

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM499024

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
SHINE Medical Technologies, Inc.		11/20/2018	Corporation: DELAWARE
RECEIVING PARTY DATA			
Name:	Deerfield Management Company, L.P.		
Street Address:	780 Third Avenue, 37th Floor		
City:	New York		
State/Country:	NEW YORK		
Postal Code:	10017		
Entity Type:	Limited Partnership: DELAWARE		
PROPERTY NUMBERS Total: 1			
Property Type	Number	Word Mark	
Registration Number:	5193642	SHINE MEDICAL TECHNOLOGIES	
CORRESPONDENCE DATA			
Fax Number:	7043784000		
<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:	7043778156		
Email:	jcarusone@robinsonbradshaw.com		
Correspondent Name:	Jennifer Carusone		
Address Line 1:	101 N. Tryon St., Suite 1900		
Address Line 2:	Robinson, Bradshaw & Hinson, P.A.		
Address Line 4:	Charlotte, NORTH CAROLINA 28246		
NAME OF SUBMITTER:	Jennifer Carusone		
SIGNATURE:	/Jennifer Carusone/		
DATE SIGNED:	11/20/2018		
Total Attachments: 11			
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**GRANT OF SECURITY INTEREST
IN PATENTS AND TRADEMARKS**

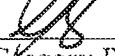
WHEREAS, SHINE MEDICAL TECHNOLOGIES, INC. (the “Pledgor”) is the owner of the trademark applications and registrations listed on Schedule A attached hereto, (all such trademarks, registrations and applications, collectively, the “Trademarks”) and is the owner of the patents and patent applications listed on Schedule A attached hereto (all such patents, registrations and applications, collectively, the “Patents”); and

WHEREAS, the Pledgor has entered into a Pledge and Security Agreement (as amended, modified, restated or supplemented from time to time, the “Security Agreement”), dated as of November 20, 2018, in which the Pledgor has agreed with Deerfield Management Company, L.P., as Collateral Agent (the “Collateral Agent”), with offices at 780 Third Avenue, 37th Floor, New York, New York 10017, to execute this Grant;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as security for the payment and performance of the Secured Obligations (as defined in the Security Agreement), the Pledgor does hereby grant to the Collateral Agent a security interest in all of its right, title and interest in and to the Trademarks and the Patents, and the use thereof, together with all proceeds and products thereof and the goodwill of the businesses symbolized by the Trademarks. This Grant has been given in conjunction with the security interest granted to the Collateral Agent under the Security Agreement, and the provisions of this Grant are without prejudice to and in addition to the provisions of the Security Agreement, which are incorporated herein by this reference.

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SHINE MEDICAL TECHNOLOGIES, INC.

By: 
Name: Gregory Piefer
Title: Chief Executive Officer

Schedule A

TRADEMARKS AND TRADEMARK APPLICATIONS

	<u>Owner</u>	<u>Mark</u>	Application or <u>Registration No.</u>	<u>Country</u>	Issue or <u>Filing Date</u>
	SHINE Medical Technologies, Inc.	SHINE Medical Technologies	5,193,642	USA	5/2/2017

PATENTS AND PATENT APPLICATIONS

Title	Owner	Inventor	Country	CaseType	Status	Application No.	Filing Date/National Phase Entry Date	Publication No./ Patent No.	Publication/Grant Date
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	United States	National phase filing from PCT	Granted	12/990,758	5/1/2009	US-2011-0096887-A1 9,734,926	4/28/2011 8/15/2017
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	United States	Continuation	Published	15/644,497	7/7/2017	US-2018-0166179-A1	6/14/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	Belgium	Designated EP	Granted	9739965.3	5/1/2009	EP2294582 (A2) EP2294582 (B1)	3/16/2011 8/15/2018

DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	Canada	National phase filing from PCT	Granted	2723224	11/2/2010	2723224	9/25/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	PHOENIX NUCLEAR LABS LLC	Gregory Piefer	China	National phase filing from PCT	Granted	20098012345 2.6	12/22/2010	CN10208443 4A ZL20098012 3452.6	6/1/2011 1/20/2016
IMPROVED DEVICE AND METHOD FOR PRODUCING NEUTRON GENERATED ISOTOPE FOR MEDICINE	SHINE Medical Technologies	Gregory Piefer	China	Divisional	Granted	20151097687 8.3	12/23/2015	CN10557544 5A	5/11/2016 7/24/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	Czechia	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	Germany (Federal Republic of)	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	Europe	National phase filing from PCT	Granted	09739965.3	12/1/2010	22945829A2 2294582B1	3/16/2011 8/15/2018
DEVICE AND METHOD FOR PRODUCING	SHINE Medical Technologies	Gregory Piefer	Spain	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018

