

TRADEMARK ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Formerly	Execution Date	Entity Type
Luna Innovations Incorporated		02/18/2010	CORPORATION: DELAWARE

RECEIVING PARTY DATA

Name:	Silicon Valley Bank
Street Address:	One Newton Executive Park
Internal Address:	2221 Washington Street, Suite 200
City:	Newton
State/Country:	MASSACHUSETTS
Postal Code:	02462
Entity Type:	Bank: CALIFORNIA

PROPERTY NUMBERS Total: 5

Property Type	Number	Word Mark
Registration Number:	2771969	LUNA INNOVATIONS
Registration Number:	3093823	
Registration Number:	3230571	TRIMETASPHERES
Registration Number:	3321824	EN-TACT
Registration Number:	3352839	EDAC

CORRESPONDENCE DATA

Fax Number: (703)415-1557
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
 Phone: 703-415-1555
 Email: mail@specializedpatent.com
 Correspondent Name: Christopher E. Kondracki
 Address Line 1: 1501 Wilson Boulevard
 Address Line 2: Suite 510
 Address Line 4: Arlington, VIRGINIA 22209

CH \$140.00 2771969

ATTORNEY DOCKET NUMBER:	1001806
NAME OF SUBMITTER:	Christopher E. Kondracki
Signature:	/Christopher E. Kondracki/
Date:	02/24/2010

Total Attachments: 28
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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of February 18, 2010 by and between SILICON VALLEY BANK ("Bank") and LUNA INNOVATIONS INCORPORATED ("Grantor").

RECITALS

A. Bank has agreed to make certain advances of money and to extend certain financial accommodation to, among others, Grantor (the "Loans") in the amounts and manner set forth in that certain Loan and Security Agreement by and between Bank and, among others, Grantor dated as of the date hereof (as the same may be amended, modified or supplemented from time to time, the "Loan Agreement"; capitalized terms used herein are used as defined in the Loan Agreement). Bank is willing to make the Loans to Grantor, but only upon the condition, among others, that Grantor shall grant to Bank a security interest in certain Copyrights, Trademarks, Patents, and Mask Works (as each term is described below) to secure the obligations of Grantor under the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Bank a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its obligations under the Loan Agreement, Grantor grants and pledges to Bank a security interest in all of Grantor's right, title and interest in, to and under its intellectual property (all of which shall collectively be called the "Intellectual Property Collateral"), including, without limitation, the following:

1. Any and all copyright rights, copyright applications, copyright registrations and like protections in each work or authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the "Copyrights");
2. Any and all trade secrets, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;
3. Any and all design rights that may be available to Grantor now or hereafter existing, created, acquired or held;
4. All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the

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same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the "**Patents**");

5. Any trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the "**Trademarks**");

6. All mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on Exhibit D attached hereto (collectively, the "**Mask Works**");

7. Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

8. All licenses or other rights to use any of the Copyrights, Patents, Trademarks, or Mask Works and all license fees and royalties arising from such use to the extent permitted by such license or rights;

9. All amendments, extensions, renewals and extensions of any of the Copyrights, Trademarks, Patents, or Mask Works; and

10. All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

This security interest is granted in conjunction with the security interest granted to Bank under the Loan Agreement. The rights and remedies of Bank with respect to the security interest granted hereby are in addition to those set forth in the Loan Agreement and the other Loan Documents, and those which are now or hereafter available to Bank as a matter of law or equity. Each right, power and remedy of Bank provided for herein or in the Loan Agreement or any of the Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

[Signature page follows.]


IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:

LUNA INNOVATIONS INCORPORATED

1 Riverside Circle, Suite 400
Roanoke, Virginia 24016
Attn: Mr. Scott Graeff

By: 
Name: Paul A. Murphy
Title: President and CEO

BANK:

Address of Bank:

SILICON VALLEY BANK

One Newton Executive Park, Suite 200
2221 Washington Street
Newton, Massachusetts 02462
Attn: Mr. Ryan Ravenscroft

By: _____
Name: _____
Title: _____

[Signature Page to Intellectual Property Security Agreement – Luna Innovations Incorporated]

TAMC

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:

1 Riverside Circle, Suite 400
Roanoke, Virginia 24016
Attn: Mr. Scott Graeff

LUNA INNOVATIONS INCORPORATED

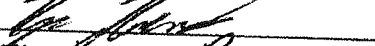
By: _____
Name: _____
Title: _____

BANK:

Address of Bank:

One Newton Executive Park, Suite 200
2221 Washington Street
Newton, Massachusetts 02462
Attn: Mr. Ryan Ravenscroft

SILICON VALLEY BANK

By: 
Name: Ryan Ravenscroft
Title: VP

[Signature Page to Intellectual Property Security Agreement – Luna Innovations Incorporated]

