503761098 03/30/2016

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WILFRIED LOVENICH	02/26/2016
RUDIGER SAUER	02/26/2016
UDO GUNTERMANN	02/29/2016

RECEIVING PARTY DATA

Name:	HERAEUS DEUTSCHLAND GMBH & CO. KG		
Street Address:	HERAEUSSTRASSE 12-14		
City:	HANAU		
State/Country:	GERMANY		
Postal Code:	63450		

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	14905160	

CORRESPONDENCE DATA

Fax Number: (917)332-3773

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: 202-772-5800

Email: jyeddo@blankrome.com

Correspondent Name: BLANK ROME LLP

Address Line 1: WATERGATE

Address Line 2: 600 NEW HAMPSHIRE AVENUE, N.W.

Address Line 4: WASHINGTON, D.C. 20037

ATTORNEY DOCKET NUMBER:	140891.09100
NAME OF SUBMITTER:	JUDY YEDDO
SIGNATURE:	/Judy Yeddo/
DATE SIGNED:	03/30/2016

Total Attachments: 5

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PATENT 503761098 REEL: 038140 FRAME: 0397

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> PATENT REEL: 038140 FRAME: 0398

RECORDATION FOR	W COVER SHEET					
PATENTS ONLY						
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.						
1. Name of conveying party(ies) Wilfried LOVENICH (02/26/2016), Rüdiger SAUER (02/26/2016), and Udo GUNTERMANN (02/29/2016) Additional name(s) of conveying party(ies) attached? Yes X No	Name and address of receiving party(ies) Name: Heraeus Deutschland GmbH & Co. KG Internal Address: Street Address:					
3. Nature of conveyance/Execution Date(s):						
Execution Date(s) in parentheses after inventor name X Assignment Merger Change of Name	Heraeusstrasse 12-14					
Security Agreement Joint Research Agreement	City: Hanau					
Government Interest Assignment	State:					
Executive Order 9424, Confirmatory License Other	Country: Germany Zip:63450 Additional name(s) & address(es) attached? Yes x No					
4. Application or patent number(s): A. Patent Application No.(s) 14/905,160 Additional numbers attached?	nent serves as an Oath/Declaration (37 CFR 1.63). B. Patent No.(s) Yes X No					
Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:					
Jonathan P. Mitchell, Ph.D. Name: BLANK ROME LLP	7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00					
Internal Address:						
Street Address: The Chrysler Building 405 Lexington Ave.	X Authorized to be charged to deposit account Enclosed None required (government interest not affecting title)					
City: New York	8. Payment Information					
State: NY Zip: 10174-0208 Phone Number: (212) 885-5000 Docket Number: 140891.09100 Email Address: jyeddo@blankrome.com	Deposit Account Number <u>02-2555</u> Authorized User Name <u>Jonathan P. Mitchell, Ph.D.</u>					
9. Signature: /Jonathan P. Mitchel	// March 30, 2016					
	Date Total number of pages including cover sheet, attachments, and documents: eet) should be faxed to (571) 273-0140, or mailed to: of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450					

COMBINED ASSIGNMENT & DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATIONS

ASSIGNMENT

THIS ASSIGNMENT, made by Wilfried LOVENICH; Rüdiger SAUER; and Udo GUNTERMANN (hereinafter referred to as Assignors), residing at Konigsberger Strasse 61, 51469 Bergisch-Gladbach, GERMANY; Donhoffstr 31, 51373 Leverkusen, GERMANY; and Hinter Sollbruggen 39, 47800 Krefeld, GERMANY, respectively;

WHEREAS, Assignors have invented certain new and useful improvements in PATTERNING OF A COMPOSITION COMPRISING SILVER NANOWIRES, set forth in a Patent application for Letters Patent of the United States, already filed on January 14, 2016 as U.S. Application No. 14/905,160 and International Patent Application No. PCT/EP2014/001963, filed July 18, 2014; and

WHEREAS, Heraeus Deutschland GmbH & Co. KG, a Company organized under and pursuant to the laws of Germany having its principal place of business at Heraeusstrasse 12-14, 63450 Hanau, GERMANY (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said inventions and said Application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon.

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the

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same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the Commissioner for Patents and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

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DECLARATION

As a below named inventor, I hereby declare that:

This declaration is directed to the patent application entitled:

PATTERNING OF A COMPOSITION COMPRISING SILVER NANOWIRES

the specification of which was filed on January 14, 2016 as Application No. 14/905.160.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the above-identified application.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56.

I hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

In the event that the filing date and/or Application No. are not entered above at the time I execute this document, and if such information is deemed necessary, I hereby authorize and request the attorneys/agent(s) at Blank Rome LLP, 600 New Hampshire Ave., NW, Washington, DC 20037, to insert the filing date and/or Application No. of said application into this document.

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Date:	26	Feb	20	16	
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Date: 26 705 2016 Signature: Rüdiger Sauer

Date: 29 Feb 2016 Signature: Undo Guntermann

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RECORDED: 03/30/2016