

## 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>
GREGORY M. FRITZ	03/14/2016
TIMOTHY P. WEIHS	03/04/2016
JUSTIN A. GRZYB	03/07/2016
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<b>PROPERTY NUMBERS Total: 3</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	61107915
Application Number:	12605281
Application Number:	13850064
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<b>ATTORNEY DOCKET NUMBER:</b>	111232-00098
<b>NAME OF SUBMITTER:</b>	JEFFREY W. CHILDERS
<b>SIGNATURE:</b>	/JEFFREY W. CHILDERS/
<b>DATE SIGNED:</b>	04/04/2016
<b>Total Attachments: 5</b>	

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PATENT ASSIGNMENT

*Acton, MA G.M.F.*

This Assignment is made by Gregory M. Fritz, of ~~Yorktown Heights, NY~~, Timothy P. Weihs, of Baltimore, MD, and Justin A. Grzyb, of Greensboro, NC; (hereinafter "Assignors"), to The Johns Hopkins University, a non-profit organization duly organized and existing under the laws of the State of Maryland having its principal office and place of business at 3400 N. Charles Street, Baltimore, MD 21218 (hereinafter "Assignee").

WHEREAS, Assignors have invented, or are the owners of the entire right and title in, certain new and useful improvements concerning LAYERED REACTIVE PARTICLES WITH CONTROLLED GEOMETRIES, ENERGIES, AND REACTIVITIES, AND METHODS FOR MAKING THE SAME, the invention being described in and identified by United States patent applications:

<b>Serial Number:</b>	<b>Filing date:</b>
61/107,915	October 23, 2008
12/605,281	October 23, 2009
(now Patent No. 8,431,197 issued April 30, 2013)	
13/850,064	March 25, 2013

AND, WHEREAS, Assignee desires to acquire the entire right, title, and interest in the application and the invention and improvements on the invention, and in Letters Patent on the same when granted in any and all countries.

NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignors by these presents do hereby sell, assign, transfer, and convey unto the Assignee, its successors and assigns, the entire right, title, and interest in and to the application and the invention, and in any improvements on the invention previously or in the future made or acquired by Assignors, and to all rights of priority to the same pursuant to the International Convention for the Protection of Industrial Property, and in and to any and all patent applications filed on the invention, and in and to any and all continuations, continuations-in-part, or divisions of any United States or foreign patent application filed on the invention, and in and to any and all Letters Patent of the United States of America and all foreign countries or reissues thereof which

may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, the same to be held and enjoyed by said Assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignors if this assignment and sale had not been made.

Assignors hereby request that said Letters Patent be issued in accordance with this Assignment.

Assignors further warrant and represent that, at the time of the execution and delivery of these presents, Assignors possess their full title to the invention and application above-mentioned, and that they have the unencumbered right and authority to make this assignment.

Assignors further covenant and agree, and likewise bind, their heirs, legal representatives and assigns, to promptly communicate to said Assignee or its representatives any facts known to them relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the Assignee, its representatives, successors and assigns to secure patent or similar protection for said invention in all countries and to vest in the Assignee complete title to the invention and Letters Patent, without further compensation, but at the expense of said Assignee, its successors, assigns and other legal representatives.

**ASSIGNOR:**

Gregory M. Fritz 3/14/16  
Gregory M. Fritz Date

Witnessed by: William McFarland 3/14/16  
Date

Print Name: WILLIAM MCFARLAND

Stanley Shanfield 3/14/16  
Date

Print Name: Stanley Shanfield

ASSIGNOR:

Timothy P. Wehrs 3/4/16  
Timothy P. Wehrs Date

Witnessed by:

Jessine Majewski 3/4/16  
Date  
Print Name: Jessine Majewski

Brooke Mesta 3/4/16  
Date  
Print Name: BROOKE MESTA

ASSIGNOR:

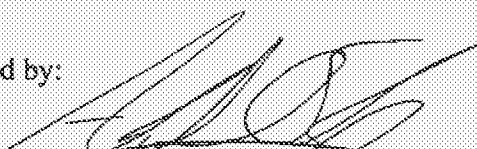


Justin A. Grzyb

3/7/2016

Date

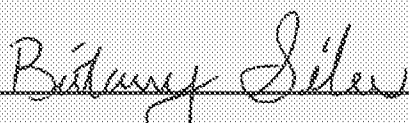
Witnessed by:



7 MAR 16

Date

Print Name: ALAN S. OLEJNIK

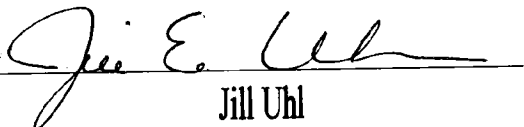


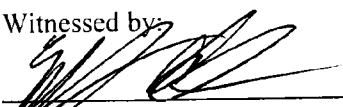
3-7-16

Date

Print Name: Britany Gibson

**ASSIGNEE:**

  
\_\_\_\_\_  
Jill Uhl  
By: \_\_\_\_\_ Sr. Dir., Intellectual Property  
Name/Title: \_\_\_\_\_ Johns Hopkins Technology Ventures \_\_\_\_\_

Witnessed by:   
\_\_\_\_\_  
Date: 2/25/16  
Print Name: \_\_\_\_\_

\_\_\_\_\_  
Date  
Print Name: \_\_\_\_\_

ND: 4823-6925-4956, v. 1