TRADEMARK
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EXHIBIT A

Copyrights

Description

Registration/
Application
Number

Registration/
Application
Date

NONE

Not Applicable

Not Applicable

EXHIBIT B

Patents

Issued Patents

Country ID	Patent #	Issue Date	Inventor(s)	Title
US	5,441,051	08/15/1995	Hileman, Ronald E. Wall, Brian Stump, David A.	Method and Apparatus for the Non-Invasive Detection and Classification of Emboli
US	5,641,956	06/24/1997	Vengsarkar, Ashish M. Bhatia, Vikram Greene, Jonathan A. Murphy, Kent A.	Optical Waveguide Sensor Arrangement Having Guided Modes-No Guided Modes Grating Coupler
US	5,864,641	01/26/1999	Murphy, Kent A. Jones, Mark E.	Optical Fiber Long Period Sensor Having a Reactive Coating
US	6,021,240	02/01/2000	Murphy, Kent A. Jones, Mark E.	Optical Sensor Activation Device
US	6,035,082	03/07/2000	Murphy, Kent A. Jones, Mark E.	Process for Preparing an Optical Fiber Sensor With Enhanced Sensitivity
US	6,215,943	04/10/2001	Crotts, Ricky L. Bailey, Timothy A. Murphy, Kent A. Jones, Mark E.	Optical Fiber Holder
US	6,270,946	08/07/2001	Miller, Michael B.	Non-Lithographic Process for Producing Nanoscale Features on a Substrate
US	6,275,628	08/14/2001	Jones, Mark E. Murphy, Kent A. Elster, Jennifer L. Gunther, Michael F. Wavering, Thomas A.	Single-Ended Long Period Grating Optical Device
US	6,341,185	01/22/2002	Elster, Jennifer L. Davis, Richey M. Jones, Mark E.	Extrinsic Optical Waveguide Sensors
US	6,343,168	01/29/2002	Murphy, Kent A. Jones, Mark E.	Optical Sensor Arrangement

Country ID	Patent #	Issue Date	Inventor(s)	Title
US	6,366,722	04/02/2002	Murphy, Kent A. Jones, Mark E.	Optical Waveguide Sensors Having High Refractive Index Sensitivity
US	6,426,796	07/30/2002	Pulliam, Wade J. Schetz, Joseph A. Jones, Mark E. Murphy, Kent A.	Fiber Optic Wall Shear Stress Sensor
US	6,429,421	08/06/2002	Meller, Scott A. Murphy, Kent A. Jones, Mark E.	Flexible Fiber Optic Microbend Device, with Interlocking Flexible Fibers, Sensors, and Method Use
US	6,471,942	10/29/2002	Miller, Michael B. Murphy, Kent A. Dorn, Harry C. Stevenson, Steven A. Stevenson, Janice P. Luo, Shufang	Imaging and Treatment Method for Body
US	6,571,639	06/03/2003	May, Russell G. Wavering, Thomas A.	Fiber Optic System
US	6,671,055	12/30/2003	Wavering, Thomas A. Meller, Scott A. Borinski, Jason W. Pulliam, Wade J. Russler, Patrick M.	Interferometric Sensors Utilizing Bulk Sensing Mediums Extrinsic to the Input/Output Optical Fiber
US	6,856,400	02/15/2005	Froggatt, Mark E.	Apparatus and Method for the Complete Characterization of Optical Devices Including Loss, Birefringence and Dispersion Effects
US	6,898,337	05/24/2005	Averett, Joshua P. Elster, Jennifer L. Jones, Mark E. Pennington, Charles D. Van Tassell, Roger L.	Fiber-Optic Apparatus and Method for Making Simultaneous Multiple Parameter Measurements

Country ID	Patent #	Issue Date	Inventor(s)	Title
US	6,900,897 B2	05/31/2005	Froggatt, Mark E.	Apparatus and Method for Correcting Errors Generated by a Laser With Non-Ideal Tuning Characteristics
US	6,965,708	11/15/2005	Luo, Shufang Elster, Jennifer L. Liu, Yongcheng Sucheta, Artur	Devices, Systems, and Methods For Sensing Moisture
US	6,987,897	01/17/2006	Elster, Jennifer L. Jones, Mark E. Pennington, Charles D. Averett, Joshua P.	Fiber-Optic Flow Cell and Method Relating Thereto
US	7,001,942	02/21/2006	Rogers, Martin E. Deschatelets, Pascal Phillips, Janice P.	Flame Retardant Thermoset Resins and Methods of Making the Same
US	7,010,182 B2	03/07/2006	Pennington, Charles D.	Biosensors Having Enhanced Environmental Sensitivity
US	7,017,422 B2	03/28/2006	Heyman, Joseph S. Lynch, John E.	Bond Testing System, Method, and Apparatus
US	7,018,709 B2	03/28/2006	Stevenson, Janice P. Rogers, Martin E. Topasna, Daniela M.	Contamination-Resistant Coated Substrates
US	7,042,573	05/09/2006	Froggatt, Mark E.	Apparatus and Method for the Complete Characterization of Optical Devices Including Loss, Birefringence and Dispersion Effects
US	7,060,636 B2	06/13/2006	Phillips, Janice P. Koene, Bryan E. Stevenson, Steven A. Topasna, Daniela M. Rogers, Martin E.	Tunable Dielectric Device and Process Relating Thereto
US	7,082,833	08/01/2006	Heyman, Joseph S. Lynch, John T.	Method and Apparatus for Determining and Assessing a Characteristic of a Material

