503575043 11/18/2015

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PETER TREFONAS III	10/13/2015
SHIH-WEI CHANG	10/19/2015

RECEIVING PARTY DATA

Name:	ROHM AND HAAS ELECTRONIC MATERIALS LLC
Street Address:	455 FOREST STREET
City:	MARLBOROUGH
State/Country:	MASSACHUSETTS
Postal Code:	01752

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14944470

CORRESPONDENCE DATA

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Email: bdavidson@cantorcolburn.com

Correspondent Name: CANTOR COLBURN LLP
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Address Line 4: HARTFORD, CONNECTICUT 06103

ATTORNEY DOCKET NUMBER:	77316-US-NP (DOW0038US2)
NAME OF SUBMITTER:	DAVID E. RODRIGUES
SIGNATURE:	/David E. Rodrigues/
DATE SIGNED:	11/18/2015

Total Attachments: 4

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PATENT REEL: 037072 FRAME: 0566

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ASSIGNMENT

WHEREAS, WE, Peter Trefonas, III of Medway, MA, and Shih-W	ei Chang of Cupertino, CA
(hereinafter referred to as "Assignors"), have invented certain new	and useful improvements in
COPOLYMER FORMULATION FOR DIRECTED SELF ASS	SEMBLY, METHODS OF
MANUFACTURE THEREOF AND ARTICLES COMPRISING	G THE SAME for which an
application for United States Letters Patent with the same title was	filed with the United States
Patent and Trademark Office on	and assigned United States
Non-Provisional Patent Application Serial No.	, which application
corresponds to and claims priority of United States Provisional Appl	ication Serial No. <u>62/097679</u>
filed 30 December 2014 and	

WHEREAS, Rohm and Haas Electronic Materials LLC, located at 455 Forest Street, Marlborough, MA 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;

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.

The Assignors also hereby grant the Patent Law Department of Rohm and Haas Electronic Materials LLC the power to insert on this Assignment any further identification that 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.

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

Signature	Date
1. Peter Trefonas, III	Oct 13, 2015
2 Shih-Wei Chang	

ASSIGNMENT

WHEREAS, WE, Peter Trefonas, III of Medway, MA, and Shih-	Wei Chang of Cupertino, CA
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COPOLYMER FORMULATION FOR DIRECTED SELF AS	SSEMBLY, METHODS OF
MANUFACTURE THEREOF AND ARTICLES COMPRISIN	G THE SAME for which an
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filed 30 December 2014 and	

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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.

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Docket No. 77316-US-NP (DOW0038US2) Page 1 of 2

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

Signature		Date	
1. Peter Trefonas, III			······································
2. Shih-Wei Chang	Char.	10/14/2	<u>. Vo</u>

RECORDED: 11/18/2015