

04-11-2002

COVER SHEET  
ONLY



102050827

To The Honorable Commissioner of Patents

original documents or copy thereof.

and address of receiving party(ies)

1. Name of conveying party(ies):

**Chad A. Mirkin**  
**Robert L. Letsinger**  
**Robert C. Mucic**  
**James J. Storhoff**  
**Robert Elghanian**  
**Thomas A. Taton**  
**Zhi Li**  
**So-Jung Park**  
**Viswanadham Garimella**

3-28-02

Additional name(s) of conveying party(ies) attached?  Yes  No

Name: **Nanosphere, Inc.**

Address: **1818 Skokie Blvd**  
**Suite 200**  
**Northbrook, IL 60062**

3. Nature of conveyance:

- Assignment  Merger
- Security Agreement  Change of Name
- Other \_\_\_\_\_

Name:

Address:

Execution Date: 11/29/01, 12/20/01, 12/21/01, 1/2/02, 1/11/02, 1/16/02, 2/25/02

Additional name(s) & address(es) attached?  Yes  No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

Filing Date

B. Patent No.(s)

09/820,279

03/28/01

Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: **Emily Miao**

Registration No.: 35,285

Company Name: **McDonnell, Bochnen, Hulbert & Berghoff**

Street Address: **300 South Wacker Drive - 32<sup>nd</sup> Floor**

City: **Chicago**

State: **Illinois**

Country: **U.S.A.**

ZIP: **60606**

6. Total number of applications and patents involved: 1

7. Total Fee (37 CFR 3.41).....\$40.00

Enclosed

Authorized to be charged to deposit account

8. Deposit account number:

13-2490

DO NOT USE THIS SPACE

9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Emily Miao

Date:

3/15/02

Printed Name of Person Signing

Signature

Total number of pages including cover sheet, attachments, and document:

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks

Box Assignments

Washington, D.C. 20231

04/10/2002 DBYRNE 00000084 09820279

01 FC:581

40.00 OP

ASSIGNMENT

Case No.: 00-1085-A

Serial No.: 09/820,279

Inventors: Chad A. Mirkin, Robert L. Letsinger, Robert C. Mucic,  
James J. Storhoff, Robert Elghanian, Thomas A. Taton, Zhi Li, So-Jung Park  
and Garimella Viswanadham

Date of Execution

of Application: 8/27/01, 8/29/01, 8/30/01, and 8/31/01

Filing Date: March 28, 2001

In consideration of One Dollar (\$1.00) and pursuant to the Assignments dated November 18, 1998 (Exhibit A) and January 8, 1999 (Exhibit B), and other good and valuable considerations in hand paid the receipt and sufficiency whereof are hereby acknowledged, the undersigned hereby assign to:

**Nanosphere, Inc., a corporation of the State of Delaware**

its successors and assigns, the entire right, title and interest in the invention or improvements of the undersigned disclosed in an application for Letters Patent of the United States, entitled:

**NANOPARTICLES HAVING OLIGONUCLEOTIDES ATTACHED THERETO AND USES THEREFOR**

and identified as:

**Case No. 00-1085-A**

in the offices of McDONNELL BOEHNEN HULBERT & BERGHOF and in said application and any and all other applications, both United States and foreign, which the undersigned may file, either solely or jointly with others, on said invention or improvements, and in any and all Letters Patent of the United States and foreign countries, which may be obtained on any of said applications, and in any reissue or extension of such patents, and further assigns to said assignee the priority right provided by the International Convention.

The undersigned hereby authorize and request the Commissioner of Patents and Trademarks to issue said Letters Patent to said assignee.

The undersigned hereby authorize and request the attorneys of record in said application to insert in this assignment the filing date and serial number of said application when officially known, and the date of execution of the application.

The undersigned warrant themselves to be the owners of the entire right, title and interest in said invention or improvements and to have the right to make this assignment, and further warrant that there are no outstanding prior assignments, licenses, or other encumbrances on the interest herein assigned.

