

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3343739

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CHAD A. MIRKIN	08/19/2013
ROBERT L. LETSINGER	03/22/2015
ROBERT C. MUCIC	09/24/2013
JAMES J. STORHOFF	09/12/2013
ROBERT ELGHANIAN	01/30/2015
THOMAS A. TATON	03/26/2015
NANOSPHERE, INC.	06/19/2013
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NORTHWESTERN UNIVERSITY
<b>Street Address:</b>	633 CLARK STREET
<b>City:</b>	EVANSTON
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60208
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	09974500
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(312)474-0448
<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>	3124746300
<b>Email:</b>	docket@marshallip.com
<b>Correspondent Name:</b>	WALESKA SALGADO
<b>Address Line 1:</b>	233 SOUTH WACKER DRIVE
<b>Address Line 2:</b>	SUITE 6300
<b>Address Line 4:</b>	CHICAGO, ILLINOIS 60606
<b>ATTORNEY DOCKET NUMBER:</b>	09/974,500 NU ONLY ORIG
<b>NAME OF SUBMITTER:</b>	SHELLEY DANEK
<b>SIGNATURE:</b>	/Shelley Danek/
<b>DATE SIGNED:</b>	05/07/2015

PATENT

**Total Attachments: 26**

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## ASSIGNMENT AGREEMENT

This assignment agreement ("Assignment") is by and among Nanosphere, Inc., a Delaware Corporation and successor in interest to Nanosphere LLC, 4088 Commercial Avenue, Northbrook, Illinois 60062 ("Nanosphere"), each Inventor (defined below) with respect to the Patent Rights she or he invented, and Northwestern University, Rebecca Crown Center 2-223, 633 Clark Street, Evanston, Illinois 60208-1108 ("Northwestern").

For good and valuable consideration sufficiently received, the parties hereby agree as follows:

"Inventor" means each individual identified in Exhibit 1, incorporated herein by reference.

"Patent Rights" means: (i) patents and patent applications listed on the attached Exhibit 2, incorporated herein by reference; (ii) U.S., PCT and foreign applications based thereon unless stated otherwise in Exhibit 2, including divisionals, continuations and continuations-in-part thereof; (iii) patents issuing on any of the foregoing; as well as (iv) reexaminations, reissues, extensions of and supplementary protection on any of the foregoing; but in each case in (ii)-(iv) only to the extent of the claims that are sufficiently supported for purposes of 35 U.S.C. §112 by the disclosure in a patent or patent application listed in Exhibit 2.

The parties hereby agree that Northwestern solely owns all right, title and interest in and to the Assigned Rights effective *nunc pro tunc* as of the first date of the conception of each of the Patent Rights. Each Inventor and Nanosphere hereby irrevocably sell, assign and transfer to Northwestern all its right, title and interest, both legal and equitable, throughout the world, in and to the: (a) Patent Rights; (b) right of priority, including to claim priority benefit of or to the Patent Rights and request that the Patent Rights issue to and in the name of Northwestern University; and (c) right to sue for and retain past, present, and future damages and seek other remedies legal and equitable that an owner of the Patent Rights may have been, is or may be able to assert regarding the Patent Rights, including for infringement before, on and/or after the date of this Assignment ("Assigned Rights").

The parties execute and deliver this Assignment by their duly authorized signatory who each party represents and warrants has the sufficient authority to make this a binding agreement by signing below. This Assignment is binding on and inures to the benefit of the parties and their legal representatives, administrators, heirs, successors and assigns. No amendment or modification to this Assignment shall be effective unless in writing and signed Nanosphere, Northwestern and the Inventors of the respective Patent Rights. No waiver shall be effective unless signed by the party waiving its rights.

Each party had an opportunity to be represented by counsel of its choosing and as such this Assignment shall not be construed against any drafter. If any term of this Assignment is determined to be invalid or unenforceable under any controlling body of law, such invalidity or non-enforceability shall not in any way affect the validity or enforceability of the remaining terms or the validity or enforceability of such term in any jurisdiction where valid and enforceable. Any invalid or unenforceable provision will be reformed by the parties to effectuate their intent as evidenced on the Effective Date, provided that if the invalid or unenforceable provision in a given jurisdiction pertains to the retroactive nature of the assignment, then the parties hereby agree that the effective date in such jurisdiction shall be the date last signed below for the parties applicable for such specific Assigned Rights.

