| ORM PTO-1595<br>(Rev. 6-93)   | <sub>RE</sub> 09-09-19                  | 198                           | SHEET                   | U.S. DEPARTME                          | ENT OF COMMERCE and Trademark Office               |
|---|---|-------------------------------|-------------------------|--|--|
| OMB No. 0651-0011 (exp. 4/94)   |   |                               |                         |  | ina mademain ombo                                  |
| Tab settings ▷ □ □ ▼  |   |                               |                         |  | <u> </u>   |
| To the Honorable Commissioner   | ) Patonis and 10002490                  | <u></u>                       | attached origin         | al documents or co                     | py thereof.  |
| 1. Name of conveying party(ies):  1. Yi Hua Ma                                      | 1RD 8-24-98                             |                               |                         | eceiving party(ies                     | ,  |
| 2. Peter P. Mardilovich   |   | Name:_                        | wordester r             | olytechnic I                           | nstitute   |
| 3. Ying She   | 1-1-12 D V 10 No                        | Internal                      | l Address:              |  | ~ <del>\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \</del> |
| Additional name(s) of conveying party(ies) at                                       | actied? Li tes William                  |                               |                         | <del></del>                            | 113°   |
| 3. Nature of conveyance:  |   | -                             |                         | · · · · · · · · · · · · · · · · · · ·  | 08<br>08   |
| Assignment  | ☐ Merger                                | Street A                      | Address: 100            | Institute Roa                          | ıd   |
| ☐ Security Agreement  | ☐ Change of Name                        |                               | <del></del>             | <u>,</u>                               |  |
| Other   |   | City: W                       | orcester                | State: MA                              | ZIP: 01609   |
| Execution Date: 1. 8/20/98 2.   | 3/21/98 3. 8/20/98                      | Additions                     | al name(s) & addres     | s(es) attached? D Y                    | es 👸 No  |
| 4. Application number(s) or patent n  | umber(s):                               |                               | •                       | 1                                      | 1 2 0/00/00  |
| If this document is being filed tog   | ether with a new application            | , the execution               | on date of the ap       |  | nd 3. 8/20/98<br>6/21/98                           |
| A. Patent Application No.(s)  | (*                                      | B. Pat                        | ent No.(s)              |  |  |
|   |   |                               |                         | • •                                    |  |
|   | Additional numbers atta                 | ached? 🗅 Yes                  | ŭ No,                   | ·                                      |  |
| Name and address of party to who concerning document should be re-                  | · · · · · · · · · · · · · · · · · · ·   | 6. Total ni                   | umber of applicat       | tions and patents i                    | nvolved: 1   |
| Name: N. Scott Pierce,  | Esq.                                    | 7. Total fe                   | e (37 CFR 3.41          | )\$_40.0                               | )0   |
| Internal Address: Hamilton,   | Brook, Smith                            | 🖾 End                         | closed (FEE 1           | INCLUDED WITH                          | FILING FEE)  |
| & Reynold   | s, P.C.                                 | C) Aut                        | horized to be ch        | arged to deposit                       | account  |
| 08/31518961601838555000003TV091346181   | ia Drive                                | 8. Deposi                     | it account number       | er:                                    |  |
| 04 FC:581 40.00   | 9 00                                    | (                             | 08-0380                 |  |  |
| City: Lexington State:  | MA ZIP: 02421                           |                               |                         | s page if paying by de                 | posit account)                                     |
|   | DO NOT USE                              | THIS SPACE                    |                         | ·. · · · · · · · · · · · · · · · · · · |  |
| 9. Statement and signature.  To the best of my knowledge and the original document. | belief, the foregoing informa           | ation is true a               | and correct and a       | any attached copy                      | is a true copy of                                  |
| Robert J. Sayre, Esq.   | 1 Wobert                                | 1/50                          | ingle                   | Aug                                    | UST 24 1998  |
| Name of Person Signing  | گر<br>Total number of pages including o | Signature<br>over sheet, atta | /<br>chments, and docur | ment: 7                                | Date   |