For said considerations the undersigned hereby agree, upon the request and at the expense of said assignee, its successors and assigns, to execute any and all divisional, continuation, continuation-in-part and substitute applications for said invention or improvements, and any necessary oath, affidavit or declaration relating thereto, and any application for the reissue or extension of any Letters Patent that may be granted upon said application and any and all applications and other documents for Letters Patent in foreign countries on said invention or improvements, that said assignee, its successors or assigns may deem necessary or expedient, and for the said considerations the undersigned authorize said assignee to apply for patents for said invention or improvements in its own name in such countries where such procedure is proper and further agree, upon the request of said assignee, its successors and assigns, to cooperate to the best of the ability of the undersigned with said assignee, its successors and assigns, in any proceedings or transactions involving such applications or patents, including the preparation and execution of

preliminary statements, giving and producing evidence, and performing any and all other acts necessary to obtain, maintain and enforce said Letters Patent, both United States and foreign, and vest all rights therein hereby conveyed in the assignee, its successors and assigns, whereby said Letters Patent will be held and enjoyed by the said assignee, its successors and assigns, to the full end of the term for which said Letters Patent will be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment had not been made.

WITNESS my hand and seal this 24<sup>th</sup> day of November, 2001.

Chad A. Mirkin  
Chad A. Mirkin

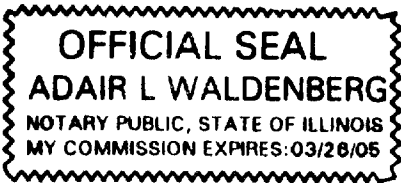
State of Illinois

County of Cook

The foregoing instrument was acknowledged before me this 24<sup>th</sup> day of

November, 2001 by Chad A. Mirkin

Adair L. Waldenberg  
NOTARY PUBLIC



WITNESS my hand and seal this 24<sup>th</sup> day of November, 2001.

Robert L. Letsinger  
Robert L. Letsinger

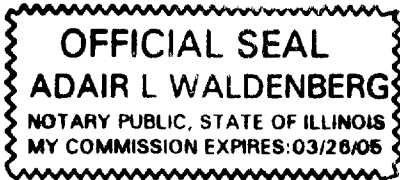
State of Illinois

County of Cook

The foregoing instrument was acknowledged before me this 24<sup>th</sup> day of

November, 2001 by Robert L. Letsinger

Adair L. Waldenberg  
NOTARY PUBLIC



WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2001.

\_\_\_\_\_  
Robert C. Mucic

State of

County of

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of

\_\_\_\_\_, 2001 by Robert C. Mucic

\_\_\_\_\_  
NOTARY PUBLIC

WITNESS my hand and seal this 20 day of December, 2001.

James J. Storhoff  
James J. Storhoff

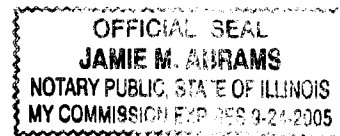
State of Illinois

County of Cook


The foregoing instrument was acknowledged before me this 20th day of

December, 2001 by James J. Storhoff

Jamie M. Abrams  
NOTARY PUBLIC

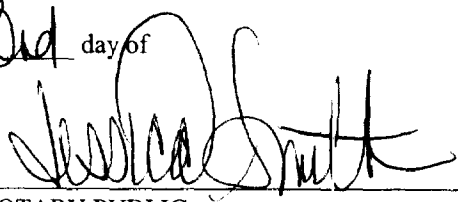


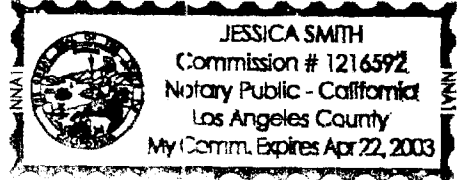
WITNESS my hand and seal this 2nd day of July, <sup>2002</sup>~~2001~~

  
Robert C. Mucic

State of California  
County of Los Angeles

The foregoing instrument was acknowledged before me this 2nd day of Jan., 2002 by Robert C. Mucic

  
NOTARY PUBLIC



WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2001.

\_\_\_\_\_  
James J. Storhoff

State of \_\_\_\_\_  
County of \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2001 by James J. Storhoff

\_\_\_\_\_  
NOTARY PUBLIC

WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2001.

