PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5663634

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YU HO MIN	05/31/2019
MIN KYOUNG KIM	05/31/2019
CHEOL HEE PARK	05/31/2019
KYUNG MOON KO	05/31/2019
CHEE SUNG PARK	05/31/2019
MYUNG JIN JUNG	05/31/2019

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:	16484945	

CORRESPONDENCE DATA

Fax Number: (703)205-8050

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: 7032058000

Email: mailroom@bskb.com, phillip.tashjian@bskb.com BIRCH, STEWART, KOLASCH & BIRCH, LLP. **Correspondent Name:**

8110 GATEHOUSE ROAD, SUITE 100E Address Line 1: Address Line 4: FALLS CHURCH, VIRGINIA 22040-0747

ATTORNEY DOCKET NUMBER:	0808-0837PUS1
NAME OF SUBMITTER:	PHILLIP R. TASHJIAN
SIGNATURE:	/Phillip R. Tashjian/
DATE SIGNED:	08/12/2019

Total Attachments: 5

PATENT REEL: 050024 FRAME: 0130

505616832

source=2019-08-12_AssignmentAsfiled_0808-0837PUS1#page1.tif source=2019-08-12_AssignmentAsfiled_0808-0837PUS1#page2.tif source=2019-08-12_AssignmentAsfiled_0808-0837PUS1#page3.tif source=2019-08-12_AssignmentAsfiled_0808-0837PUS1#page4.tif source=2019-08-12_AssignmentAsfiled_0808-0837PUS1#page5.tif

PATENT REEL: 050024 FRAME: 0131

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: CHALCOGEN-CONTAINING COMPOUND, ITS PREPARATION METHOD AND THERMOELECTRIC ELEMENT COMPRISING THE SAME

for which Assignor 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. Declaration

This declaration is directed to:

	The attached U.S. non-provisional patent application, or
	U.S. non-provisional patent application number, filed on, or
	PCT international patent application number <u>PCT/KR2018/011567</u> , filed on <u>September 28, 2018</u> .
he above-id	entified application was made or authorized to be made by me (us).
(we) believe he above-ide	e that I am (we are) the original inventor (original joint inventors) of a claimed invention in entified application.
This form re	quires the use of an Application Data Sheet.
LG CHEM Re	f No. P2017-2210PCUS (Portfolio: Thermoelectric Material) Attorney Ref No. 0808-0837PUS1

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 1 of 5



REEL: 050024 FRAME: 0132

I (we) 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.

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

LG CHEM Ref No. P2017-2210PCUS (Portfolio: Thermoelectric Material) Attorney Ref No. 0808-0837PUS1

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 2 of 5



PATENT REEL: 050024 FRAME: 0133

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 BIRCH, STEWART, KOLASCH & BIRCH, LLP (BSKB) 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.

LG CHEM Ref No. P2017-2210PCUS (Portfolio: Thermoelectric Material)

Attorney Ref No. 0808-0837PUS1

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 3 of 5



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

LEGAL NAME OF	Full Name		
FIRST INVENTOR/ASSIGNOR	Yu Ho MIN		
SIGNATURE	Wenh	DATE NOIG (5.31	
LEGAL NAME OF	Full Name		
INVENTOR/ASSIGNOR	Min Kyoung KIM		
SIGNATURE	1/2010	DATE yoi9 th. m1	
LEGAL NAME OF		Full Name	
THIRD INVENTOR/ASSIGNOR		Cheol Hee PARK	
SIGNATURE	1/37431	DATE 2019.5.3/	

LG CHEM Ref No. P2017-2210PCUS (Portfolio: Thermoelectric Material)

Attorney Ref No. 0808-0837PUS1

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 4 of 5



PATENT PATENT REEL: 050024 FRAME: 0135

15011111111		
LEGAL NAME OF	Full Name	
FOURTH	Kyung Moon KO	
INVENTOR/ASSIGNOR		
SIGNATURE	Lo Krungmoon DATE May 31, 2019	
LEGAL NAME OF	Full Name	
FIFTH INVENTOR/ASSIGNOR	Chee Sung PARK	
SIGNATURE 1	Earle Chalus DATE May 31, 20/9	
LEGAL NAME OF	Full Name	
SIXTH INVENTOR/ASSIGNOR	Myung Jin JUNG	
Signature	Jung- Myung jin DATE May 31, 2019	

LG CHEM Ref No. P2017-2210PCUS (Portfolio: Thermoelectric Material)

Attorney Ref No. 0808-0837PUS1

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 5 of 5



PATENT

REEL: 050024 FRAME: 0136