[Signatures to follow.]

NANOSPHERE, INC.

Roger Moody  
Roger Moody, VP Finance, Treasurer and Chief Financial Officer

6/19/13  
Date

STATE OF Illinois )  
COUNTY OF Cook ) SS.

On this 19 day of June, 2013, there appeared before me the aforementioned Nanosphere representative, known to me, who stated they signed this Assignment as a voluntary act and deed.

Notary Jamie M Abrams

OFFICIAL SEAL  
JAMIE M ABRAMS  
NOTARY PUBLIC - STATE OF ILLINOIS  
MY COMMISSION EXPIRES: 10/07/13

NORTHWESTERN UNIVERSITY

Alicia Löffler  
Alicia Löffler, Executive Director and Associate Vice President

8/13/13  
Date

STATE OF ILLINOIS )  
COUNTY OF COOK ) SS.

On this 13 day of AUGUST, 2013, there appeared before me the aforementioned Northwestern representative, known to me, who stated they signed this Assignment as a voluntary act and deed.

Notary Rosemary Rasmussen

OFFICIAL SEAL  
ROSEMARY RASMUSSEN  
NOTARY PUBLIC, STATE OF ILLINOIS  
MY COMMISSION EXPIRES JUNE 05, 2017

Chad A. Mirkin  
Chad A. Mirkin

7/19/13  
Date

STATE OF Illinois )  
COUNTY OF Cook ) SS.

On this 19th day of August, 2013, there appeared before me the aforementioned Northwestern representative, known to me, who stated they signed this Assignment as a voluntary act and deed.

Notary Beverly Ruth Milligan

OFFICIAL SEAL  
BEVERLY RUTH MILLIGAN  
NOTARY PUBLIC, STATE OF ILLINOIS  
MY COMMISSION EXPIRES 5/21/2017

Y. d. Cao

Yun-Wei Cao

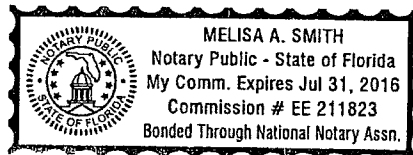
10/28/2013

Date

STATE OF Florida  
COUNTY OF Alachua ) ss.

On this 28<sup>th</sup> day of October, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

Melisa A. Smith  
Notary



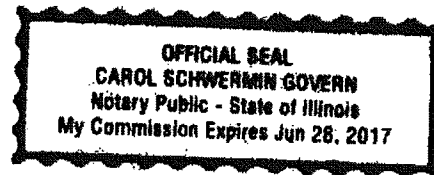
Robert Elghanian  
Robert Elghanian

01/30/15  
Date

STATE OF ILLINOIS )  
COUNTY OF COOK ) SS.

On this 30 day of JANUARY, <sup>2015</sup>2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

Carol Schwermin Govern  
Notary



Garimella  
Viswanadham Garimella


12/02/2013  
Date

STATE OF Illinois )  
COUNTY OF Cook ) SS.

On this 2nd day of December, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

Jamie M Abrams  
Notary

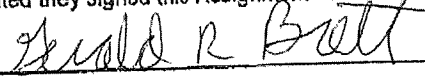


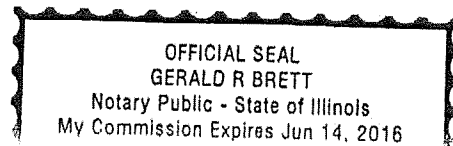
  
Dimitra Georganopoulou

10/31/2017  
Date

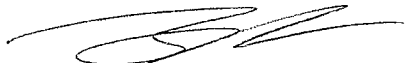
STATE OF Illinois,  
COUNTY OF Cook ) ss.

On this 31 day of October, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

  
Notary





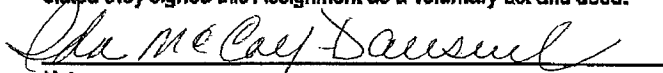


Rongchao Jin

9/18/2013  
Date

STATE OF Pa )  
COUNTY OF Allegheny ) SS.