\_\_\_\_\_  
Robert Elghanian

State of

County of

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of

\_\_\_\_\_, 2001 by Robert Elghanian

\_\_\_\_\_  
NOTARY PUBLIC

WITNESS my hand and seal this 25<sup>th</sup> day of FEB., ~~2001~~ <sup>2002</sup>



\_\_\_\_\_  
Thomas A. Taton

State of

County of

The foregoing instrument was acknowledged before me this 25<sup>th</sup> day of

Feb, 2002 by Thomas A. Taton

  
\_\_\_\_\_  
NOTARY PUBLIC

WITNESS my hand and seal this 11<sup>th</sup> day of January, 2001.

Robert Elghanian  
Robert Elghanian

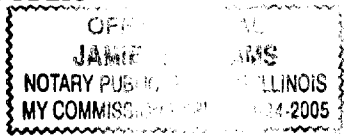
State of Illinois

County of Cook

The foregoing instrument was acknowledged before me this 11<sup>th</sup> day of

January, 2001 by Robert Elghanian

James G. Abrams  
NOTARY PUBLIC



WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2001.

\_\_\_\_\_  
Thomas A. Taton

State of \_\_\_\_\_

County of \_\_\_\_\_

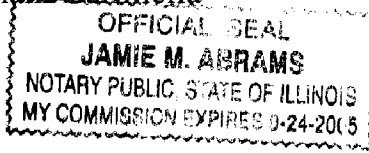
The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of

\_\_\_\_\_, 2001 by Thomas A. Taton

\_\_\_\_\_  
NOTARY PUBLIC

WITNESS my hand and seal this 21 day of DEC, 2001

Viswanadham Garimella  
Viswanadham Garimella



State of

County of

The foregoing instrument was acknowledged before me this 21<sup>st</sup> day of

December, 2001 by Viswanadham Garimella.

Jamie M. Abrams  
NOTARY PUBLIC

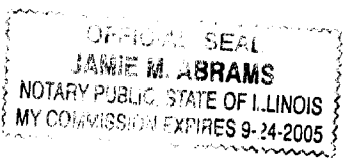


WITNESS my hand and seal this 16th day of Jan, 2001. Zhi Li

State of Illinois  
County of Cook

The foregoing instrument was acknowledged before me this 16th day of January, 2001 by Zhi Li

Jamie M. Abrams  
NOTARY PUBLIC



WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2001.

\_\_\_\_\_  
So-Jung Park

State of \_\_\_\_\_  
County of \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2001 by So-Jung Park

\_\_\_\_\_  
NOTARY PUBLIC

WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2001.

\_\_\_\_\_  
Zhi Li

State of

County of

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of

\_\_\_\_\_, 2001 by Zhi Li

\_\_\_\_\_  
NOTARY PUBLIC

WITNESS my hand and seal this 16<sup>th</sup> day of Jan., 2002

So-Jung Park  
\_\_\_\_\_  
*So-Jung Park*

State of Illinois

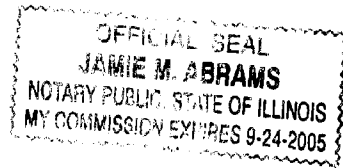
County of Cook

The foregoing instrument was acknowledged before me this 16<sup>th</sup> day of

January, 2002 by So-Jung Park

Notary Public  
\_\_\_\_\_  
*Jamie M. Abrams*

NOTARY PUBLIC



## ASSIGNMENT

WHEREAS, Northwestern University, an Illinois corporation having a place of business at 1801 Maple Ave., Evanston, Illinois 60201-3135 is the owner of PCT Patent Application Serial No. PCT/US97/12783, entitled "NANOPARTICLES HAVING OLIGONUCLEOTIDES ATTACHED THERETO AND USES THEREFOR," and the invention described therein.

