

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT																
NATURE OF CONVEYANCE:	ASSIGNMENT																
CONVEYING PARTY DATA																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:70%;">Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Jainamma KROTZ</td> <td>05/17/2002</td> </tr> <tr> <td>Daniel D. SMOLKO</td> <td>05/17/2002</td> </tr> <tr> <td>Howard R. Reese</td> <td>05/17/2002</td> </tr> <tr> <td>Thomas J. ONOFREY</td> <td>05/22/2002</td> </tr> <tr> <td>Daguang WANG</td> <td>05/17/2002</td> </tr> <tr> <td>Theodore M. WINGER</td> <td>05/17/2002</td> </tr> <tr> <td>John R. HAVENS</td> <td>05/17/2002</td> </tr> </tbody> </table>		Name	Execution Date	Jainamma KROTZ	05/17/2002	Daniel D. SMOLKO	05/17/2002	Howard R. Reese	05/17/2002	Thomas J. ONOFREY	05/22/2002	Daguang WANG	05/17/2002	Theodore M. WINGER	05/17/2002	John R. HAVENS	05/17/2002
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RECEIVING PARTY DATA																	
Name:	NANOGEN, INC.																
Street Address:	10398 PACIFIC CENTER COURT																
City:	SAN DIEGO																
State/Country:	CALIFORNIA																
Postal Code:	92121																
PROPERTY NUMBERS Total: 1																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>11082325</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	11082325												
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CORRESPONDENCE DATA																	
Fax Number:	(949)823-6994																
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>																	
Phone:	949 760-9600																
Email:	tcanett@omm.com																
Correspondent Name:	David B. Murphy																
Address Line 1:	610 Newport Center Drive, 17th Floor																
Address Line 4:	Newport Beach, CALIFORNIA 92660																
ATTORNEY DOCKET NUMBER:	612,404-456																

CH \$40.00 11082325

NAME OF SUBMITTER:

David B. Murphy

Total Attachments: 7

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ASSIGNMENT OF PATENT APPLICATION

WHEREAS, we, JAINAMMA KROTZ, a citizen of India; DANIEL J. SMOLKO, a citizen of the United States; HOWARD R. REESE, a citizen of the United States; THOMAS J. ONOFREY, a citizen of the United States; DAGUANG WANG, a citizen of China; THEODORE M. WINGER, a citizen of France; and JOHN R. HAVENS, a citizen of the United States (hereinafter referred to as "ASSIGNORS"), have invented a certain invention entitled MESOPOROUS PERMEATION LAYERS FOR USE ON ACTIVE ELECTRONIC MATRIX DEVICES for which application for Letters Patent of the United States of America has been filed on December 10, 2001, assigned Serial No. 10/014,895; and

WHEREAS, **NANOGEN, INC.**, a corporation organized and existing under and by virtue of the laws of the Delaware and having its place of business at **10398 Pacific Center Court, San Diego, California 92121** (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the exclusive right, title and interest in, to and under said invention and in, to and under any Patent or similar legal protection to be obtained therefor in the United States of America, its territorial possessions and in any and all countries foreign thereto.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNORS hereby sell, assign, transfer and set over unto the said ASSIGNEE, its successors and assigns, the full and exclusive right, title and interest to said invention and to all Letters Patent or application or similar legal protection, not only in the United States and its territorial possessions, but in all countries foreign thereto to be obtained for said invention by said application, and to any continuation, division, renewal, substitute or reissue thereof or any legal equivalent thereof in the United States or a foreign country for the full term or terms for which the same may be granted, including all priority rights under the International Convention; and ASSIGNORS hereby authorize and request the United States Commissioner of Patents and

Trademarks and any officials of foreign countries whose duty it is to issue patents or any legal equivalent thereof to said ASSIGNEE, its successors and assigns, in accordance with this Assignment.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Agreement;

ASSIGNORS further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNORS and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents in the United States or in any foreign country, which may be necessary or desirable to carry out the purposes thereof.

WITNESS my hand at San Diego, California, this 17 day of May, 2002.

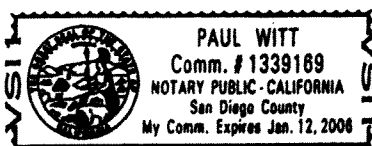



Jainamma Krotz

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On 05-17, 2002 before me, the undersigned Notary Public, personally appeared Jainamma Krotz, personally known to me - OR 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(ies), 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.