Country ID	Patent #	Issue Date	Inventor(s)	Title
US	7,154,081	12/26/2006	Friedersdorf, Fritz Wavering, Thomas A.	Composite Structures, Such as Coated Wiring Assemblies, Having Integral Fiber Optic-Based Condition Detectors and Systems Which Employ the Same
US	7,209,223	04/24/2007	Hull, Matthew S. Averett, Joshua P. Jones, Mark E. Klemer, Daniel R.	Optical Device for Measuring Optical Properties of a Sample And Method Relating Thereto
US	7,319,639	01/15/2008	Heyman, Joseph S.	Acoustic Concealed Item Detector
US	7,329,461	02/12/2008	Rogers, Martin E. Deschatelets, Pascal Phillips, Janice P.	Flame-Retardant Synthetic Resin Articles Containing Flame-Retardant Superabsorbent Polymer (SAP) Particles
US	7,330,245	02/12/2008	Froggatt, Mark E.	Calculation of Birefringence in a Waveguide Based on Rayleigh Scatter
US	7,379,168	05/27/2008	Froggatt, Mark E. Soller, Brian J. Wolfe, Matthew S.	Polarization Diversity Detection Without a Polarizing Beam Splitter
US	7,388,673	06/17/2008	Froggatt, Mark E. Soller, Brian J. Wolfe, Matthew S.	Heterodyne Optical Spectrum Analyzer
US	7,404,671	07/29/2008	Heyman, Joseph S. Malyarenko, Eugene V.	Dynamic Acoustic Thermometer
US	7,423,079	09/09/2008	Rogers, Martin E. Phillips, Janice Paige Koene, Bryan	Flame-Rretardant Synthetic Textile Articles and Methods of Making the Same

Country ID	Patent #	Issue Date	Inventor(s)	Title
US	7,440,087	10/21/2008	Froggatt, Mark Earl Soller, Brian Joseph	Identifying Optical Fiber Segments and Determining Characteristics of an Optical Device Under Test Based on Fiber Segment Scatter Pattern Data
US	7,454,972	11/25/2008	Heyman, Joseph S. Lynch, John E.	Method and Apparatus for Acoustically Weighing Moving Loads
US	7,513,160	04/07/2009	Lynch, John E. Blaker, David M. Colatosti, David J.	Digital Pulsed Phase Locked Loop
US	7,515,276	04/07/2009	Froggatt, Mark Seeley, Ryan J. Gifford, Dawn K.	High Resolution Interferometric Optical Frequency Domain Reflectometry (OFDR) Beyond the Laser Coherence Length
US	7,538,883	05/26/2009	Froggatt, Mark E.	Distributed Strain and Temperature Discrimination in Polarization Maintaining Fiber
US	7,540,197	06/02/2009	Wavering, Thomas Friedersdorf, Fritz Brown, Nathan K.	Sensors, Methods and Systems for Determining Physical Effects of a Fluid
US	7,561,276	07/14/2009	Boyd, Clark D.	Demodulation Method and Apparatus for Fiber Optic Sensors
US	7,570,411	08/04/2009	Klemer, Daniel R. Gause, Charles B. Stevenson, Steven A.	Optical Limiter Having Trimetallic Nitride Endohedral Metallofullerence Films
US	7,633,607	12/15/2009	Froggatt, Mark	Method and Apparatus for Calibrating Measurement Equipment

Pending Patent Applications

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	60/556,433	03/26/2004	Koene, Bryan Phillips, Paige Rogers, Martin	Trimetaspheres for Ion Selective Membranes	Expired
WO	US2005/10215	03/25/2005	Koene, Bryan Phillips, J. Paige Rogers, Martin E.	Trimetaspheres for Ion Selective Membranes	Closed
US	10/594,028	07/23/2007	Koene, Bryan Phillips, J. Paige Rogers, Martin E.	Trimetaspheres for Ion Selective Membranes	Pending & Published
US	60/556,435	03/26/2004	Phillips, Paige Topasna, Daniela Stevenson, Steve Deschatelets, Pascal Koene, Bryan	Photovoltaic Device with Trimetaspheres	Expired
WO	US2005/010214	03/25/2005	Phillips, J. Paige Topasna, Daniela M. Stevenson, Steven A. Deschatelets, Pascal Koene, Bryan	Photovoltaic Device with Trimetaspheres	Closed
CN	US2005/010214	03/25/2005	Phillips, J. Paige Topasna, Daniela M. Stevenson, Steven A. Deschatelets, Pascal Koene, Bryan	Photovoltaic Device with Trimetaspheres	Abandoned
EP	05743227.0	03/25/2005	Phillips, J. Paige Topasna, Daniela M. Stevenson, Steven A. Deschatelets, Pascal Koene, Bryan	Photovoltaic Device with Trimetaspheres	Abandoned
JP	2007-505249	03/25/2005	Phillips, J. Paige Topasna, Daniela M. Stevenson, Steven A. Deschatelets, Pascal Koene, Bryan	Photovoltaic Device with Trimetaspheres	Abandoned
US	10/594,073	06/25/2007	Phillips, J. Paige Topasna, Daniela M. Stevenson, Steven A. Deschatelets, Pascal Koene, Bryan	Photovoltaic Device with Trimetaspheres	Pending & Published