NOW THEREFORE, be it known that for certain good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, Northwestern University does sell, assign and transfer to Chad A. Mirkin of 9744 Crawford Avenue, Skokie, Illinois 60076, Robert L. Letsinger of 316 Third Street, Wilmette, Illinois 60091, Robert C. Mucic of 2121 Ridge Avenue, Apt. 2J, Evanston, Illinois 60201, James J. Storhoff of 2133-1/2 Ridge Avenue, Apt. 2D, Evanston, Illinois 60201 and Robert Elghanian of 8503 W. Catherine Avenue, Apt. 602, Chicago, Illinois 60656, their successors, legal representatives and assigns, the aforesaid PCT application, applications for the territory of the United States of America and all continuation, divisional, continuation-in-part and reissue applications, all patent applications in foreign countries, and all applications for extension filed or to be filed for the invention, and all Letters Patent, Invention Registrations, Utility Models, Extensions or Reissues and other patent rights, obtained for the invention in the United States or any other country; Northwestern University also assigns all right, title or interest in and to the said invention to Chad A. Mirkin, Robert L. Letsinger, Robert C. Mucic, James J. Storhoff and Robert Elghanian; Northwestern University warrants that no assignment has been made of the invention, applications or patents therefor to a party other than Chad A. Mirkin, Robert L. Letsinger, Robert C. Mucic, James J. Storhoff and Robert Elghanian, and that Northwestern University is under no obligation to make any assignment of the inventions, applications, or patents therefor to any other party; and Northwestern University further agrees to cooperate with Chad A. Mirkin, Robert L. Letsinger, Robert C. Mucic, James J. Storhoff and Robert Elghanian hereunder in the obtaining and sustaining of any and all such Letters Patent and in confirming Chad A. Mirkin's, Robert L. Letsinger's, Robert C. Mucic's, James J. Storhoff's and Robert Elghanian's, exclusive ownership of the invention and patent rights, but at the expense of Chad A. Mirkin, Robert L. Letsinger, Robert C. Mucic, James J. Storhoff and Robert Elghanian.

The Commissioner of Patents is hereby authorized and requested to issue the Letters Patent solely in accordance with the terms of this Assignment, to Chad A. Mirkin, Robert L. Letsinger, Robert C. Mucic, James J. Storhoff and Robert Elghanian, their successors, legal representatives and assigns, as the assignees of the entire right, title and interest therein.

IN WITNESS WHEREOF, I have executed this Assignment as of the day indicated hereunder.

Date: November 18, 1998 By: Indrani Mukharji  
 Indrani Mukharji  
 Director, Technology Transfer Program

E OF ILLINOIS )

) ss.

OUNTY OF )

Before me, a Notary Public in and for said County and State, personally appeared Indrani Mukharji, who acknowledged herself to be the Director of the Technology Transfer Program of Northwestern University, and that she as such Director being authorized to do so, executed the foregoing instrument for the purposes and considerations therein expressed, by signing the name of the corporation by herself as Director.

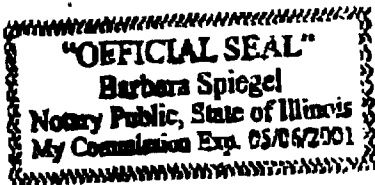
Given under my hand and seal of office this 18<sup>th</sup> day of November, 1998.

Barbara Spiegel

Notary Public

My commission expires:

5/6/2001



## ASSIGNMENT

WHEREAS, we, Chad A. Mirkin of 9744 Crawford Ave., Skokie, Illinois 60076, Robert L. Letsinger of 316 Third St., Wilmette, Illinois 60091, Robert C. Mucic of 2121 Ridge Ave., Apt. 2J, Evanston, Illinois 60201, James J. Storhoff of 2133-1/2 Ridge Ave., Apt. 2D, Evanston, Illinois 60201, and Robert Elghanian of 8503 W. Catherine Ave., Apt. 602, Chicago, Illinois 60656, have invented a certain new and useful invention entitled "NANOPARTICLES HAVING OLIGONUCLEOTIDES ATTACHED THERETO AND USES THEREFOR," for which a PCT application designating the United States and all other countries and regions has been prepared and filed on July 21, 1997, receiving Serial No. PCT/US97/12783, and further identified as Attorney File No. 4149-1-PCT.

NOW THEREFORE, be it known that we, the said inventors, for and in consideration of certain good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, do sell, assign and transfer unto Nanosphere LLC, an Illinois corporation having a place of business at 9744 Crawford Ave., Skokie, Illinois 60076, its successors, legal representatives and assigns, the aforesaid application for the territory of the United States of America and all continuation, divisional, continuation-in-part and reissue applications, all patent applications in foreign countries, and all applications for extension filed or to be filed for the invention, and all Letters Patent, Invention Registrations, Utility Models, Extensions or Reissues and other patent rights, obtained for the invention in the United States or any other country; we also assign any right, title or interest in and to the invention which has not already been transferred to Nanosphere LLC; we warrant that we have made no assignment of the invention or applications or patents therefor to a party other than Nanosphere LLC and we are under no obligation to make any assignment of the invention or applications, or patents therefor to any other party; and we further agree to cooperate with Nanosphere LLC in the obtaining and sustaining of any and all such Letters Patent and in confirming Nanosphere LLC's exclusive ownership of the invention, but at the expense of Nanosphere LLC.

