PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------|----------------|
| Wei Liu | 06/09/2008 |

RECEIVING PARTY DATA

| Name: | Battelle Memorial Institute |
|-------------------|-----------------------------|
| Street Address: | P.O. Box 999 |
| Internal Address: | K1-53 |
| City: | Richland |
| State/Country: | WASHINGTON |
| Postal Code: | 99352 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12136129 |

CORRESPONDENCE DATA

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BATTELLE MEMORIAL INSTITUTE ATTN: IP SER Correspondent Name:

P. O. BOX 999 Address Line 1:

Address Line 2: K1-53

Address Line 4: RICHLAND, WASHINGTON 99352

| ATTORNEY DOCKET NUMBER: | 15868-E |
|-------------------------|------------------|
| NAME OF SUBMITTER: | Derek H. Maughan |

Total Attachments: 3

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PATENT REEL: 021069 FRAME: 0912

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PATENT REEL: 021069 FRAME: 0913

ASSIGNMENT OF PATENT RIGHTS

Wei Liu

To Battelle Memorial Institute

WHEREAS, I, Wei Liu of Richland, County of Benton, State of Washington; hereinafter INVENTOR, have made certain inventions related to, ADSORBENT AND ADSORBENT BED FOR MATERIALS CAPTURE AND SEPARATION PROCESS, including those described and claimed in various disclosures including:

For which I am about to make application for Letters Patent of the United States; collectively referred to hereinafter as INVENTIONS;

WHEREAS Battelle Memorial Institute, a corporation of Ohio, organized and existing under the laws of the State of Ohio, and having a place of business in the City of Richland, Washington, is desirous of acquiring all right, title, and interest in the said INVENTIONS and in all patents or patent applications sought or obtained therefor;

NOW, THEREFORE, be it known to all those who may be concerned, that for and in consideration of the sum of One Dollar (\$1.00) each, and other good and valuable considerations, the receipt of which is hereby acknowledged, I the INVENTORS have each sold, assigned, and transferred, and by these presents do sell, assign and transfer unto the said Battelle Memorial Institute, the entire right, title, and interest in and to the INVENTIONS shown, described, or claimed herein, and the full and exclusive right, title, and interest to any and all patents and patent applications that show, describe or claim said INVENTIONS including but not limited to those applications referenced herein, and in and to any extensions, continuations, including continuations in part, reissues, divisions, or renewals thereof; and I do hereby authorize and

request the Commissioner of Patents or other proper Officer, to issue such Letters Patent, or any of them to the said Battelle Memorial Institute, as the assignee of my entire right, title, and interest in and to the same for the sole use and benefit of the said Battelle Memorial Institute, and its successors or assigns.

I further covenant and agree that I will, at the request and expense of the said Battelle Memorial Institute, execute such other and further assurances of title as may be necessary or proper to fully convey the interest herein sought to be conveyed; and that each of us will, at the request and expense of the said Battelle Memorial Institute, execute such application papers as may be desired by the said Battelle Memorial Institute, for the filing of any division or renewal of the application herein conveyed, or for reissues or extensions (including continuations or continuations in part applications), or any Letters Patent that may be granted upon said application, and will execute such Supplemental Oaths and Preliminary Statements, or other papers as desired by the said Battelle Memorial Institute.

I further assign unto the said Battelle Memorial Institute, the whole right, title, and interest to the invention disclosed in the application throughout all countries foreign to the United States, and do hereby authorize the said Battelle Memorial Institute to apply for patents therefor in its own name in countries where such procedure is proper and to claim the benefit of International Conventions and agree to execute applications of the said invention in the several countries where it is necessary that the same be executed by the inventors, and to execute assignments of such applications and the patents to be obtained therefor to the said Battelle Memorial Institute, the assignee herein, as well as all other necessary papers.

Executed at Richland, State of Washington, this _______ day of June, 2008.

| STATE OF WASHINGTON |). | |
|---------------------|----|----|
| |) | SS |
| County of Benton |) | |

This <u>9</u> day of June, 2008, before me personally came the above-named Wei Liu, who executed the foregoing instrument in my presence, and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.



Hora L. Surten
Wotary Public for the State of Wash.

My commission expires: 9/14/10

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