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	60/556,430	03/26/2004	Gause, Charles B.	Trimetaspheres a Dry Lubricants, Wet Lubricants, Lubricant Additives, Lubricant Coatings, Corrosion-Resistant Coatings and Thermally-Conductive Materials	Expired
WO	US2005/010217	03/25/2005	Gause, Charles B.	Trimetaspheres a Dry Lubricants, Wet Lubricants, Lubricant Additives, Lubricant Coatings, Corrosion-Resistant Coatings and Thermally-Conductive Materials	Closed
US	10/594,027	07/23/2007	Gause, Charles B.	Trimetaspheres a Dry Lubricants, Wet Lubricants, Lubricant Additives, Lubricant Coatings, Corrosion-Resistant Coatings and Thermally-Conductive Materials	Pending & Published
US	60/556,432	03/26/2004	Ge, Zhongxin Dorn, Harry C. Philips, J. Paige	Pegylation and Hydroxylation of Trimetallic Nitride Endohedral Metallofullerenes	Expired
WO	US2005/010219	03/25/2005	Ge, Zhongxin Dorn, Harry C. Philips, J. Paige	Pegylation and Hydroxylation of Trimetallic Nitride Endohedral Metallofullerenes	Closed
US	10/594,432	09/26/2006	Ge, Zhongxin Dorn, Harry C. Philips, J. Paige	Pegylation and Hydroxylation of Trimetallic Nitride Endohedral Metallofullerenes	Pending & Published
US	60/556,503	03/26/2004	Stevenson, Steven A.	Method of Making Multiple Carbonaceous Nanomaterials	Expired
WO	US2005/010218	03/25/2005	Stevenson, Steven A.	Method of Making Multiple Carbonaceous Nanomaterials	Closed
US	10/594,026	07/23/2007	Stevenson, Steven A.	Method of Making Multiple Carbonaceous Nanomaterials	Pending & Published
US	60/904,401	03/02/2007	Lenk, Robert P. Papoiu, Alexandru MacFarland, Darren Wilson, Stephen R.	Liposome Carriers for in Vivo Delivery of Fullerenes	Expired
WO	US2008/002789	03/03/2008	Lenk, Robert P. Papoiu, Alexandru MacFarland, Darren Wilson, Stephen R.	Liposome Carriers for In Vivo Delivery of Fullerenes	Closed

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	12/073,232	03/03/2008	Lenk, Robert P. Papoiu, Alexandru MacFarland, Darren Wilson, Stephen R.	Liposome Carriers for in Vivo Delivery of Fullerenes	Pending & Published
WO	US2008/002790	03/03/2008	Zhou, Zhiguo Lenk, Robert P. MacFarland, Darren Walker, Kenneth L. Zhang, Jing Wilson, Stephen R.	Amphiphilic or Lipophilic Polar Functionalized Fullerenes and Their Uses	Closed
US	12/073,230	03/03/2008	Zhou, Zhiguo Lenk, Robert P. MacFarland, Darren Walker, Kenneth L. Zhang, Jing Wilson, Stephen R.	Amphiphilic or Lipophilic Polar Functionalized Fullerenes and Their Uses	Pending & Published
US	60/904,402	03/02/2007	MacFarland, Darren Zhang, Jing Zhou, Zhiguo Lenk, Robert Wilson Stephen	Steroid Derivatives of Fullerenes	Expired
WO	US2008/002791	03/03/2008	MacFarland, Darren Zhang, Jing Zhou, Zhiguo Lenk, Robert P. Wilson, Stephen R.	Steroid Derivatives of Fullerenes	Closed
US	12/073,231	03/03/2008	MacFarland, Darren Zhang, Jing Zhou, Zhiguo Lenk, Robert Wilson Stephen	Steroid Derivatives of Fullerenes	Pending & Published
US	60/960,962	10/22/2007	MacFarland, Darren K. Lenk, Robert P. Shukla, Rajesh B. Zhou, Zhiguo Wilson, Stephen R.	Metallofullerene Contrast Agents	Expired

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
WO	US2008/011996	10/22/2008	MacFarland, Darren K. Lenk, Robert P. Shukla, Rajesh B. Walker, Kenneth L. Wilson, Stephen R. Zhou, Zhiguo	Metallofullerene Contrast Agents	Pending & Published
US	61/129,925	07/30/2008	Zhang, Jing	Novell Fullerene Cyclopropanation Reaction	Expired
WO	US2009/004358	07/28/2009	Zhang, Jing	Novel Fullerene Cyclopropanation Reaction	Pending
US	60/996,433	11/16/2007	Cardona, Claudia Maria Drees, Martin Holloway, Brian	Trimetasphere Derivatives Useful in Molecular Electronic Devices	Expired
US	61/064,837	03/28/2008	Cardona, Claudia Maria Drees, Martin Holloway, Brian	Derivatives of Nanomaterials for Organic Photovoltaic Applications	Expired
WO	US2008/012844	11/17/2008	Cardona, Claudia Maria Drees, Martin Holloway, Brian	Derivatives of Nanomaterials and Related Devices and Methods	Pending & Published
US	61/033,303	03/03/2008	Kepley, Christopher L. Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Using Fullerenes to Enhance and Stimulate Hair Growth	Expired
WO	US2009/001334	03/03/2009	Kepley, Christopher L. Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Using Fullerenes to Enhance and Stimulate Hair Growth	Pending & Published
US	61/033,324	03/03/2008	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Method for Treating Pruritus by Administering Fullerenes	Expired
WO	US2009/001332	03/03/2009	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Method for Treating Pruritus by Administering Fullerenes	Pending & Published
US	61/033,309	03/03/2008	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Fullerene Therapies for Inflammation	Expired