WITNESS my hand and official seal.





Notary Public in and for said County and State

WITNESS my hand at San Diego, California, this 17th day of May, 2002.

Daniel D. Smolko

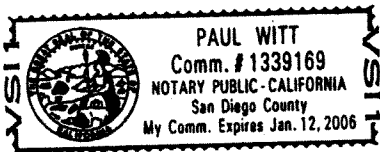
Daniel ~~X~~ Smolko

D. D. S.

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On 05-17, 2002 before me, the undersigned Notary Public, personally appeared Daniel X Smolko, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.



Paul Witt
Notary Public in and for said County and State

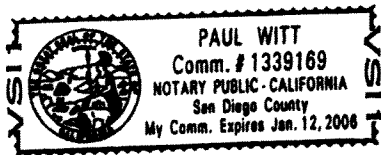
WITNESS my hand at San Diego, California, this 17th day of May, 2002.

Howard R. Reese
Howard R. Reese

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On 05-17, 2002 before me, the undersigned Notary Public, personally appeared Howard R. Reese, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.



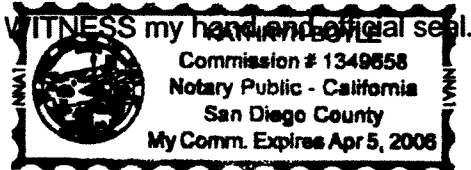
Paul Witt
Notary Public in and for said County and State

WITNESS my hand at San Diego, California, this 22 day of MAY, 2002.

Thomas J. Onofrey
Thomas J. Onofrey

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On May 22, 2002, before me, the undersigned Notary Public, personally appeared Thomas J. Onofrey, personally known to me - OR - 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(ies), 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.



William P. Boyle
Notary Public in and for said County and State

WITNESS my hand at San Diego, California, this ____ day of _____, 2002.

Daguang Wang

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On 05.17, 2002, before me, the undersigned Notary Public, personally appeared Daguang Wang, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.

Notary Public in and for said County and State

Patent
Attorney Docket: 262/098

WITNESS my hand at San Diego, California, this _____ day of _____, 2002.

Thomas J. Onofrey

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On _____, 2002, before me, the undersigned Notary Public, personally appeared Thomas J. Onofrey, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.

Notary Public in and for said County and State

WITNESS my hand at San Diego, California, this 17th day of May, 2002.

Daguang Wang

Daguang Wang

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On May 17th 2002, 2002, before me, the undersigned Notary Public, personally appeared Daguang Wang, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.

Judith

Notary Public in and for said County and State

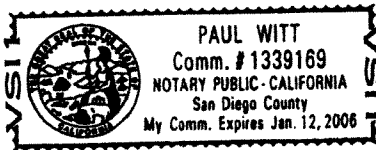
WITNESS my hand at San Diego, California, this 17th day of May, 2002.

Theodore M. Winger
Theodore M. Winger

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On 05-17, 2002, before me, the undersigned Notary Public, personally appeared **Theodore M. Winger**, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.



Paul Witt
Notary Public in and for said County and State

WITNESS my hand at San Diego, California, this _____ day of _____, 2002.

John R. Havens

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On _____, 2002, before me, the undersigned Notary Public, personally appeared **John R. Havens**, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.

Notary Public in and for said County and State

Patent
Attorney Docket: 262/098

WITNESS my hand at San Diego, California, this 17th day of May, 2002.

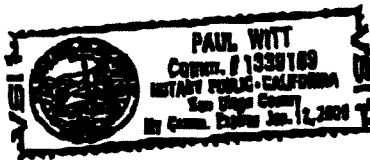
Theodore M. Winger
Theodore M. Winger

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On 05-17, 2002, before me, the undersigned Notary Public, personally appeared Theodore M. Winger, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.

Paul Witt
Notary Public in and for said County and State



WITNESS my hand at San Diego, California, this 17th day of May, 2002.

John R. Havens
John R. Havens

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

On May 17, 2002, before me, the undersigned Notary Public, personally appeared John R. Havens, personally known to me - OR - 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(ies), 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.

WITNESS my hand and official seal.

Paul Middelberg, M
Notary Public in and for said County and State