FORM PTO-1619A Expires 05/30/99 RECEIVED

04-04-2000



U.S. Department of Commerce Patent and Trademark Office PATENT

OPR/FINANCE RECORDATION FORM COVER SHEET

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| 5 | Submission T | уре | | Conveyance 1 | Гуре | |
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| | Name of the | BBI BioSeq, Ir | nc. | | | Month Day Year 6/30/99 |
| | Name (line 2) Second Party | | | | | Execution Date Month Day Year |
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| 1 | Receiving Pa | rty | | | Mark if additional nam | es of receiving parties attached |
| | Name (line 1) | BankBoston, N. | . А. | | | If document to be reco is an assignment and receiving party is not |
| | Name (line 2) | | | | | domiciled in the United States, an appointmen of a domestic |
| | Address (line 1) | Worcester Towe | er, 100 F | ront Street, V | lorcester, MA 0 | |
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| | Domestic Representative Name and Address Enter for the first Receiving Party only. | | | | | |
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Mail documents to be recorded with required cover sheet(s) information to: Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

> **PATENT REEL: 010645 FRAME: 0437**

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| Expires 06/ | 30/99 |
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Page 2

U.S. Department of Commerce Patent and Trademark Office PATENT

| Correspondent Name and Address Area Code and Telephone Number 617-951-2053 | | | | | |
|--|--|--|--|--|--|
| | | | | | |
| Name Frank S. Hamblett | | | | | |
| Address (line 1) Peabody & Arnold LLP, 50 Rowes Wharf, Boston, MA 02110 | | | | | |
| Address (line 2) | | | | | |
| Address (line 3) | | | | | |
| Address (line 4) | | | | | |
| Pages Enter the total number of pages of the attached conveyance document including any attachments. | | | | | |
| Application Number(s) X Mark if additional numbers attached | | | | | |
| Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property). | | | | | |
| Patent Application Number(s) Patent Number(s) | | | | | |
| CT/US96/032\$2 08/903,615 08/962,280 | | | | | |
| 08/793,213 09/010,892 09/083,651 | | | | | |
| CT/US97/11198 09/016.062 09/035.652 | | | | | |
| If this document is being filed together with a <u>new</u> Patent Application, enter the date the patent application was Month Day Year signed by the first named executing inventor. | | | | | |
| Patent Cooperation Treaty (PCT) | | | | | |
| Enter PCT application number PCT PCT PCT PCT | | | | | |
| only if a U.S. Application Number PCT PCT PCT PCT | | | | | |
| Number of Properties Enter the total number of properties involved. | | | | | |
| Fee Amount Fee Amount for Properties Listed (37 CFR 3.41): \$ 520.00 | | | | | |
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| 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. Charges to deposit account are authorized, as indicated herein. | | | | | |
| Frank S. Hamblett | | | | | |
| Name of Person Signing Signature Date | | | | | |

PATENT

REEL: 010645 FRAME: 0438

FORM PTO-1619C Expires 06/30/99 OMB 0651-0027

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RECORDATION FORM COVER SHEET CONTINUATION PATENTS ONLY

U.S. Department of Commerce Patent and Trademark Office PATENT

| Conveying Pa | mark is additional frames of control and parties attached | Execution Date | | | |
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| Enter additional C | onveying Parties | Month Day Year | | | |
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| Name (line 2) | | receiving party is not domicited in the United States, an appointment | | | |
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| Application Number(s) or Patent Number(s) Mark if additional numbers attached | | | | | |
| ì | Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the s | · • • | | | |
| | stent Application Number(s) Patent Num | ber(s) | | | |
| 09/085,707 | | | | | |
| 09/097,852 | | | | | |
| 09/214,250 | | | | | |
| 09/165,829 | | | | | |
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PATENT

REEL: 010645 FRAME: 0439

SECURITY AGREEMENT (PATENTS) (for BBI BioSeq, Inc.)

This SECURITY AGREEMENT (PATENTS)(this "Agreement") is made as of June 30, 1999, by and between BBI BIOSEQ, INC., a Massachusetts corporation (together with its successors and assigns, "BioSeq") and BANKBOSTON, N.A., a national banking association (f/k/a The First National Bank of Boston)(together with its successors and assigns, the "Lender").

All capitalized terms not defined herein but defined in the Security Agreement-All Assets, dated of even date herewith (as the same may be amended, modified, supplemented, extended or restated, from time to time, the "Security Agreement-All Assets") by and among (a) Boston Biomedica, Inc., a Massachusetts corporation (together with its successors and assigns, "BBI"), (b) all of the Subsidiaries of BBI (including without limitation, BioSeq) which are now, or may hereafter become, parties thereto, in accordance with the provisions contained therein (BBI, together with all of its Subsidiaries, are hereinafter sometimes referred to collectively as the "Borrowers" and each singly as a "Borrower") and (c) the Lender, shall have the meanings given to such terms in the Security Agreement-All Assets.

