

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
SINA NAJMAEI	04/21/2014
ZHENG LIU	05/05/2014
PULICKEL M. AJAYAN	05/07/2014
JUN LOU	05/02/2014
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14203958
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<b>SIGNATURE:</b>	/Farhang Amini/
<b>DATE SIGNED:</b>	05/28/2014
<b>Total Attachments: 5</b>	
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*Assignment of Invention*

1710 Springwell Dr  
Houston, Tx 77043  
4/21/14  
SN

WHEREAS, I, Sina Najmaei, residing at ~~7300 Brompton Apt. 4234 Houston TX~~  
~~77025~~, US; I, Zheng Liu, residing at School of Materials Science and Engineering, Nanyang  
 Technological University, N4.1-01-10, 50 Nanyang Ave., Singapore 639798; I, Pulickel M.  
 Ajayan, residing at 203 Pacific Street, Houston, Texas 77006, US; and I, Jun Lou, residing at  
 2905 Bissonnet St., Houston, TX 77005, US have invented certain new and useful  
 improvements in **"NOVEL CVD GROWTH METHOD FOR CONTROLLED LARGE-  
 AREA FABRICATION OF HIGH-QUALITY GRAPHENE ANALOG OF  
 MOLYBDENUM DISULFIDE (MOS2) ATOMIC LAYERS"** for which a provisional  
 application for Letters Patent was filed on March 11, 2013 under Serial Number 61/776,032;  
 and in **"NOVEL GROWTH METHODS FOR CONTROLLED LARGE-AREA  
 FABRICATION OF HIGH-QUALITY GRAPHENE ANALOGS"** for which a non-  
 provisional application for Letters Patent was filed on March 11, 2014 under Serial Number  
 14/203,958;

WHEREAS, WILLIAM MARSH RICE UNIVERSITY a university organized  
 under the laws of Texas, having a principal office and place of business at 6100 Main Street,  
 Houston, Texas 77005 United States of America (hereinafter ASSIGNEE) desires to jointly  
 acquire from Sina Najmaei, Zheng Liu, Pulickel M. Ajayan and Jun Lou the entire right, title  
 and interest each has in and to said invention and to any Letters Patent that may be granted  
 thereof from said applications in the United States and its territorial possessions, and any and  
 all countries foreign to the United States of America;

NOW, THEREFORE, for valuable consideration, the receipt whereof is hereby  
 acknowledged, I, by these presents so sell, assign and transfer unto said ASSIGNEE, all of my  
 rights to the said invention in the United States and its territorial possessions and all countries  
 foreign to the United States of America, and my entire right, title and interest in and to any and  
 all Letters Patent which may be granted therefore in the United States and its territorial  
 possessions and in and to any and all divisions, reissues, continuations, substitutions and  
 renewals thereof, and to any and all Letters Patent which may be granted therefore in all  
 countries foreign to the United States.

I hereby authorize and request the Patent Office Officials in the United States and its  
 territorial possessions and Patent Office Officials in all countries foreign to the United States to

issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the use and behalf of said ASSIGNEE, its successors and assigns, 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 me had this Assignment and sale not been made.

Further, I agree that I will communicate to said ASSIGNEE or its representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions, and in all countries foreign to the United States.

The undersigned hereby grants authorized representatives of the above identified ASSIGNEE the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

EXECUTED AT: Houston, Tx, USA  
(City, State, Country)

Date: 4/21/14  
Sina Najmaei  
Sina Najmaei

EXECUTED AT: \_\_\_\_\_  
(City, State, Country)

Date: \_\_\_\_\_  
Zheng Liu

issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the use and behalf of said ASSIGNEE, its successors and assigns, 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 me had this Assignment and sale not been made.

Further, I agree that I will communicate to said ASSIGNEE or its representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions, and in all countries foreign to the United States.

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EXECUTED AT: \_\_\_\_\_  
(City, State, Country)

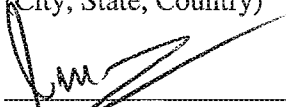
Date: \_\_\_\_\_  
Sina Najmaei

EXECUTED AT: Singapore  
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Date: 05/05/2014  
Zheng Liu

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(City, State, Country)

Date: 5/7/14

  
Purnickel M. Ajayan

EXECUTED AT: \_\_\_\_\_  
(City, State, Country)

Date: \_\_\_\_\_

\_\_\_\_\_  
Jun Lou

EXECUTED AT: \_\_\_\_\_  
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Date: \_\_\_\_\_  
Pulickel M. Ajayan

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(City, State, Country)

Date: 5/2/2014  
Jun Lou