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Aug-19-98 14:38 From-HBSR

| Docket No. | WPI97-05A |              |
|------------|-----------|--------------|
|            |           |              |
|            |           | <u>Joint</u> |

## **ASSIGNMENT**

WHEREAS, we, Yi Hua Ma, Peter P. Mardilovich and Ying She have invented a certain improvement in HYDROGEN GAS-EXTRACTION MODULE AND METHOD OF FABRICATION described in an application for Letters Patent of the United States, the specification of which:

| [X] | is about to be filed in the United States Patent Office; |
|-----|--|
| []  | was filed on as Application No;                          |
| ٢٦  | was patented under U.S. Patent Noon                      |

WHEREAS, Worcester Polytechnic Institute (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 100 Institute Road, Worcester, Massachusetts 01609 desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the

giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

State/Commonwealth

of Masiacherette
County of Worcester

Then personally appeared before me the above-named Yi Hua Ma and acknowledged that 

day of <u>august</u>, 1998

(SEAL)

My Commission expires 4/19/02

-3-

|  | Inventor:   |
|--|---|
|  | Inventor:Peter P. Mardilovich   |
| State/Commonwealth                     |   |
| of                                     |   |
| County of                              |   |
|  | me the above-named Peter P. Mardilovich and ed the foregoing instrument as his/her free act and deed this, 19 |
|  | Notary Public   |
| (SEAL)                                 | (print name)  |
|  | My Commission expires//   |
|  | Inventor: Wing She  |
| State/Commonwealth                     |   |
| of Massachestle<br>County of Warcenter |   |
| County of Warcenter                    |   |
|  | me the above-named Ying She and acknowledged that strument as his/her free act and deed this                  |
| U                                      |   |
|  | Margarell TheoreNotary Public   |
| (SEAL)                                 | Marjorie A. Romcone(print name)   |
| ·                                      | My Commission expires 4 1/91 02   |

WPI9705A ASI/RJS9

| Docket No. WP | I97-05A |
|---------------|---------|
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Joint

## **ASSIGNMENT**

WHEREAS, we, Yi Hua Ma, Peter P. Mardilovich and Ying She have invented a certain improvement in HYDROGEN GAS-EXTRACTION MODULE AND METHOD OF FABRICATION described in an application for Letters Patent of the United States, the specification of which:

| [X] | is about to be filed in the United States Patent Office; |
|-----|--|
| []  | was filed onas Application No;                           |
| []  | was patented under U.S. Patent Noon                      |

WHEREAS, Worcester Polytechnic Institute (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 100 Institute Road, Worcester, Massachusetts 01609 desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the

giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

|                    | Inventor:   |
|--------------------|---|
|                    | Yi Hua Ma   |
| State/Commonwealth |   |
| of                 |   |
| County of          |   |
|                    | before me the above-named Yi Hua Ma and acknowledged that oing instrument as his/her free act and deed this |
|                    | Notary Public   |
| (SEAL)             | (print name)  |
|                    | My Commission expires//   |

Inventor: Peter P. Mardilovich

| State/Commonwealth |  |
|--------------------|--|
| of Colorado        | ntes   |
| County of Pouloer  |  |
|                    | the above-named Peter P. Mardilovich and he foregoing instrument as his/her free act and deed this |
| (SEAL)             | Concer Peterson (print name)   |
|                    | My Commission expires 16/27/2005   |
|                    |  |
|                    | Inventor:  |
|                    | Ying She   |
| State/Commonwealth |  |
| of                 | <u>.</u>   |
| County of          | -  |
|                    | the above-named Ying She and acknowledged that nent as his/her free act and deed this              |
|                    | Notary Public  |
| (SEAL)             | (print name)   |
|                    | My Commission expires//  |

WPI9705A.ASI/RJS9

**RECORDED: 08/24/1998**