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
WO	US2009/001333	03/03/2009	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo MacFarland, Darren	Fullerene Therapies for Inflammation	Pending & Published
US	61/033,336	03/03/2008	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Method for Inhibiting the Build-Up of Arterial Plaque by Administering Fullerenes	Expired
WO	US2009/001335	03/03/2009	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Method for Inhibiting the Build-Up of Arterial Plaque by Administering Fullerenes	Pending & Published
US	61/033,320	03/03/2008	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Method for Treating Wounds by Administering Fullerenes	Expired
WO	US2009/001329	03/03/2009	Kepley, Christopher Lenk, Robert P. Wilson, Stephen R. Zhou, Zhiguo	Method for Treating Wounds by Administering Fullerenes	Pending & Published
US	61/071,756	05/15/2008	MacFarland, Darren K.	New Reaction for Fullerenes	Expired
WO	US2008/011997	10/22/2008	MacFarland, Darren K.	New Reactions for Fullerenes	Pending & Published
US	60/588,336	07/16/2004	Childers; Brooks A. Gifford; Dawn K. Duncan; Roger G. Raum; Matthew T. Vercellino; Michael E. Froggatt; Mark E.	Fiber Optic Position and Shape Sensing Device and Method Relating Thereto	Expired
US	11/180,389	07/13/2005	Childers; Brooks A. Gifford; Dawn K. Duncan; Roger G. Raum; Matthew T. Vercellino; Michael E. Froggatt; Mark E.	Fiber Optic Position and Shape Sensing Device and Method Relating Thereto	Abandoned
US	11/535,438	03/22/2007	Childers; Brooks A. Gifford; Dawn K. Duncan; Roger G. Raum; Matthew T. Vercellino; Michael E. Froggatt; Mark E.	Fiber Optic Position and Shape Sensing Device and Method Relating Thereto	Pending

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	60/635,440	12/14/2004	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Expired
WO	US2005/045002	12/13/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Closed
CN	2,590,790	12/13/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
EP	05853828.1	12/13/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
JP	2007-545714	12/30/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
US	11/792,082	06/02/2008	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
US	11/500,895	08/09/2006	Koene, Bryan E. Rogers, Martin E. Gunter, Jonas E.	Additive Particles having Superhydrophobic Characteristics and Coatings and Methods of Making and Using Same	Abandoned
WO	US2006/031035	08/09/2006	Koene, Bryan E. Rogers, Martin E. Gunter, Jonas E.	Additive Particles having Superhydrophobic Characteristics and Coatings and Methods of Making and Using Same	Closed
US	12/420,618	04/08/2009	Koene, Bryan E. Rogers, Martin E. Gunter, Jonas E.	Additive Particles having Superhydrophobic Characteristics and Coatings and Methods of Making and Using Same	Pending & Published
US	61/146,448	01/22/2009	Froggatt, Mark E.	High Precision Control of a Tunable Laser	Pending
WO	US2009/034664	02/20/2009	Froggatt, Mark E.	High Precision Control of a Tunable Laser	Pending
US	60/924,238	05/04/2007	Garrett, James T. Goff, Adam C.	Non-Toxic Blast Mitigating, Fragment Containing, and Fire Resistant Coating	Expired
US	61/154,332	02/20/2009	Garrett, James T. Goff, Adam C.	Non-Toxic Blast Mitigating, Fragment Containing, and Fire Resistant Coating	Pending

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	61/184,190	09/11/2008	Lynch, John E.	Method and Apparatus for Acoustically Enhanced Removal of Bubbles from a Fluid	Expired
WO	US2009/056154	09/08/2009	Lynch, John E.	Method and Apparatus for Acoustically Enhanced Removal of Bubbles from a Fluid	Pending & Published
US	60/900,332	02/09/2007	Wavering, Thomas Friedersdorf, Fritz	Wireless Corrosion Sensor	Expired
US	12/027,850	02/07/2008	Wavering, Thomas Friedersdorf, Fritz	Wireless Corrosion Sensor	Pending & Published
US	60/833,267	07/26/2006	Froggatt, Mark E. Seeley, Ryan J. Gifford, Dawn K.	High Resolution Interferometric Optical Frequency Domain Reflectometry Beyond the Laser Coherence Length	Expired
WO	US2007/016230	07/18/2007	Froggatt, Mark E. Seeley, Ryan J. Gifford, Dawn K.	High Resolution Interferometric Optical Frequency Domain Reflectometry Beyond the Laser Coherence Length	Closed
EP	07810547.5	07/18/2007	Froggatt, Mark E. Seeley, Ryan J. Gifford, Dawn K.	High Resolution Interferometric Optical Frequency Domain Reflectometry Beyond the Laser Coherence Length	Pending & Published
US	60/832,952	07/25/2006	McKenna, Mark J. Heyman, Joseph S.	Ultrasonic Material Stress Monitor Sonic Tester of Residual and Externally-Applied Stress States	Expired
US	11/782,229	07/24/2007	McKenna, Mark J. Heyman, Joseph S.	Ultrasonic Material Stress Monitor Sonic Tester of Residual and Externally-Applied Stress States	Pending & Published
WO	US2007/016625	07/25/2007	McKenna, Mark J. Heyman, Joseph S.	Ultrasonic Material Stress Monitor Sonic Tester of Residual and Externally-Applied Stress States	Closed
US	11/429,432	05/08/2006	Lynch, John E. Blaker, David M. Colatosti, David J. Mack Jr., Richard B.	Method and Apparatus for Enhancing the Detecting and Tracking of Moving Objects Using Ultrasound	Pending
US	60/635,440	12/14/2004	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Expired

