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PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
Ardent Research Corporation	11/26/2012

RECEIVING PARTY DATA

Name:	Empire Technology Development LLC	
Street Address:	2711 Centerville Road	
Internal Address:	Suite 400	
City:	Wilmington	
State/Country:	DELAWARE	
Postal Code:	19808	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13995339

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	2817.0101USWO
NAME OF SUBMITTER:	Carl K. Turk
Signature:	/Carl K Turk/
Date:	06/18/2013

Total Attachments: 3

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> PATENT REEL: 030636 FRAME: 0177

OP \$40.00 13995339

ASSIGNMENT OF PATENT RIGHTS

For valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Ezekiel Kruglick, on behalf of Ardent Research Corporation, a corporation of the state of California, having a principal place of business at 13842 Deergrass Ct., Poway, CA 92064-2276 U.S. ("Assignor"), effective as of May 16, 2012, hereby sells, assigns, transfers, and conveys unto

- (A) Empire Technology Development LLC, a Delaware limited liability company, with an address at 2711 Centerville Road, Suite 400, Wilmington, DE 19808 ("U.S. Assignee"), all rights, title, and interests that exist today and may exist in the future in and to any and all of the following items (1) through (8) below:
- 1. the inventions disclosed in the solution report/invention disclosure titled "High Throughput Nanopore Gas Separation" and all inventions claimed and/or described in the Application (collectively, the "Invention");
- 2. the patent applications listed in the table below (the "Application");

Patent Application No.	Country	Filing Date	<u>Title</u>
PCT/US12/67781	wo	12/04/2012	GRAPHENE NANOTUBE ARRAY FOR GAS FILTRATION
13/995,339	US	06/18/2013	GRAPHENE NANCTUBE ARRAY
			FOR GAS FILTRATION

- 3. all rights with respect to the Invention, including all United States patents or other governmental grants or issuances that may be granted with respect to the Invention or from any direct or indirect divisionals, continuations, continuations-in-part, or other patent applications claiming priority rights from the Application ("Potential Patents");
- 4. all reissues, reexaminations, extensions, or registrations of the Potential Patents;
- 5. all non-United States patents, patent applications, and counterparts relating to any or all of the Invention, the Application, and the Potential Patents, including, without limitation, certificates of invention, utility models, industrial design protection, design patent protection, and other governmental grants or issuances ("Foreign Rights"), and including the right to file foreign applications directly in the name of Assignee, its successors and assigns;
- 6. all rights to claim priority rights deriving from the Application;
- 7. all causes of action and remedies related to any or all of the Application, the Invention, the Potential Patents, and the Foreign Rights (including, without limitation, the right to sue for

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past, present, or future infringement, misappropriation or violation of rights related to any of the foregoing and the right to collect royalties and other payments under or on account of any of the foregoing); and

8. any and all other rights and interests arising out of, in connection with, or in relation to the Application, the Invention, Potential Patents, and the Foreign Rights.

As used in this Assignment, "Assignee" means, collectively, the U.S. Assignee and the Non-U.S. Assignee. Assignor will not sign any document or do any act conflicting with this Assignment, and, without further compensation, will sign all documents and do such additional acts as Assignee, its successors, legal representatives, and assigns deem necessary or desirable to perfect enjoyment of the Rights, conduct proceedings regarding the Rights (including any litigation or interference proceedings), or perfect or defend title to the Rights. Assignor requests the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models, or other governmental grants or issuances that may be granted upon any of the Rights in the name of the Assignee, as the assignee to the entire interest therein.

Assignor hereby authorizes and requests authorized representative to insert on this Assignment the filing date and Patent Application Numbers in the table above when known.

The terms and conditions of this Assignment will inure to the benefit of Assignee, its successors, legal representatives, and assigns and will be binding upon Assignor, their successors, legal representatives and assigns.

[Signature Page(s) to Follow]

By:

Ezekiel Kruglick, on behalf of Ardent Research Corporation, 13842 Deergrass Ct., Poway, CA 92064-2276 U.S.

NOTARIZATION

STATE OF California)

SS, COUNTY OF Saw Disys

On Notary Public, personally appeared Ezekiel Kruglick, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of $\frac{C_{\uparrow}()$ focus that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

