DELIVERY SYSTEM FOR NORHYDROGUARIC ACID (NDGA)	2689236	26-Feb-14			None	Napro Pharmaceuticals, Inc.	Pending Awaiting first action
119557-03462	DK	Denmark	23-Jun-2010	10007697.6	23-Jun-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	25-Oct-2010	18-Dec-2012		None	Napro Pharmaceuticals, Inc.	Granted
119557-03462	DK	Denmark	23-Jun-2010	10007697.6	23-Jun-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241315	20-Oct-2010	19-Dec-2012		None	Napro Pharmaceuticals, Inc.	Granted

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REEL: 005730 FRAME: 0539

LICENSED PATENT RIGHTS

119557-0332	DK	Denmark	57932719.2	14-Oct-1987	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0935417	25-Apr-1998	0935417	06-May-2009	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03156	CZ	Czech Republic	10307697.6	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	19-Dec-2012	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03116	CY	Cyprus, Republic of	10307697.6	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	19-Dec-2012	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03165	HR	Croatia	10307697.6	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	2241318	18-Dec-2012	None	Nepro Pharmaceuticals, Inc.	Granted
	CO	Colombia	20130132687	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	8771411	15-Oct-2013			Yes	Salix Pharmaceuticals, Ltd. And Nepro Pharmaceuticals, Inc.	Pending Response to OA due August 22, 2014
	CN	China	2011663739	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	106370101	28-Oct-2013			N/A	Salix Pharmaceuticals, Ltd. And Nepro Pharmaceuticals, Inc.	Pending
119557-03027	CU	Cuba	1243-3007	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME					Opposition filed in 2008	Nepro Pharmaceuticals, Inc.	Pending
119557-03026	CA	Canada	2651024	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	2651094				N/A	Nepro Pharmaceuticals, Inc.	Pending Response to OA filed August 22, 2012
119557-03126	CA	Canada	2651022	30-Apr-2007	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2651022				N/A	Nepro Pharmaceuticals, Inc.	Pending
119557-03226	CA	Canada	26517913	30-Apr-2007	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER	26517913				N/A	Nepro Pharmaceuticals, Inc.	Pending
119557-03226	CA	Canada	2269078	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	2269078			24-Jan-2012	None	Nepro Pharmaceuticals, Inc.	Granted

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REEL: 005730 FRAME: 0540

LICENSED PATENT RIGHTS

119557-03426	CA	Canada	2093923	19-Oct-1991	PROANTHOCYANIDIN POLYMERS HAVING ANTIVIRAL ACTIVITY AND METHODS OF OBTAINING SAME	2093925	07-Jan-2003	None	Nepro Pharmaceuticals, Inc.	Expired
	CA	Canada	2816416	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	2816416	03-May-2012	N/A	S&S Pharmaceuticals, Ltd. And Nepro Pharmaceuticals, Inc.	Pending
	CA	Canada	2777214	05-Oct-2010	METHODS OF TREATING DISEASES WITH PROANTHOCYANIDIN OLIGOMERS SUCH AS CROFLEMER	2777214	14-Apr-2011	N/A	The Regents of the University of California and Nepro Pharmaceuticals, Inc.	Pending
119557-03155	BG	Bulgaria	10007687 B	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	19-Dec-2012	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03170	BA	Slovenia and Herzegovina	10007687 B	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	19-Dec-2012	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03077	SC	Bosnia	SP-270146	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME					Abandoned
119557-03197	BE	Belgium	10107687.6	29-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	20-Oct-2010	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03023	BE	Belgium	97912773.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0635417	23-Apr-1998	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03071	BD	Bangladesh	9422007	04-May-2006 29-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME				Nepro Pharmaceuticals, Inc. and Tine Pharmaceuticals, Inc.	Pending
119557-03114	AT	Austria	10007687.6	23-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	2241318	19-Dec-2012	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03076	AT	Austria	97912773.2	14-Oct-1997	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	EP0635417	23-Apr-1998	None	Nepro Pharmaceuticals, Inc.	Granted
119557-03024	AU	Australia	2007248172	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME	2007248172	04-Jul-2013	None	Nepro Pharmaceuticals, Inc.	Granted

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APPENDIX 1.2#  
LICENSED PATENT RIGHTS

119557-03174	AU	Australia	2007248182	30-Apr-2007	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME				2007248182	05-Sep-2013	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03273	AU	Australia	2007248183	30-Apr-2007	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER				2007248183	30-Apr-2013	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03324	AU	Australia	20303302	04-Mar-2002	ENTERIC FORMULATIONS OF PROANTHOCYANIN POLYMER ANTI-DIARRHEAL COMPOSITIONS				775330	11-Nov-2004	Note	Nappo Pharmaceuticals, Inc.	Granted
119557-03424	AU	Australia	86730591	10-Oct-1991	PROANTHOCYANIN POLYMERS HAVING ANTIVIRAL ACTIVITY AND METHODS OF OBTAINING SAME				860631	23-Oct-1995	Note	Nappo Pharmaceuticals, Inc.	Expired
	AU	Australia	20110320155	31-Oct-2011	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA			20110320155		09-May-2013	N/A	Nappo Pharmaceuticals, Inc. And Nappo Pharmaceuticals, Inc. Salix	Pending
	AU	Australia	20100303577	05-Oct-2010	METHODS OF TREATING DISEASES WITH PREDOMINANT IRRITABLE BOWEL AS CROHLEMER			20100303577		17-May-2012	N/A	The Regents of the University of California and Nappo Pharmaceuticals, Inc.	Pending
119557-03623	AR	Argentina	P070101998	02-May-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME			AR160829A1		15-Jul-2008	None	Nappo Pharmaceuticals, Inc.	Pending Application awaiting Examination
21905-1050024R	AR	Argentina	20150101695	28-May-15	METHODS OF TREATING DIARRHEA IN NEONATAL AND YOUNG NON-HUMAN ANIMALS								Pending
119557-03183	AL	Albania	10007687.6	29-Jul-2010	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME			2241318		20-Oct-2010	None	Nappo Pharmaceuticals, Inc.	Granted
119557-03188	VE	Venezuela	07-00975	30-Apr-2007	METHOD FOR TREATMENT OF DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME						Yes • Opposition published in the Official Bulletin No. 528 dated April 16, 2012. • This opposition was filed by The Chamber of the Pharmaceutical Industry - Cifer (La Cátedra de la Industria Farmacéutica - Cifer) on June 23, 2010. • The corresponding Reconsideration Recourse (Appeal) was filed on June 5, 2012.	Nappo Pharmaceuticals, Inc. Cifer	Pending
21905-10500211V	UY	Uruguay	3a-148	29-May-15	METHODS OF TREATING DIARRHEA IN NEONATAL AND YOUNG NON-HUMAN ANIMALS								Pending

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Schedule 2

Trademarks

Trademark	Serial Number	Application Type	Date of Filing
Jaguar Animal Health (Logo)	86295544	In Use with first use anywhere in 2013 and first use in commerce on 7/24/2013	5/29/2014
Jaguar Animal Health	86295553	In Use with first use anywhere in 2013 and first use in commerce on 7/24/2014	5/29/2014
Canalevia	86295519	Intent to Use	5/29/2014
Neonorm	86295513	Intent to Use	5/29/2014

Schedule 3

Copyrights

None.

Schedule 4

Licenses

None.