On this 18 day of September 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

  
Notary

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
Ida McCoy-Dausuel, Notary Public  
City of Pittsburgh, Allegheny County  
My Commission Expires July 06, 2014

Inventor Name: Robert L. Letsinger (Deceased)

This assignment was signed by the estate and the heirs of Robert L. Letsinger:

Reed Letsinger 3/22/2015  
Reed Letsinger Date  
56 Rose Lane  
Larkspur, CA 94939

Address

Sue Letsinger 2/22/2015  
Sue Letsinger Date

24815-138th Pl. SW  
Vashon, WA 98070  
Address

ZNU

225

Date

02/16/2015

STATE OF Michigan, ss.

COUNTY OF Midland, ss.

On this 11 day of February, 2015, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

Notary

Marion Maddell

Examiner, Notary Public, State of MI, County of Seginau  
Acting in the County of Midland  
My commission expires 7/9/2021

  
Robert C. Mucic

09/24/13  
Date

STATE OF California )  
COUNTY OF San Angeles ) ss.

On this 24 day of Sept, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

\* See Attachment  
Notary

# CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

State of California

Joint Ownership + Assignment Agreement

County of

Los Angeles

On

09/24/2013

before me,

Micah Holland Notary Public

(Here insert name and title of the officer)

personally appeared

Robert C. Muciz

who proved to me on the basis of satisfactory evidence to be the person~~s~~ whose name~~s~~ is~~are~~ subscribed to the within instrument and acknowledged to me that he~~/she/they~~ executed the same in his~~/her/their~~ authorized capacity~~s~~, and that by his~~/her/their~~ signature~~s~~ on the instrument the person~~s~~, or the entity upon behalf of which the person~~s~~ acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public

(Notary Seal)



## ADDITIONAL OPTIONAL INFORMATION

### DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages \_\_\_\_\_ Document Date \_\_\_\_\_

(Additional information)

### CAPACITY CLAIMED BY THE SIGNER

- ☐ Individual (s)  
☐ Corporate Officer

(Title)

- ☐ Partner(s)  
☐ Attorney-in-Fact  
☐ Other \_\_\_\_\_


### INSTRUCTIONS FOR COMPLETING THIS FORM

Any acknowledgment completed in California must contain verbiage exactly as appears above in the notary section or a separate acknowledgment form must be properly completed and attached to that document. The only exception is if a document is to be recorded outside of California. In such instances, any alternative acknowledgment verbiage as may be printed on such a document so long as the verbiage does not require the notary to do something that is illegal for a notary in California (i.e. certifying the authorized capacity of the signer). Please check the document carefully for proper notarial wording and attach this form if required.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of the document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/they, is/are) or circling the correct forms. Failure to correctly indicate this information may lead to reject of the document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
  - ♦ Additional information is not required but could help to ensure this acknowledgement is not misused or attached to a different document.
  - ♦ Indicate title or type of attached document, number of pages and date.
  - ♦ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document.

PATENT

REEL: 035587 FRAME: 0905

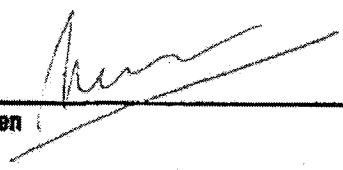
  
\_\_\_\_\_  
Jwa-Min Nam

Mar 8, 2015  
Date

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS.

On this \_\_\_\_ day of \_\_\_\_\_, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

\_\_\_\_\_  
Notary

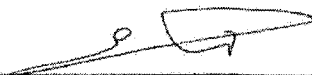
  
\_\_\_\_\_  
Son Binh T. Nguyen

2/17/15  
Date

STATE OF IL )  
COUNTY OF Cook ) SS.

On this \_\_\_\_ day of \_\_\_\_\_, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

\_\_\_\_\_  
Notary

  
\_\_\_\_\_  
Byung-Keun Oh

01/31/15  
Date

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS.

On this \_\_\_\_ day of \_\_\_\_\_, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

\_\_\_\_\_  
Notary



Pak So Jung

So-Jung Park

Dec 12 / 2013  
Date

STATE OF \_\_\_\_\_ )  
COUNTY OF South Korea ) SS.

On this 12 day of Dec, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

\_\_\_\_\_  
Notary

92056

Myungjoo Seo.

