

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4581887

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
WON BIN CHO	03/14/2017
IN GU AN	07/28/2017
HYUNG KU YUN	08/24/2017
DONG-MYUNG KIM	03/15/2017
RECEIVING PARTY DATA	
Name:	LG CHEM, LTD.
Street Address:	128, YEOUNI-DAERO, YEONGDEUNGPO-GU
City:	SEOUL
State/Country:	KOREA, REPUBLIC OF
Postal Code:	07336
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15504140
CORRESPONDENCE DATA	
Fax Number:	(703)205-8050
<i>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.</i>	
Phone:	703-205-8000
Email:	mailroom@bskb.com, Tuyet.A.Nguyen@bskb.com
Correspondent Name:	BIRCH, STEWART, KOLASCH & BIRCH, LLP
Address Line 1:	8110 GATEHOUSE ROAD, SUITE 100E
Address Line 4:	FALLS CHURCH, VIRGINIA 22042
ATTORNEY DOCKET NUMBER:	0808-0511PUS1
NAME OF SUBMITTER:	TUYET ANH NGUYEN
SIGNATURE:	/TUYET ANH NGUYEN/
DATE SIGNED:	09/06/2017
This document serves as an Oath/Declaration (37 CFR 1.63).	
Total Attachments: 8	
source=2017-09-06_SubstituteStatement-DecAssignment_0808-0511PUS1#page1.tif	

source=2017-09-06_SubstituteStatement-DecAssignment_0808-0511PUS1#page2.tif
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source=2017-09-06_SubstituteStatement-DecAssignment_0808-0511PUS1#page7.tif
source=2017-09-06_SubstituteStatement-DecAssignment_0808-0511PUS1#page8.tif

Doc code: Oath

Document Description: Oath or declaration filed

PTO/AIA/02 (07-13)

Approved for use through 04/30/2017. OMB 0851-0032

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)			
Title of Invention	ELECTRODE ASSEMBLY WOUND IN BOTH DIRECTIONS AND LITHIUM SECONDARY BATTERY INCLUDING THE SAME		
This statement is directed to:			
<input type="checkbox"/> The attached application,			
OR			
<input checked="" type="checkbox"/> United States application or PCT international application number <u>15/504,140</u> filed on <u>February 15, 2017</u>			
LEGAL NAME of inventor to whom this substitute statement applies:			
(E.g., Given Name (first and middle (if any)) and Family Name or Surname)			
Hyung Ku YUN			
Residence (except for a deceased or legally incapacitated inventor):			
Daejeon		Republic of Korea	
City	State	Country	
Mailing Address (except for a deceased or legally incapacitated inventor):			
LG Chem Research Park, 188, Munji-ro, Yuseong-gu			
Daejeon		305-738	Republic of Korea
City	State	Zip	Country
I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.			
The above-identified application was made or authorized to be made by me.			
I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
Relationship to the inventor to whom this substitute statement applies:			
<input type="checkbox"/> Legal Representative (for deceased or legally incapacitated inventor only),			
<input checked="" type="checkbox"/> Assignee,			
<input type="checkbox"/> Person to whom the inventor is under an obligation to assign,			
<input type="checkbox"/> Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or			
<input type="checkbox"/> Joint Inventor.			



SN: 15/504,140

Filed on February 15, 2017

PTO/SB/AIA02 (07-13)

Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- ☐ Inventor is deceased,
- ☐ Inventor is under legal incapacity,
- ☒ Inventor cannot be found or reached after diligent effort, or
- ☐ Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- ☒ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- ☐ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Minho Kim

2017-08-24

Date (Optional):

Signature:

*Kim Min Ho***APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:**

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LG Chem, Ltd.

Title of Person Executing
This Substitute Statement: General Manager of IP Center

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

City	Daejeon	State		Country	Korea, Republic of
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Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

188, Munji-ro, Yuseong-gu

City	Daejeon	State		Zip	34122	Country	Korea, Republic of
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Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.



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 ⇒ **ELECTRODE ASSEMBLY WOUND IN BOTH DIRECTIONS AND LITHIUM SECONDARY BATTERY INCLUDING THE 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. No. **15/504,140**

Enter Filing Date ⇒ filed on **February 15, 2017**.

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,**

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.

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 patent(s) or 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.

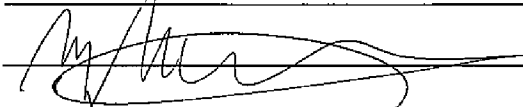
The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

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 NAME OF INVENTOR

Inventor's Name ⇒ Inventor: Won Bin CHO Date: 2017.03.14

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 x supplemental sheet(s) attached hereto.

SN: 15/504,140
Filed on February 15, 2017

**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: In Gu AN Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Hyung Ku YUN Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Dong-Myung KIM Date: March 15, 2017

Inventor's Signature ⇨ Signature: 

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

BSKB-DECASSIGN\ (09-12)



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 ➤ **ELECTRODE ASSEMBLY WOUND IN BOTH DIRECTIONS AND LITHIUM SECONDARY BATTERY INCLUDING THE 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. No. 15/504,140

Enter Filing Date ➤ filed on February 15, 2017

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.

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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, Yeouui-daero, Yeongdeungpo-gu, Seoul 07336, Republic of Korea,**

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.



SN: 15/504,140

Filed on February 15, 2017

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.

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 patent(s) or 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 NAME OF INVENTOR

Inventor's Name → Inventor: Won Bin CHO 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 x supplemental sheet(s) attached hereto.



SN: 15/504,140
 Filed on February 15, 2017

**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: In Gu AN Date: 2017.7.28

Inventor's Signature ⇨ Signature: 안인구

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Hyung Ku YUN Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Dong-Myung KIM Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

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Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

BSKB-DECASSIGN\ (09-12)