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
WO	US2005/045002	12/13/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Closed
CN	2,590,790	12/13/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
EP	05853828.1	12/13/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
JP	2007-545714	12/30/2005	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
US	11/792,082	06/02/2008	Froggatt, Mark E. Gifford, Dawn K.	Compensating for Time Varying Phase Changes in Interferometric Measurements	Pending & Published
US	60/852,431	10/18/2006	Lynch, John E. Blaker, David M. Hileman, Ronald E.	Method and Apparatus for Calibrating an Ultrasonic Sensing System Used to Detect Moving Objections	Expired
WO	US2007/000304	01/09/2007	Lynch, John E. Blaker, David M. Hileman, Ronald E.	Method and Apparatus for Calibrating an Ultrasonic Sensing System Used to Detect Moving Objections	Closed
US	11/651,105	01/09/2007	Lynch, John E. Blaker, David M. Hileman, Ronald E.	Method and Apparatus for Calibrating an Ultrasonic Sensing System Used to Detect Moving Objections	Pending & Published
US	12/021,451	02/19/2009	Koene; Bryan E. Oxley; James D. Gunter; Jonas C.	Thermal Sensitive Material	Pending & Published
US	60/924,962	06/06/2007	Lynch, John E. Domack, Christopher	Method and Apparatus for Acoustically Enhanced Removal of Microbubbles from an Extracorporeal Blood Circuit	Expired
WO	US2008/006826	05/30/2008	Lynch, John E. Domack, Christopher	Method and Apparatus for Acoustically Enhanced Removal of Microbubbles from an Extracorporeal Blood Circuit	Closed
US	12/129,985	05/30/2008	Lynch, John E. Domack, Christopher	Method and Apparatus for Acoustically Enhanced Removal of Bubbles from a Fluid	Pending & Published

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	60/546,937	02/24/2004	Rogers, Martin E. Phillips, Janice P. Koene, Bryan E.	Processes and Systems for the Efficient Production of Polymeric Microspheres	Expired
WO	US2005/005617	02/23/2005	Rogers, Martin E. Phillips, Janice P. Koene, Bryan E.	Processes and Systems for the Efficient Production of Polymeric Microspheres	Closed
CN	2,557,199	02/23/2005	Rogers, Martin E. Phillips, Janice P. Koene, Bryan E.	Processes and Systems for the Efficient Production of Polymeric Microspheres	Pending & Published
EP	05713936.2	02/23/2005	Rogers, Martin E. Phillips, Janice P. Koene, Bryan E.	Processes and Systems for the Efficient Production of Polymeric Microspheres	Pending & Published
US	10/590,454	08/24/2006	Rogers, Martin E. Phillips, Janice P. Koene, Bryan E.	Processes and Systems for the Efficient Production of Polymeric Microspheres	Pending & Published
US	60/588,336	07/16/2004	Childers, Brooks A. Gifford, Dawn K. Duncan, Roger G. Raum, Matthew T. Vercellino, Michael	Fiber Optic Position and Shape Sensing Device and Method Relating Thereto	Expired
US	11/535,438	09/26/2006	Childers, Brooks A. Gifford, Dawn K. Duncan, Roger G. Raum, Matthew T. Vercellino, Michael	Fiber Optic Position and Shape Sensing Device and Method Relating Thereto	Pending & Published
US	60/907,031	03/16/2007	Froggatt, Mark E. Duncan, Roger G. Gifford, Dawn K.	Fiber Optic Position and/or Shape Sensing Based on Rayleigh Scatter	Expired
WO	US2008/003236	03/12/2008	Froggatt, Mark E. Duncan, Roger G. Gifford, Dawn K.	Fiber Optic Position and/or Shape Sensing Based on Rayleigh Scatter	Closed
US	12/047,056	03/12/2008	Froggatt, Mark E. Duncan, Roger G. Gifford, Dawn K.	Fiber Optic Position and/or Shape Sensing Based on Rayleigh Scatter	Pending & Published
US	60/907,209	03/26/2007	Lynch, John E.	Method and Apparatus for Classifying Gaseous and Non-Gaseous Objections	Expired
WO	US2008/003732	03/21/2008	Lynch, John E.	Method and Apparatus for Classifying Gaseous and Non-Gaseous Objections	Closed

