PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5877435

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAEK GYOUNG KIM	12/02/2019
JEEHYUN AHN	12/02/2019
DOO KYUNG YANG	12/02/2019
EUNKYUNG CHO	12/02/2019
CHOLONG LEE	12/02/2019

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:	16624147	

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: christopher.smith@bskb.com, mailroom@bskb.com

Correspondent Name: BIRCH STEWART KOLASCH & BIRCH LLP Address Line 1: 8110 GATEHOUSE ROAD, SUITE 100E

Address Line 4: FALLS CHURCH, VIRGINIA 07336

ATTORNEY DOCKET NUMBER:	6841-0196PUS1
NAME OF SUBMITTER:	CHRISTOPHER SMITH
SIGNATURE:	/Christopher Smith/
DATE SIGNED:	12/18/2019

Total Attachments: 6

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PATENT REEL: 051334 FRAME: 0455

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PATENT REEL: 051334 FRAME: 0456 Application Number: 16624147 Filed On:18-DEC-2019

LGC Ref. P2017-0218PCUS

Atorney Docket No. 6841-0196PUS1

BIRCH, STEWART, KOLASCH & BIRCH, LLP

P.O. Box 747 • Falls Church, Virginia 22040-0747

Telephone: (703) 205-8000 • Facsimile: (703) 205-8050 • Email: mailroom@bskb.com

DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

United States Patent Rights, or United States Plus all Foreign Patent Rights

Title of Invention	⇒ LITHIUM ELECTRODE AND LITHIUM SECONDARY BATTERY INCLUDING SAME		
	As a below named inventor (hereinafter designated as the undersigned), I hereby declare that:		
	This declaration is directed to the application attached hereto.		
Application not Attached	[⇒] If the application is not attached hereto, the application is as identified by the attorney docket number as set forth above and/or the following:		
Enter Appln. No.	[⇔] United States Application Number or PCT International Appln, PCT/KR2018/001689 No.		
Enter Filing Date	⇒filed on February 8, 2018		
	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, including the claims.		
	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56.		
	WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified.		
nsert Name of Assignee	⇒WHEREAS, 'LG CHEM, LTD.'		
nsert Address of Assignee	⇒ of '128, Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, Republic of Korea'		
J	its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and		
Check Box if Appropriate	⇒ in any foreign countries.		
	NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries; and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or terms for which the same may be granted.		

The undersigned agrees to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

PATENT MG/16km PATENE: 0457

The undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agrees to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agrees to perform all affirmative acts which may be necessary to obtain a grant of (a) valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorizes and requests the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patent(s) resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has the full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

The undersigned hereby acknowledges 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 witness whereof, executed by the undersigned on the date opposite the undersigned name.

LEGAL N	AME OF INVENTOR	
Inventor's Name Sinventor:	Taek Gyoung KIM	Date: December 2, 2019
Inventor's Signature Signature:	Tack Gyorne Kim.	
LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name □ Inventor:	Jeehyun AHN	Date: December 2, 2019
Inventor's Signature Signature:	Ahn	
LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	Doo Kyung YANG	Date:
Inventor's Signature ⇒ Signature:		

An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use a separate form for each inventor; or check the box below and complete the attached page(s) to list additional inventors.

Additional inventors are being named on the 1 supplemental sheet(s) attached hereto.

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S)
Supplemental Sheet Page 1 of 1

	LEGAL N	JAME OF JOINT INVENTOR, IF ANY	,		
Inventor's Name	⇔ Inventor:	Eunkyung CHO	Date:	December 2, 2019	
Inventor's Signatur	e → Signature:	-Che			
	LEGAL N	IAME OF JOINT INVENTOR, IF ANY			
Inventor's Name	→ Inventor:	Cholong LEE	Date:	December 2, 2019	
Inventor's Signatur	^{e ⇒} Signature:	choling	·	· · · · · · · · · · · · · · · · · · ·	

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

Title of Invention	⇒ LITHIUM ELECTRODE AND LITHIUM SECONDARY BATTERY INCLUDING SAME		
	As a below named inventor (hereinafter designated as the undersigned), I hereby declare that:		
	This declaration is directed to the application attached hereto.		
Application not Attached	[⇔] If the application is not attached hereto, the application is as identified by the attorney docket number as set forth above and/or the following:		
Enter Appln. No.	[⇔] United States Application Number or PCT International Appln. <u>PCT/KR2018/001689</u> No.		
Enter Filing Date	⇒ filed on February 8, 2018 .		
	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, including the claims.		
	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56.		
	WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified.		
Insert Name of Assignee	⇒WHEREAS, 'LG CHEM, LTD.'		
insert Address of Assignee	⇒ of '128, Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, Republic of Korea'		
Ü	its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and		
Check Box if Appropriate	⇒ in any foreign countries.		
	NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries; and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or terms for which the same may be granted.		
	The undersigned agrees to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.		

Page 1

The undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agrees to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agrees to perform all affirmative acts which may be necessary to obtain a grant of (a) valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorizes and requests the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patent(s) resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has the full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisorment of not more than five (5) years, or both.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

	LEGAL N	IAME OF INVENTOR	
Inventor's Name	⇔ Inventor:	Tack Gyoung KIM	Date:
Inventor's Signatur	* Signature:		
	LEGAL N	IAME OF JOINT INVENTOR, IF ANY	
Inventor's Name	[∞] Inventor.	Jeehyun AHN	Dăte:
Inventor's Signatur	e = Signature:	and the second s	
	LEGALN	IAME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇒ Inventor	Doo Kyung YANG	Date: Cerember 2, 2019
Ιαςφαούς δίχησασ	¢ ♥ Signature:	you nough	

An application data sheet (PIO/S8/14 or equivalent), including naoting the entire inventive entity, must accompany this form.

Use a separate form for each inventor, or check the box below and complete the attached page(s) to list additional inventors.

Additional inventors are being named on the 1 supplemental sheet(s) attached hereto



SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name	⇒ Inventor:	Eunkyung CHO	Date:
Inventor's Signature	^{e ⇒} Signature:		
	LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇒ Inventor:	Cholong LEE	Date:
Inventor's Signature	^{e ⇒} Signature:		

PATENT BSKB-DECASSIGN\(09-12)
REEL: 051334 FRAME: 0462