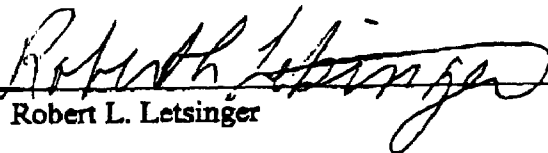
The Commissioner of Patents is hereby authorized and requested to issue U.S. Letters Patent solely in accordance with the terms of this Assignment, to Nanosphere LLC, its successors, legal representatives and assigns, as the assignee of the entire right, title and interest therein.

IN WITNESS WHEREOF, the parties hereto have executed this Assignment as of the date indicated hereunder.

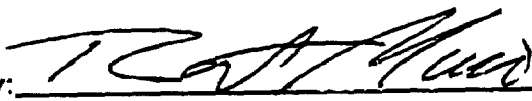
Date: 11/9/99

By:   
Chad A. Mirkin

Date: 1/8/99

By:   
Robert L. Letsinger

Date: 1/8/99

By:   
Robert C. Mucic

Date: 1-08-99

By: James J. Storhoff  
James J. Storhoff

Date: \_\_\_\_\_

By: Robert Elghjanian  
Robert Elghjanian

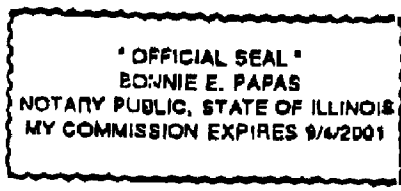
STATE OF \_\_\_\_\_ )  
  ) ss.  
COUNTY OF \_\_\_\_\_ )

Before me, a Notary Public in and for said County and State, personally appeared Chad A. Mirkin, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office this 8<sup>th</sup> day of Jan, 1998.

Bonnie E. Papas  
Notary Public  
My commission expires: 9/4/2001

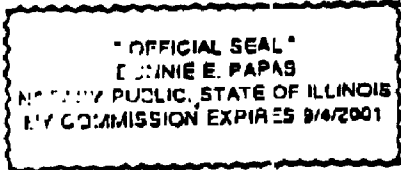
STATE OF \_\_\_\_\_ )  
  ) ss.  
COUNTY OF \_\_\_\_\_ )



Before me, a Notary Public in and for said County and State, personally appeared Robert L. Letsinger known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office this 8<sup>th</sup> day of Jan, 1998.

Bonnie E. Papas  
Notary Public  
My commission expires: 9-4-2001



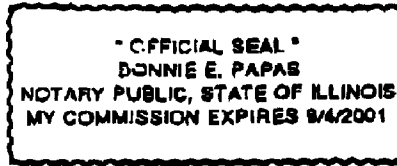
STATE OF )  
 ) ss.  
COUNTY OF )

Before me, a Notary Public in and for said County and State, personally appeared Robert C. Mucic, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office this 8<sup>th</sup> day of Jan, 1998.

Bonnie E. Papas  
Notary Public  
My commission expires: 9/4/2001

STATE OF )  
 ) ss.  
COUNTY OF )

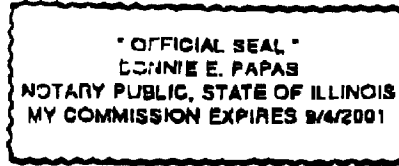


Before me, a Notary Public in and for said County and State, personally appeared James J. Storhoff, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office this 8<sup>th</sup> day of Jan, 1998.

Bonnie E. Papas  
Notary Public  
My commission expires: 9/4/2001

STATE OF )  
 ) ss.  
COUNTY OF )



Before me, a Notary Public in and for said County and State, personally appeared Robert Elghanian, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office this 8<sup>th</sup> day of Jan, 1998.

Bonnie E. Papas  
Notary Public  
My commission expires: 9/4/2001