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	12/053,289	03/21/2008	Lynch, John E.	Method and Apparatus for Classifying Gaseous and Non-Gaseous Objections	Pending & Published
US	60/924,965	05/16/2007	Friedersdorf, Fritz Vestal, Christy R.	High Friction Coating Formulations and Systems and Coated Articles Thereof Exhibiting Radar Signature Reduction and Methods of Providing the Same	Expired
US	12/121,191	05/15/2008	Friedersdorf, Fritz J. Vestal, Christy R.	High Friction Coating Formulations and Systems and Coated Articles Thereof Exhibiting Radar Signature Reduction and Methods of Providing the Same	Pending & Published
US	60/814,088	06/16/2006	Froggatt, Mark E.	Distributed Strain and Temperature Discrimination in Unaltered Polarization Maintaing Fiber	Expired
WO	US2007/013471	06/07/2007	Froggatt, Mark E.	Distributed Strain and Temperature Discrimination in Unaltered Polarization Maintaing Fiber	Closed
EP	7795875.9	06/07/2007	Froggatt, Mark E.	Distributed Strain and Temperature Discrimination in Unaltered Polarization Maintaing Fiber	Pending & Published
US	60/659,905	03/10/2005	Froggatt, Mark E.	Calculation of Birefringence in a Waveguide Based on Rayleigh Scatter	Expired
WO	US2006/008438	03/03/2006	Froggatt, Mark E.	Calculation of Birefringence in a Waveguide Based on Rayleigh Scatter	Closed
EP	6737599.8	03/09/2006	Froggatt, Mark E.	Calculation of Birefringence in a Waveguide Based on Rayleigh Scatter	Pending & Published
US	61/148,414	01/30/2009	Brown, Nathan Friedersdorf, Fritz	Dual-Screen Debris Monitoring System	Pending
US	61/145,527	01/17/2009	Froggatt, Mark E.	Microscope for Planar Waveguide Inspection	Pending
US	61/180,591	05/22/2009	Katz, Adam	An Apparatus for Delipidation of Adipose Tissue	Pending

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	61/180,599	05/22/2009	Cottler, Patrick	Method of Preparation of Adipose Tissue for Fat Free Transfer	Pending
US	61/225,238	07/14/2009	Beck, Benjamin Metery, Daniel Koene, Bryan Gunter, Jonas	High Threshold Impact Indicating Coating System	Pending
US	61/149,052	02/02/2009	Froggatt, Mark E.	Optical Frequency Domain Reflectometer Microcatheter	Pending

Issued Patents Assigned to Luna Innovations Incorporated

Country ID	Patent #	Issue Date	Inventor(s)	Title
US	6,162,926	12/19/2000	Randal B. Murphy Stephen R. Wilson Quing Lu	Multi-Substituted Fullerenes and Methods for Their Preparation and Characterization
US	6,399,785	06/04/2002	Randal B. Murphy Stephen R. Wilson Quing Lu	Multi-Substituted Fullerenes and Methods for Their Preparation
US	6,448,412	09/10/2002	Randal B. Murphy Stephen R. Wilson Quing Lu	Multi-Substituted Fullerenes and Methods for Their Preparation and Characterization
US	6,452,037	09/17/2002	Long Y. Chiang	Multioligonanilinated Fullerenes
US	6,538,153	03/25/2003	Andreas Hirsch Uwe Reuther	Method of Synthesis of Water Soluble Fullerene Polyacids Using a Macrocyclic Malonate Reactant
US	6,660,248	12/09/2003	Lon J. Wilson Uri Sagman John T. Wharton	Fullerene(C60)-Based X-Ray Contrast Agent for Diagnostic Imaging
US	7,070,810	07/04/2006	Andreas Hirsch Uri Sagman Stephen R. Wilson	Use of Buckysome or Carbon Nanotube For Drug Delivery
US	7,163,956	01/16/2007	Stephen R. Wilson Yi-Zhen Hu Tong Zhu Russ Lebovitz	Substituted Fullerene Compositions and Their Use as Antioxidants
US	7,507,764	03/24/2009	Andreas Hirsch	Amphiphilic [5:1]- and [3:3]-Hexakisadducts of Fullerenes

Pending Applications Assigned to Luna Innovations Incorporated

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	60/510,455	10/10/2003	Stephen R. Wilson Yi-Zhen Hu Tong Zhu	Substituted Fullerenes and Their Use as Antioxidants	Expired
US	60/606,779	09/02/2004	Russ Lebovitz	Fullerene Compositions for Ameliorating Hearing Loss, Collateral Damage of Chemotherapy, or Mucositis	Expired
PCT	PCT/US04/033296	10/08/2004	Stephen R. Wilson Yi-Zhen Hu Tong Zhu Russ Lebovitz	Substituted Fullerene Compositions and Their Use as Antioxidants	Closed (Nationals filed CA, EP, JP)
US	60/356,856	02/14/2002	Andreas Hirsch Uri Sagman	Use of Buckysome or Carbon Nanotube for Drug Delivery	Expired
PCT	PCT/US03/04416	02/14/2003	Andreas Hirsch Uri Sagman Stephen R. Wilson	Use of Buckysome or Carbon Nanotube for Drug Delivery	Closed
EP	03739798.1	02/14/2003	Andreas Hirsch Uri Sagman Stephen R. Wilson	Use of Buckysome or Carbon Nanotube for Drug Delivery	Abandoned
JP	2003-567369	02/14/2003	Andreas Hirsch Uri Sagman Stephen R. Wilson	Use of Buckysome or Carbon Nanotube for Drug Delivery	Pending & Published
US	60/461,914	04/10/2003	Stephen R. Wilson	Fullerene Compounds as Anti-Aging Compounds	Expired
US	60/461,912	04/10/2003	Stephen R. Wilson	Fullerene Compounds as Tobacco Additives	Expired
US	60/511,763	10/15/2003	Andreas Hirsch	Amphiphilic and Hexakisadducts of C ₆₀	Expired
US	60/606,780	09/02/2004	Andreas Hirsch	Method of Synthesis of Water Soluble Fullerene Polyacids Using a Malonate Reactant	Expired
US	60/644,911	01/19/2005	Russ Lebovitz My Phuong Lam	Substituted Fullerene Compositions and Their Use in Treatment of Shock	Expired