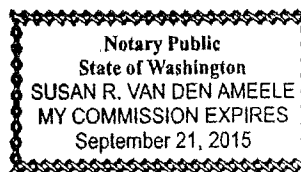
James J. Storhoff

12-Sep-2013  
Date

STATE OF Washington )  
COUNTY OF King ) ss.

On this 12 day of September, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

Notary



T. A. Taton

Thomas A. Taton

3/26/2015

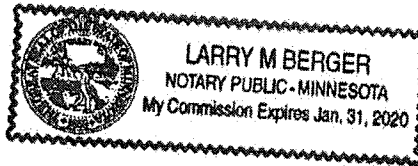
Date

STATE OF Minnesota )  
 ) SS.

COUNTY OF Ramsey 2015

On this 26 day of March, 2015, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

[Signature]  
Notary



C. Shad Thaxton  
C. Shad Thaxton

9-16-2013  
Date

STATE OF IL )  
COUNTY OF Cook ) SS.

On this 16 day of September, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

Angie T. Roberts  
Notary



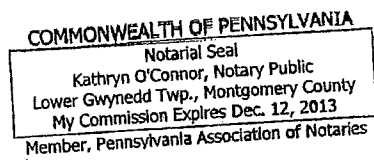
Kelth J. Watson  
Kelth J. Watson

9/18/13  
Date

STATE OF Pennsylvania )  
COUNTY OF Montgomery ) SS.

On this 18 day of September, 2013, there appeared before me the aforementioned individual, known to me, who stated they signed this Assignment as a voluntary act and deed.

Kathryn O'Connor  
Notary/



# EXHIBIT 1

Chad A. Mirkin  
Yun Wei Cao  
Robert Elghanian  
Viswanadham Garimella  
Dimitra Georganopoulou  
Rongchao Jin  
Robert Letsinger  
Zhi Li  
Robert C. Mucic  
Jwa Min Nam  
SonBinh T. Nguyen  
Byung-Keun Oh  
So-Jung Park  
James J. Storhoff  
Thomas A. Taton  
C. Shad Thaxton  
Keith J. Watson

EXHIBIT 2  
NORTHWESTERN PATENT RIGHTS

Case Number	NU#	Title	Inventors	Country	App/Pub No.	Patent No.
00-653-A	20073	Movement of Biomolecule-Coated Nanoparticles in an Electric Field	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton Viswanadham Garimella Zhi Li So-Jung Park	USA	09/927,777 2002-0172953	Abandoned
00-653-B	20073	Nanoparticles Having Oligonucleotides Attached Thereto and Uses Therefore	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton Viswanadham Garimella Zhi Li So-Jung Park	PCT	US01/025237	Expired
00-653-C	20073	Nanoparticles Having Oligonucleotides Attached Thereto and Uses Therefore	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton Viswanadham Garimella Zhi Li So-Jung Park	Australia	2001281248	Abandoned
00-653-D	20073	Nanoparticles Having Oligonucleotides Attached Thereto and Uses Therefore	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton Viswanadham Garimella Zhi Li So-Jung Park	Canada	2418502	Abandoned
00-653-E	20073	Nanoparticles Having Oligonucleotides Attached Thereto and Uses Therefore	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton Viswanadham Garimella Zhi Li So-Jung Park	EPC	01959723.6 EP1362121	Abandoned

Case Number	NU#	Title	Inventors	Country	App/Pub No.	Patent No.
00-653-F	20073	Nanoparticles Having Oligonucleotides Attached Thereto and Uses Therefore	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton Viswanadham Garimella Zhi Li So-Jung Park	Japan	2002-0522548	Abandoned
00-653-H	20073	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton Viswanadham Garimella Zhi Li So-Jung Park	Australia	2006200274	Expired
00-713-I-7	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Chad A. Mirkin Robert L. Letsinger Robert C. Mucic James J. Storhoff Robert Elghanian Thomas A. Taton	USA	09/974,500	6,709,825
00-713-I-13	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Robert Elghanian Robert L. Letsinger Chad A. Mirkin Robert C. Mucic James J. Storhoff Thomas A. Taton	USA	09/975,384	7,098,320
00-713-I-23	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Robert Elghanian Robert L. Letsinger Chad A. Mirkin Robert C. Mucic James J. Storhoff Thomas A. Taton	USA	09/976,900	6,902,895
00-1086-A	20077	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Robert L. Letsinger Viswanadham Garimella	USA	09/903,461	6,602,669
00-1086-B	20077	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Robert L. Letsinger Viswanadham Garimella	PCT	PCT/US01/021846	Expired
00-1086-C	20077	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Robert L. Letsinger Viswanadham Garimella	Australia	2001276870	2001276870
00-1086-D	20077	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Robert L. Letsinger Viswanadham Garimella	Canada	2415494	2415494



