503579621 11/20/2015

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PHILLIP D HUSTAD	04/02/2015
JONG KEUN PARK	03/24/2015
JIBIN SUN	04/19/2015
CHRISTOPHER D GILMORE	03/24/2015
JIEQIAN ZHANG	03/24/2015
PETER TREFONAS III	03/23/2015
KATHLEEN M O'CONNELL	03/23/2015

RECEIVING PARTY DATA

Name:	ROHM AND HAAS ELECTRONIC MATERIALS LLC
Street Address:	455 FOREST STREET
City:	MARLBOROUGH
State/Country:	MASSACHUSETTS
Postal Code:	01752
1	
Name:	DOW GLOBAL TECHNOLOGIES LLC
Name: Street Address:	DOW GLOBAL TECHNOLOGIES LLC 2040 DOW CENTER
Street Address:	2040 DOW CENTER

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14588410

CORRESPONDENCE DATA

Fax Number: (508)787-4730

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 5082297381

Email: tfalcone@dow.com

Correspondent Name: ROHM AND HAAS ELECTRONIC MATERIALS LLC

Address Line 1: 455 FOREST STREET

Address Line 4: MARLBOROUGH, MASSACHUSETTS 01752

503579621 REEL: 037102 FRAME: 0973

PATENT

ATTORNEY DOCKET NUMBER:	74388-US-NP	
NAME OF SUBMITTER:	JONATHAN D. BASKIN	
SIGNATURE:	/Jonathan D. Baskin/	
DATE SIGNED:	11/20/2015	
Total Attachments: 8		
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WHEREAS, I, Phillip D. HUSTAD of Natick, Massachusetts, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "DIRECTED SELF-ASSEMBLY PATTERN FORMATION METHODS AND COMPOSITIONS", for which an application for United States Letters Patent with the same title was filed with the United States Patent and Trademark Office on <u>December 31, 2014</u> and assigned United States Non-Provisional Patent Application Serial No. <u>14/588410</u>, which application corresponds to and claims priority of United States Provisional Application Serial No. <u>61/922767</u>, filed <u>December 31, 2013</u> and

WHEREAS, Dow Global Technologies LLC, located at 2040 Dow Center, Midland, Michigan 48674, United States of America, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefore, and all divisions, reissues, substitutions, continuations, in whole or in part, reexaminations, and extensions thereof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors also have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest in and to the invention disclosed in said application, in all countries of the world foreign to the United States, including the right to file applications and obtain patents for said invention in its own name in said countries and including all rights of priority in said countries under the terms of any applicable international convention; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights, and also agree, at the request of the Assignee, to testify in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid said Assignee, its successors and assigns, to obtain, maintain and enforce patent protection for said invention in all countries.

IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Effective from the date of: December 31, 2013 .

Signatures.

Phillip D. MUSTAL

Date

WHEREAS, I, Jong Keun PARK of Westborough, Massachusetts, I, Jibin SUN of Menlo Park, California, I, Christopher D. GILMORE of Watertown, Massachusetts, I, Jieqian ZHANG of Southborough, Massachusetts, I, Peter TREFONAS, III of Medway, Massachusetts, I, Kathleen M. O'CONNELL of Cumberland, Rhode Island, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "DIRECTED SELF-ASSEMBLY PATTERN FORMATION METHODS AND COMPOSITIONS", for which an application for United States Letters Patent with the same title was filed with the United States Patent and Trademark Office on December 31, 2014 and assigned United States Non-Provisional Patent Application Serial No. 14/588410 which application corresponds to and claims priority of United States Provisional Application Serial No. 61/922767, filed December 31, 2013 and

WHEREAS, Rohm and Haas Electronic Materials LLC, located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

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Signatures	Date
1. New Za	3/24/20/9
Jorg Kent Park	
2	
Jibin SUN	
3. <u>////</u>	3/24/2015
Christopher D. GILMORE	
4. Tr	3/24/2015
Jieqian ZHANG	
5. Pen Cylon Et	03/23/2015
Peter TREFONAS, III	······································
6.	
Kathleen M. O'CONNELL	

WHEREAS, I, Jong Keun PARK of Westborough, Massachusetts, I, Jibin SUN of Menlo Park, California, I, Christopher D. GILMORE of Watertown, Massachusetts, I, Jieqian ZHANG of Southborough, Massachusetts, I, Peter TREFONAS, III of Medway, Massachusetts, I, Kathleen M. O'CONNELL of Cumberland, Rhode Island, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "DIRECTED SELF-ASSEMBLY PATTERN FORMATION METHODS AND COMPOSITIONS", for which an application for United States Letters Patent with the same title was filed with the United States Patent and Trademark Office on December 31, 2014 and assigned United States Non-Provisional Patent Application Serial No. 14/588410 which application corresponds to and claims priority of United States Provisional Application Serial No. 61/922767, filed December 31, 2013 and

WHEREAS, Rohm and Haas Electronic Materials LLC, located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

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Effective from the date of: <u>December 31, 2013</u>.

Signatures	Date
1. Jong Keun PARK	
2	419/0015
3Christopher D. GILMORE	
4	
5. Peter TREFONAS, III	AND THE PARTY OF T
6. Kathleen M. O'CONNELL	

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3.	Christopher D. GILMORE	
4.	Christopher D. GILWORE	
	Jieqian ZHANG	
5.	Peter TREFONAS, III	
6.	Kathleen M. O'CONNELL	3-23-15

PATENT REEL: 037102 FRAME: 0982

RECORDED: 11/20/2015