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	60/738,486	11/21/2005	Russ Lebovitz	Use of Fullerenes to Oxidize Reduced Redox Proteins	Expired
US	61/038,110	03/20/2008	Russ Lebovitz	Substituted Fullerenes as MRI Contrast Agents	Expired
US	61/049,002	04/30/2008	Russ Lebovitz	Substituted Fullerenes as MRI Contrast Agents	Expired
US	60/668,230	04/04/2005	Florian L. Beuerle Nikos Chronakis Andreas Hirsch	Regioselective Synthesis and Zone Selective Deprotection of [60]Fullerene Trisadducts With an <i>E,E,E</i> Addition Pattern	Expired
PCT	PCT/US01/29081	09/18/2001	Long Y. Chiang Yu	Tumor Treatment	Closed
US	10/822,644	04/12/2004	Stephen R. Wilson Yi-Zhen Hu Tong Zhu	Fullerene Compositions for Ameliorating Dermatological Conditions	Pending & Published
JP	2006-509910	04/12/2004	Stephen R. Wilson Yi-Zhen Hu Tong Zhu	Fullerene Compositions for Ameliorating Dermatological Conditions	Pending & Published
EP	04794598.5	10/08/2004	Stephen R. Wilson Yi-Zhen Hu Tong Zhu Russ Lebovitz	Substituted Fullerene Compositions and Their Use as Antioxidants	Pending & Published
US	11/214,469	08/29/2005	Russ Lebovitz	Fullerene Compositions for Ameliorating Hearing Loss, Collateral Damage of Chemotherapy, or Mucositis	Abandoned
US	11/334,579	01/18/2006	Russ Lebovitz My Phuong Lam	Substituted Fullerene Compositions and Their Use in Treatment of Shock	Abandoned

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
US	11/256,359	10/21/2005	Uwe Hartnagel Andreas Hirsch Russ Lebovitz	Substituted Fullerene Compositions and Their Use as Antioxidants	Abandoned
EP	06255396.1	10/20/2006	Uwe Hartnagel Andreas Hirsch Russ Lebovitz	Substituted Fullerene Compositions and Their Use as Antioxidants	Pending & Published
JP	2006-284440	10/19/2006	Uwe Hartnagel Andreas Hirsch Russ Lebovitz	Substituted Fullerene Compositions and Their Use as Antioxidants	Pending & Published
US	11/561,520	11/20/2006	Russ Lebovitz	Use of Fullerenes to Oxidize Reduced Redox Proteins	Pending & Published
AU	2004-229497	04/12/2004	Stephen R. Wilson Yi-Zhen Hu Tong Zhu	Fullerene Compositions for Ameliorating Dermatological Conditions	Pending
US	12/274,089	11/19/08	Andreas Hirsch Uri Sagman Stephen R. Wilson	Use of Buckysome or Carbon Nanotube for Drug Delivery	Pending
JP	2006-534397	02/08/2004	Stephen R. Wilson Yi-Zhen Hu Tong Zhu Russ Lebovitz	Substituted Fullerene Compositions and Their Use as Antioxidants	Pending
US	12/422,659	04/13/2009	Russ Lebovitz Michael Rosenblum	Substituted Fullerenes and Their Use as Inhibitors of Cell Death	Pending
US	12/422,678	04/13/2009	Russ Lebovitz My Phuong Lam	Substituted Fullerene Formulations and Their Use in Ameliorating Oxidative Stress Diseases or Inhibiting Cell Death	Pending
US	12/407,248	03/19/2009	Russ Lebovitz	Substituted Fullerenes as MRI Contrast Agents	Abandoned

Country ID	Serial #	Filing Date	Inventor(s)	Title	Status
PCT	PCT/US2001/013445	04/27/2001	Lon Wilson Uri Sagman Kelly A. Gonzalez Kenneth Pritzker	Fullerene-Based Drugs Targeted to Bone	Closed
US	10/258,774	04/27/2001	Lon Wilson Uri Sagman Kelly A. Gonzalez Kenneth Pritzker	Fullerene-Based Drugs Targeted to Bone	Abandoned

EXHIBIT C

Trademarks

U.S. Registered Trademarks

Country ID	Registration #	Registration Date	Filing Date	Registered Owner	Mark	Status
US	2771969	10/07/2003	10/22/1999	Luna Innovations Incorporated	Word Mark: LUNA INNOVATIONS	Live
US	3093823	05/16/2006	06/04/2003	Luna Innovations Incorporated	Design: MOTH	Live
US	3230571	04/17/2007	05/05/2004	Luna Innovations Incorporated	Word Mark: TRIMETASPHERE	Live
US	3321824	10/23/2007	08/08/2006	Luna Innovations Incorporated	Word Mark: EN-TACT	Live
US	3352839	12/11/2007	09/20/2004	Luna Innovations Incorporated	Word Mark: EDAC	Live

Pending U.S. Trademark Applications

Not Applicable

EXHIBIT D

Mask Works

Description

Registration/
Application
Number

Registration/
Application
Date

NONE

Not Applicable

Not Applicable