Case Number	NU#	Title	Inventors	Country	App/Pub No.	Patent No.
00-1086-E	20077	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefore	Robert L. Letsinger Viswanadham Garimella	EPC	1954641.5	EP1360318
00-1086-E-1	20077	Method of Detection by Enhancement of Silver Staining	Robert L. Letsinger Viswanadham Garimella	Germany	1954641.5	DE1360318
00-1086-E-2	20077	Method of Detection by Enhancement of Silver Staining	Robert L. Letsinger Viswanadham Garimella	France	1954641.5	FR1360318
00-1086-E-3	20077	Method of Detection by Enhancement of Silver Staining	Robert L. Letsinger Viswanadham Garimella	Great Britain	1954641.5	GB1360318
00-1086-F	20077	Method of Detection by Enhancement of Silver Staining	Robert L. Letsinger Viswanadham Garimella	Japan	2002-509534	3605607
00-1124-A	20088	Silver Stain Removal by Chemical Etching and Sonication	Chad A. Mirkin So-Jung Park Rongchao Jin	USA	09/998,936	6,726,847
00-1124-B	20088	Silver Staining Removal by Chemical Etching and Sonication	Chad A. Mirkin So-Jung Park Rongchao Jin	PCT	PCT/US01/045039	Expired
01-565-A	98085	Oligonucleotide-Modified ROMP Polymers and Co-Polymers	Chad A. Mirkin Sonbinh Nguyen So-Jung Park Keith Watson	USA	10/125,194 2003-0113740	Abandoned
01-565-B	98085	DNA-Block Copolymer Conjugates	Chad A. Mirkin Sonbinh Nguyen So-Jung Park Keith Watson	PCT	US02/12071	Expired
01-661-A	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Sonbinh Nguyen So-Jung Park Keith Watson	USA	10/034,451	7,238,472
01-661-B	21039	DNA-Modified Core-Shell Ag/Au Nanocrystals	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	PCT	PCT/US01/050825	Expired
01-661-C	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	USA	10/153,483	7,147,687
01-661-D	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	PCT	PCT/US02/016382	Expired
01-661-E	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	USA	10/397,579	7,135,055
01-661-F	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	Australia	2002341539	2002341539 Abandoned
01-661-G	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	EPC	2775688.1	EP1392872
01-661-G1	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	Germany	2775688.1	DE1392872

**PATENT**

**REEL: 035587 FRAME: 0917**

Case Number	NU#	Title	Inventors	Country	App/Pub No.	Patent No.
01-661-G2	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	France	2775688.1	FR1392872
01-661-G3	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	Great Britain	2775688.1	GB1392872
01-661-H	21039	Non-Alloying Core Shell Nanoparticles	Chad A. Mirkin Yun-Wei Cao Rongchao Jin	Japan	2003-514082	3885054 Abandoned
01-1565-A	1969-026	Nanoparticles having oligonucleotides attached thereto and uses therefor	So-Jung Park Thomas A. Taton Chad A. Mirkin	USA	10/266,983 2003-0207296	7,169,556
01-1565-B	1969-017	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefor	So-Jung Park Thomas A. Taton Chad A. Mirkin	PCT	US02/32088 03/035829	Expired
01-1565-C	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefor	So-Jung Park Thomas A. Taton Chad A. Mirkin	Australia	2002363062	2002363062 Abandoned
01-1565-D	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefor	So-Jung Park Thomas A. Taton Chad A. Mirkin	Canada	2,463,323	2,463,323
01-1565-E	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefor	So-Jung Park Thomas A. Taton Chad A. Mirkin	EPC	02799155.3	Abandoned
01-1565-F	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefor	So-Jung Park Thomas A. Taton Chad A. Mirkin	Japan	2003-538330	4347049
01-1565-H	1969-026	Nanoparticles Having Oligonucleotides Attached Thereto And Uses Therefor	So-Jung Park Thomas A. Taton Chad A. Mirkin	Australia	2007202906	Abandoned
03-666-E	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin Jwa-Min Nam C. Shad Thaxton	USA	10/877,750	Abandoned
03-666-E2	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin Jwa-Min Nam C. Shad Thaxton	USA	12/348,909	Abandoned
03-666-F	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin Jwa-Min Nam C. Shad Thaxton	PCT	US04/020493	Expired
03-666-G	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin Jwa-Min Nam Byung-Keun Oh C. Shad Thaxton Dimitra Georganopoulou	USA	11/127,808	Abandoned
03-666-H	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin Jwa-Min Nam Byung-Keun Oh C. Shad Thaxton Dimitra Georganopoulou	PCT	US05/16545	Expired
03-666-I	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	Australia	2004254367	2004254367 Abandoned