Preliminary Statements:

- A. The Borrowers request that the Existing Loan Agreement be amended and restated in its entirety as provided for in the Loan Agreement; and
- B. BioSeq owns the patents and the patent applications set forth in <u>Schedule 1</u> attached hereto and made a part hereof (collectively, the "<u>Patents</u>"); and
- C. As a condition precedent to entering into the Loan Agreement, and lending certain sums and extending certain credit to or for the benefit of the Borrowers thereunder, and as a supplement to the Security Agreement-All Assets, the Lender has requested that BioSeq enter into this Agreement;
- NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, BioSeq hereby agrees with the Lender as follows:
- 1. To secure the prompt and complete payment and performance when due (whether at the stated maturity, by acceleration or otherwise) of the Obligations, BioSeq does hereby grant to the Lender a continuing security interest in and to the Patents and all General Intangibles connected with the use of or related to any and all Patents (including without limitation, all goodwill of BioSeq and its business, products and services appurtenant to, associated with or symbolized by any and all Patents and the use thereof), together with all registrations of the Patents and the applications therefor, all in accordance with the terms and provisions of the Security Agreement-All Assets.
- 2. BioSeq and the Lender hereby expressly acknowledge and agree that all of the rights and remedies of the Lender with respect to the security interest granted hereby are more fully set forth in the Security Agreement-All Assets.

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PATENT REEL: 010645 FRAME: 0440

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| IN WITNESS WHEREOF, the undersigned and delivered under their seals as of the date first | ed have caused this Agreement to be duly executed above written. | | | |
|--|--|--|--|--|
| WITNESS: | BBI BIOSEQ, INC. | | | |
| Name: GAYLE FARRELL | By: Kevin W. Quinlan, Treasurer | | | |
| WITNESS: | BANKBOSTON, N.A. (f/k/a The First National Bank of Boston) | | | |
| Name: | By: G. Christopher Miller, Director | | | |
| COMMONWEALTH | OF MASSACHUSETTS | | | |
| Plymouth ss. | August <u>13</u> , 1999 | | | |
| - · · · · · · · · · · · · · · · · · · · | ed Kevin W. Quinlan, as Treasurer of BBI BioSeq, Inc., and free act and deed, and the free act and deed of BBI BioSeq, | | | |
| | Notary Public) My commission expires: シャンコンシント [AFFIX NOTARIAL SEAL] | | | |
| COMMONWEAL | LTH OF MASSACHUSETTS | | | |
| , SS. | . August, 1999 | | | |
| 1 , 11 | ed G. Christopher Miller, as Director of BankBoston, N.A., his free act and deed and the free act and deed of | | | |
| | Notary Public My commission expires: [AFFIX NOTARIAL SEAL] | | | |
| | | | | |

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| dersigned have caused this Agreement to be duly executed ate first above written. |
|---|
| BBI BIOSEQ, INC. |
| |
| By: Kevin W. Quinlan, Treasurer |
| BANKBOSTON, N.A. (f/k/a The First National Bank of Boston) |
| By: G. Christopher Miller, Director |
| EALTH OF MASSACHUSETTS |
| August, 1999 |
| ve-named Kevin W. Quinlan, as Treasurer of BBI BioSeq, Inc., and be his free act and deed, and the free act and deed of BBI BioSeq, |
| Notary Public My commission expires: [AFFIX NOTARIAL SEAL] |
| NWEALTH OF MASSACHUSETTS |
| August, 1999 |
| ve-named G. Christopher Miller, as Director of BankBoston, N.A., nt to be his free act and deed and the free act and deed of Notary Public |
| |

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1.

SECURITY AGREEMENT (PATENTS)

by and between

BBI BIOSEQ, INC. ("BioSeq")

and

BANKBOSTON, N.A. (the "Lender")

List of U.S. Registered Patents (and Applications therefor)

Schedule 1

The following patents issued by, and the following patents applications pending with, the United States Patent and Trademark Office, are owned by BioSeq:

| <u>Title</u> | Serial No. | Patent No. | Date of <u>Filing</u> | Date of <u>Issuance</u> |
|---|----------------|------------|-----------------------|-------------------------|
| Pressure Cycling Reactor | PCT/US96/03232 | Pending | 03/07/96 | N/A |
| Pressure Cycling Reactor | 08/793,213 | Pending | 02/14/97 | N/A |
| Pressure-Mediated Binding of BioMolecular Complexes | PCT/US97/11198 | Pending | 02/02/98 | N/A |
| Integrated Sequencing Device | 08/903,615 | Pending | 07/30/97 | N/A |
| Pressure Modulated Ion Activity | 09/010,892 | Pending | 01/22/98 | N/A |
| Pressure Enhanced Extraction and Purification | 09/016,062 | Pending | 01/30/98 | N/A |
| Nucleic Acid Isolation and Purification | 08/962,280 | Pending | 10/31/97 | N/A |
| Pressure Enhanced Extraction and Purification | 09/083,651 | Pending | 05/22/98 | N/A |
| Pressure Controlled Nucleic Acid Hybridization | 09/035,652 | Pending | 03/05/98 | N/A |
| Cyrobaric Methods for Freezing, Thawing and Preserving Biological Materials | 09/085,707 | Pending | 05/27/98 | N/A |

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PATENT REEL: 010645 FRAME: 0443

| Rapid Cyrobaric Sterilization and Vaccine Preparation | 09/097,852 | Pending | 06/15/98 | N/A |
|---|------------|---------|----------|-----|
| Rapid Cyrobaric Sterilization and Vaccine Preparation | 09/165,829 | Pending | 10/02/98 | N/A |
| Pressure-Mediated Binding of Biomolecular Complexes | 09/214,250 | Pending | 12/31/98 | N/A |

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RECORDED: 02/28/2000