## 505779030 11/18/2019 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5825857

	SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT		
CONVEYING PARTY D	ΑΤΑ				
		Name		Execution Date	
SUN-YOUNG CHA				11/01/2019	
RECEIVING PARTY DA	TA				
Name:	LG CHE	LG CHEM, LTD.			
Street Address:	128, YE	128, YEOUI-DAERO, YEONGDEUNGPO-GU			
City:	SEOUL				
State/Country:	KOREA	KOREA, REPUBLIC OF			
Postal Code:	07336				
PROPERTY NUMBERS	Total: 1				
Property Type		Number			
Application Number:		6614559			
CORRESPONDENCE D		000)700 0004			
Eav Number					
Fax Number: Correspondence will b		202)739-3001 the e-mail address first: if th	at is unsucces	sful. it will be sent	
Correspondence will b using a fax number, if	e sent to	202)739-3001 the e-mail address first; if th ; if that is unsuccessful, it wi			
Correspondence will b using a fax number, if Phone:	e sent to provided	<i>the e-mail address first; if th</i> <b><i>if that is unsuccessful, it wi</i></b> 2027393000	ll be sent via U	IS Mail.	
Correspondence will b using a fax number, if Phone: Email:	e sent to provided :	<i>the e-mail address first; if th</i> <i>if that is unsuccessful, it wi</i> 2027393000 patents@morganlewis.com, jow	ll be sent via U	IS Mail.	
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Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4: ATTORNEY DOCKET NUNAME OF SUBMITTER:	e sent to provided	the e-mail address first; if the if that is unsuccessful, it will 2027393000 patents@morganlewis.com, jow COLLIN W. PARK MORGAN, LEWIS & BOCKIUS 1111 PENNSYLVANIA AVENU WASHINGTON, D.C. 20004 121594-5080 ROBERT J. GOODELL	<b>II be sent via U</b> elita.farooq@m LLP	IS Mail.	
Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 2: Address Line 4: ATTORNEY DOCKET NUNAME OF SUBMITTER: DATE SIGNATURE: DATE SIGNED: Total Attachments: 2	JMBER:	the e-mail address first; if the if that is unsuccessful, it will 2027393000 patents@morganlewis.com, jow COLLIN W. PARK MORGAN, LEWIS & BOCKIUS 1111 PENNSYLVANIA AVENU NASHINGTON, D.C. 20004 121594-5080 ROBERT J. GOODELL /Robert J. Goodell/	<b>II be sent via U</b> elita.farooq@m LLP	IS Mail.	

PATENT

COMBINED DECLARATION & ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION				
Title	BATTERY MANAGEMENT SYSTEM AND METHOD FOR OPTIMIZING INTERNAL RESISTANCE OF BATTERY			
DECLARATION				
As a below named inventor, I hereby declare that:				
This declaration is directed to:				
The attached application, or				
U.S. application or PCT international application number <u>PCT/KR2018/014036</u> filed on <u>November 15.</u> 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 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.				
Note to Inventor: 37 C.F.R. § 1.63(c) states: A person may not execute an oath or declaration for an application unless that person has reviewed and understands the contents of the application, including the claims, and is aware of the duty to disclose to the Office all information known to the person to be material to patentability as defined in § 1.56.				
ASSIGNMENT				
WHEREAS, I ha	ave made an invention described and/or claimed in the above-identified application; and			
WHEREAS, LG CHEM, LTD., a corporation of the Republic of Korea whose post office address is <b>128</b> , Yeoui-daero, Yeongdeungpo-gu, Seoui, 07336, Republic of Korea (hereinafter referred to as the "Assignee"), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application of United States Letters Patent on this invention and the Letters Patent to be issued upon this application;				
NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from the Assignee is hereby acknowledged, I have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, and its lawful successors and assigns, my entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and I hereby authorize and request the Director of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent of this invention to the Assignee, and its successors and assigns, in accordance with the terms of this Assignment;				

Morgan, Lewis & Bockius LLP

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PATENT

## COMBINED DECLARATION & ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I HEREBY further covenant and agree that I will, without further consideration, communicate with the Assignee, and its successors and assigns, any facts known to me respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, and its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid the Assignee, and its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, and its successors and assigns.

IN TESTIMONY WHEREOF, I have hereunto set my hands.	
First inventor (Full Legal Name): CHA Sun-Young Signature:	Date: 1/11/2.019
Second Inventor (Full Legal Name):	
Signature:	Date:
Third Inventor (Full Legal Name):	
Signature:	Date:
Fourth Inventor (Full Legal Name):	
Signature:	Date:
Fifth Inventor (Full Legal Name);	
Signature:	
Sixth Inventor (Full Legal Name):	
Signature:	Date:
Seventh Inventor (Full Legal Name):	
Signature:	Date:

Morgan, Lewis & Bockius LLP



**RECORDED: 11/18/2019**