**PATENT**

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Case Number	NU#	Title	Inventors	Country	App/Pub No.	Patent No.
03-666-J	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	Canada	2,529,898	2,529,898
03-666-K	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	China	200480024522 .X	10-1001960
03-666-L	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	Europe	04756138.6	EP1649055
03-666-L-DE	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	Germany	04756138.6	DE1649055
03-666-L-FR	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	France	04756138.6	FR1649055
03-666-L-GB	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	Great Britain	04756138.6	GB1649055
03-666-M	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	India	Unknown	Abandoned
03-666-N	1969-019	Bio-Barcode Based Detection of Target Analytes	Chad A. Mirkin C. Shad Thaxton Jwa-Min Nam	Japan	2007-525970T 2006-517685	Abandoned
03-666-O	1969-019	Bio-Barcode Based Detection of Target Analytes	Byung-Keun Oh Dimitra Georganopoulou C. Shad Thaxton Chad A. Mirkin Jwa-Min Nam	Australia	2005325273	2005325273 Abandoned
03-666-P	1969-019	Bio-Barcode Based Detection of Target Analytes	Byung-Keun Oh Dimitra Georganopoulou C. Shad Thaxton Chad A. Mirkin Jwa-Min Nam	Canada	2,565,166	2,565,166
03-666-Q	1969-019	Bio-Barcode Based Detection of Target Analytes	Byung-Keun Oh Dimitra Georganopoulou C. Shad Thaxton Chad A. Mirkin Jwa-Min Nam	China	200580023633 .3	Abandoned
03-666-R	1969-019	Bio-Barcode Based Detection of Target Analytes	Byung-Keun Oh Dimitra Georganopoulou C. Shad Thaxton Chad A. Mirkin Jwa-Min Nam	Europe	2005856708.2 EP1747295	1747295
03-666-S	1969-019	Bio-Barcode Based Detection of Target Analytes	Byung-Keun Oh Dimitra Georganopoulou C. Shad Thaxton Chad A. Mirkin Jwa-Min Nam	India	3690/KOLNP/2 006	Abandoned

Case Number	NU#	Title	Inventors	Country	App/Pub No.	Patent No.
03-666-T	1969-019	Bio-Barcode Based Detection of Target Analytes	Byung-Keun Oh Dimitra Georganopoulou C. Shad Thaxton Chad A. Mirkin Jwa-Min Nam	Japan	2007-513328	Abandoned
01-1705-A	1969-018	Barcodes Based on Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	USA	10/108,211	6,974,669
01-1705-B	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	PCT	US02/011158	Expired
01-1705-C	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	Australia	2002256145	2002256145 Abandoned
01-1705-C1	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	Australia	2007203391	Abandoned
01-1705-D	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	EPC	2002725590.0 EP1379693	EP1379693
01-1705-D-DE	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	Germany	2725590	DE1379693
01-1705-D-FR	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	France	2725590	FR1379693
01-1705-D-GB	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	Great Britain	2725590	GB1379693
01-1705-E	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	Japan	2002-578491	4146239
01-1705-E-DIV	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Nanoparticles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	Japan	2007-231588	Abandoned
1-1705-F	1969-020	Bio-Barcodes Based On Oligonucleotide-Modified Particles	Chad A. Mirkin Jwa-Min Nam So-Jung Park	USA	11/217,106	7,323,309