MEDICAL ISOTOPE									
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	France	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	United Kingdom	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	Hong Kong	Confirmation	Granted	11113063.2	12/1/2011	1158811A 1158811	7/20/2012 8/26/2016
IMPROVED DEVICE AND METHOD FOR PRODUCING NEUTRON GENERATED ISOTOPE FOR MEDICINE	SHINE Medical Technologies	Gregory Piefer	Hong Kong	Confirmation	Application	16113017.4	11/11/2016		
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	India	National phase filing from PCT	Application	4235/KOLNP /2010	11/11/2010		
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPE	SHINE Medical Technologies	Gregory Piefer	Italy	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018

DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPEs	SHINE Medical Technologies	Gregory Piefer	Japan	National phase filing from PCT	Granted	2011-507694	11/1/2010	2011-522226 5793418	7/28/2011 8/14/2015
IMPROVED DEVICE AND METHOD FOR PRODUCING NEUTRON GENERATED ISOTOPEs FOR MEDICINE	SHINE Medical Technologies	Gregory Piefer	Japan	Divisional	Granted	2013-249823	5/1/2009	2014-44214 6130289	3/13/2014 4/21/2017
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPEs	SHINE Medical Technologies	Gregory Piefer	Korea	National phase filing from PCT	Granted	10-2010-7027045	12/1/2010	10-2011-0031278 10-1673954	3/25/2011 11/2/2016
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPEs	SHINE Medical Technologies	Gregory Piefer	Netherlands	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPEs	SHINE Medical Technologies	Gregory Piefer	Poland	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPEs	SHINE Medical Technologies	Gregory Piefer	Russia	National phase filing from PCT	Granted	2010148920	12/2/2010	2010148920 2494484	9/27/2013
DEVICE AND METHOD FOR PRODUCING	SHINE Medical Technologies	Gregory Piefer	Turkey	Designated EP	Granted	9739965.3	5/1/2009	22945829A2 2294582B1	3/16/2011 8/15/2018

MEDICAL ISOTOPE									
SEGMENTED REACTION CHAMBER FOR RADIOISOTOPE PRODUCTION	SHINE Medical Technologies	Gregory Piefer, Thomas Rockwell Mackie	United States	National phase filing from PCT	Published	13/575,826	1/28/2011	US-2012-0300890-A1	11/29/2012
METHODS OF SEPARATING MEDICAL ISOTOPES FROM URANIUM SOLUTIONS	SHINE Medical Technologies	Gregory Piefer	United States	Secondary National phase filing from PCT	Published	13/460,033	4/30/2012	US-2012-0300891-A1	11/29/2012
AQUEOUS ASSEMBLY AND CONTROL METHOD	SHINE Medical Technologies	Gregory Piefer, Eric N. Van Abel	United States	National phase filing from PCT	Published	14/390,658	3/15/2013	US-2015-0092900-A1	4/2/2015
AQUEOUS ASSEMBLY AND CONTROL METHOD	SHINE Medical Technologies	Gregory Piefer, Eric N. Van Abel	Canada	National phase filing from PCT	Application	2869559	10/3/2014		
AQUEOUS ASSEMBLY AND CONTROL METHOD	SHINE Medical Technologies	Gregory Piefer, Eric N. Van Abel	China	National phase filing from PCT	Allowed	20138001886 5.4	3/15/2013	CN110432162 3A	1/28/2015
AQUEOUS ASSEMBLY AND CONTROL METHOD	SHINE Medical Technologies	Gregory Piefer, Eric N. Van Abel	Hong Kong	Confirmation	Application	15101968.9	2/27/2015	1201575A1	
AQUEOUS ASSEMBLY AND CONTROL METHOD	SHINE Medical Technologies	Gregory Piefer, Eric N. Van Abel	India	National phase filing from PCT	Application	9137/DELNP /2014	10/31/2014		

AQUEOUS ASSEMBLY AND CONTROL METHOD	SHINE Medical Technologies	Gregory Piefer, Eric N. Van Abel	Korea	National phase filing from PCT	Published	10-2014-7031068	11/4/2014	10-2015-0023245	3/5/2015
AQUEOUS ASSEMBLY AND CONTROL METHOD	SHINE Medical Technologies	Gregory Piefer, Eric N. Van Abel	Russia	National phase filing from PCT	Granted	2014144290	3/15/2013	2014144290 2649662	5/27/2016 4/5/2018
APARATUS AND METHOD FOR GENERATING MEDICAL ISOTOPES	Wisconsin Alumni Research Foundation and SHINE Medical Technologies	Gregory Piefer, Thad Heltemes, Ross Radel, Eric Van Abel	USA		Application	13/373,899	12/05/2011	US20130142296A1	6/6/2013
APARATUS AND METHOD FOR GENERATING MEDICAL ISOTOPES	Wisconsin Alumni Research Foundation	Gregory Piefer, Thad Heltemes, Ross Radel, Eric Van Abel	WIPO (IS PCT)		Expired	PCT/US2012/066214	11/21/2012	WO2013119299	
APARATUS AND METHOD FOR GENERATING MEDICAL ISOTOPES	Wisconsin Alumni Research Foundation	Gregory Piefer, Thad Heltemes, Ross Radel, Eric Van Abel	China		Granted	20128006736 3.6	11/21/2012	CN10432182 4A CN10432182 4B	1/28/2015 2/22/2014
APARATUS AND METHOD FOR GENERATING	Wisconsin Alumni Research Foundation	Gregory Piefer, Thad Heltemes	India			4495/DELNP/2014	11/23/2012		

