PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4821074

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JUNG HAK KIM	12/19/2017
HEE JUNG KIM	12/19/2017
SEUNG HEE NAM	12/19/2017
KWANG JOO LEE	12/19/2017
SE RA KIM	12/19/2017
YOUNG KOOK KIM	12/19/2017

RECEIVING PARTY DATA

Name:	LG CHEM, LTD.
Street Address:	128, YEOUI-DAERO, YEONGDEUNGPO-GU
City:	SEOUL
State/Country:	KOREA, REPUBLIC OF
Postal Code:	07336

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15752151

CORRESPONDENCE DATA

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

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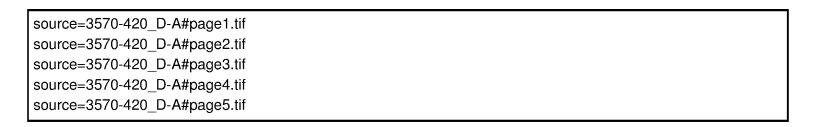
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ATTORNEY DOCKET NUMBER:	3570-420	
NAME OF SUBMITTER:	AYDIN H. HARSTON, PH.D. (REG. NO. 65249)	
SIGNATURE:	/Aydin H. Harston/	
DATE SIGNED:	02/12/2018	

Total Attachments: 5

PATENT REEL: 044904 FRAME: 0001



PATENT REEL: 044904 FRAME: 0002

COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM¹

The undersigned acknowledges that this document is being used both as an assignment of the invention and as the declaration (37 CFR 1.63) for a Utility or Design Application.

WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

TITLE:	SEMICONDUCTOR DEVICE
for which Assign	or is about to make or has made United States or International application for patent.
WHEREAS, as a	below named inventor(s), I/(we) hereby declare that:
Section I. Declar	ration
This declaration	is directed to:
П	The attached U.S. non-provisional patent application, or
	.5. non-provisional patent application number, filed on, or
	CT international patent application number <u>PCT/KR2017/003353</u> , filed on <u>March 28,</u> 017.
The above-ident	cified application was made or authorized to be made by me (us).
I (we) believe the above-identi	at I am (we are) the original inventor (original joint inventors) of a claimed invention in ified application.
I (we) hereby a	cknowledge that any willful false statement made in this declaration is punishable
1 This form require	es the use of an Application Data Sheet.

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under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims.

I acknowledge that I am aware of the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

Section II. Assignment

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the undersigned hereby sell(s) and assign(s) to

LG CHEM, LTD.

having an address at 128, Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, Republic of Korea (hereinafter designated as the Assignee(s)), the entire (100%) right, title and interest for the United States as defined in 35 USC §100, in the invention described in the application identified in Section I of this document.

Assignor hereby confirms any prior assignment to Assignee(s), and to the extent that Assignor has not already done so, agrees to assign, and hereby does, sell, assign and transfer unto Assignee(s) and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the inventions as described in the aforesaid application, to the aforesaid application itself, and all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application, and any United States or foreign Letters Patent, utility model, or other similar rights which may be granted thereon, including reissues, reexaminations and extensions thereof, and all copyright rights throughout the world in the aforesaid application and the subject matter disclosed therein, these rights, title and interest to be held and enjoyed by Assignee(s) to the full end of the term for which the Letters Patent, utility model, or other similar rights, are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of

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the applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights;

Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights, and for copyright, in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-examination, or extension thereof, and for litigation regarding, or for the purpose of protecting title and to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee(s) without further or other compensation than that above set forth;

Assignor hereby covenants that no assignment, sale, license, agreement or encumbrance has been or will be entered into which would conflict with this Assignment; and

Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee(s), and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or other similar right to Assignee(s).

The undersigned hereby grant(s) the law firm of ROTHWELL, FIGG, ERNST & MANBECK, P.C. the power to insert on this Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

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Section III. Inventor(s)/Assignor(s) Signature(s)

LEGAL NAME OF FIRST		Full Name	
INVENTOR/ASSIGNOR		Jung Hak KIM	
SIGNATURE	Jung Hak Kin	DATE _20.	12,12,19

LEGAL NAME OF		Full Name	
INVENTOR/ASSIGNOR		Hee Jung KIM	
SIGNATURE	1) WM	DATE 	2019.12.19

LEGAL NAME OF		Full Name	
THIRD INVENTOR/ASSIGNOR		Seung Hee NAM	
SIGNATURE	(호 등년	DATE	2011), 12, 19

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LEGAL NAME OF	Full Name	
FOURTH INVENTOR/ASSIGNOR	Kwang Joo LEE	
	Knayin la DATE 2019, 12.19	
LEGAL NAME OF	Full Name	
FIFTH	Se Ra KIM	
INVENTOR/ASSIGNOR	JC NA KIII	
SIGNATURE	£Tr.C. DATE 2017.12.19	
LEGAL NAME OF	Cull 81-ma	
SIXTH	Full Name	
INVENTOR/ASSIGNOR	Young Kook KiM	

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