MEDICAL ISOTOPE		, Ross Radel, Eric Van Abel							
APPARATUS AND METHOD FOR GENERATING MEDICAL ISOTOPE	Wisconsin Alumni Research Foundation	Gregory Piefer, Thad Heltemes, Ross Radel, Eric Van Abel	Japan		Granted	2014-545927	11/21/2012	2015510103 A 6236012B2	4/2/2015 11/22/2017
APPARATUS AND METHOD FOR GENERATING MEDICAL ISOTOPE	Wisconsin Alumni Research Foundation	Gregory Piefer, Thad Heltemes, Ross Radel, Eric Van Abel	Russia		Granted	2014122587	11/21/2012	2014122587 A 2625342C2	1/27/2016 7/13/2017
DRY PHASE REACTOR FOR GENERATING MEDICAL ISOTOPE	Wisconsin Alumni Research Foundation	Thomas (Rock) Mackie, Thad Heltemes	USA		Granted	13/692212	12/3/2012	20140153684 9330800	6/5/2014 5/3/2016
DRY PHASE REACTOR FOR GENERATING MEDICAL ISOTOPE	Wisconsin Alumni Research Foundation	Thomas (Rock) Mackie, Thad Heltemes	WIPO (IS PCT)		Expired	PCT/US2013/070750	11/19/2013	WO20141266 23	
APPARATUS AND PROCESS FOR SEPARATING HYDROGEN ISOTOPE	Savannah River Nuclear Solutions, LLC	Leung K. Heung, Henry T. Sessions, Xin Xiao	USA		Granted	12/882,962	9/15/2010	2012006088 8470073	3/15/2012 6/25/2013

PROCESS FOR SEPARATING HYDROGEN ISOTOPE	Savannah River Nuclear Solutions, LLC	Leung K. Heung, Henry T. Sessions, Xin Xiao	WIPO (IS PCT)	Expired	PCT/US2011/001606	9/15/2011	WO2012036749	
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX, LLC	Gregory Piefer	USA	Granted	12/8/10,958	12/29/2008	201002845028837662	11/11/20109/16/2014
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX NUCLEAR LABS, LLC	Gregory Piefer	Canada	Granted	2710985	6/28/2010	CA2710985A1 CA2710985C	3/21/2017
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX NUCLEAR LABS, LLC	Gregory Piefer	China	Granted	200880125694.4	7/27/2010	CN101952899A CN101952899B	1/19/20115/28/2014
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX NUCLEAR LABS, LLC	Gregory Piefer	Europe	Granted	08874437.0	7/28/2010	EP2236016A2 EP2236016B1	10/6/20108/9/2017
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX, LLC	Gregory Piefer	India		2615/KOLNP/2010	7/16/2010		
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX NUCLEAR LABS, LLC	Gregory Piefer	Japan	Granted	2010-540933	6/24/2010	JP2011508885A JP5653757B2	3/17/20111/14/2015
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX NUCLEAR LABS, LLC	Gregory Piefer	Republic of Korea	Granted	10-2010-7016871	7/27/2010	KR20100103652A KR101591688B1	9/27/20102/4/2016
HIGH ENERGY PROTON OR	PHOENIX, LLC	Gregory Piefer	Patent Cooperat	Expired	PCT/US2008/088485	12/29/2008	WO2009142669	

NEUTRON SOURCE			ion Treaty						
HIGH ENERGY PROTON OR NEUTRON SOURCE	PHOENIX, LLC	Gregory Piefer	Russian Federation		Granted	2010126346	7/28/2010	RU2010126346A RU2496285C2	2/10/2012 10/20/2013
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPES	SHINE Medical Technologies	Gregory Piefer	Japan	National phase filing from PCT	Published	2016-249660	12/22/2016	2017053872A	3/16/2017
DEVICE AND METHOD FOR PRODUCING MEDICAL ISOTOPES	SHINE Medical Technologies	Gregory Piefer	Korea	National phase filing from PCT	Published	20167015856	5/1/2009	KR 20160072846A	6/23/2016
APARATUS AND METHOD FOR GENERATING MEDICAL ISOTOPES	Wisconsin Alumni Research Foundation	Gregory Piefer, Thad Heltemes, Ross Radel, Eric Van Abel	China		Published	201710003742.3	11/21/2012	CN107086055A	8/22/2017

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RECORDED: 11/20/2018