PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT	
NATURE OF CONVEYANCE:	Corrective Assignment to correct the Name and address of receiving party(ies) previously recorded on Reel 023322 Frame 0083. Assignor(s) hereby confirms the Corrective Assignment to correct the name and address of receiving party (ies)	

CONVEYING PARTY DATA

Name	Execution Date
Jong-Nam KIM	09/18/2009
Jong-Ho PARK	09/17/2009
Seong-Jun LEE	09/17/2009
Min-Su KO	09/17/2009
Hee Tae BEUM	09/18/2009
Jongkee PARK	09/17/2009
Chang Hyun KO	09/17/2009
Sang Sup HAN	09/17/2009
Soon-Haeng CHO	09/18/2009

RECEIVING PARTY DATA

Name:	KOREA INSTITUTE OF ENERGY RESEARCH	
Street Address:	71-2 Jang-dong, Yuseong-gu	
City:	Daejeon	
State/Country:	KOREA, REPUBLIC OF	
Postal Code:	305-343	

Name:	SK ENERGY CO., LTD.	
Street Address:	99 Seolin-dong, Jongno-gu	
City:	Seoul	
State/Country:	KOREA, REPUBLIC OF	
Postal Code:	110-728	

PROPERTY NUMBERS Total: 1		_
Property Type	Number	
Application Number:	12593249	

CORRESPONDENCE DATA

Fax Number:	7038541332		
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.			
Phone:	703-854-1331		
Email:	mail@lrkpatent.com		
Correspondent Name:	LRK Patent Law Firm		
Address Line 1:	1952 Gallows Road, Suite 200		
Address Line 4:	Vienna, VIRGINIA 22182		

ATTORNEY DOCKET NUMBER:	P10253US	
NAME OF SUBMITTER:	Taeksoo Lee	
Total Attachments: 10		
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RECORDATION FORM COVER SHEET PATENTS ONLY			
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.			
1. Name of conveying party(ies) Jong-Nam KIM, Jong-Ho PARK, Seong-Jun LEE, Min-Su KO, Hee Tae BEUM, Jongkee PARK, Chang Hyun KO, Sang Sup HAN, Soon-Haeng CHO	2. Name and address of receiving party(ies) Name: KOREA INSTITUTE OF ENERGY RESEARCH Internal Address:		
Additional name(s) of conveying party(ies) attached? Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s) September 18, 2009 Assignment Security Agreement Joint Research Agreement	Street Address: <u>71-2 Jang-dong, Yuseong-gu</u> City: <u>Daejeon</u>		
Government Interest Assignment Executive Order 9424, Confirmatory License Other Corrective Assignment (023322/0083)	State: Country: <u>KOREA, REPUBLIC OF</u> Zip <u>305-343</u> Additional name(s) & address(es) attached? X Yes No		
4. Application or patent number(s): This A. Patent Application No.(s)	document is being filed together with a new application. B. Patent No.(s)		
12/593,249			
Additional numbers att	ached? Yes XNo		
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: <u>1</u>		
Name: LRK Patent Law Firm Internal Address:	7. Total fee (37 CFR 1.21(h) & 3.41) \$ <u>40.00</u>		
Street Address: 1952 Gallows Road, Suite 200	 Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 		
City: Vienna	8. Payment Information		
State: VA Zip: 22182 Phone Number: 703-854-1331			
Docket Number: P10253US	Deposit Account Number 50-4895		
Email Address: mail@Irkpatent.com	Authorized User Name Taeksoo Lee		
9. Signature: /Taeksoo Lee/	12/10/2012		
Signature Taeksoo Lee Name of Person Signing Documents to be recorded (including cover sheet	Date Total number of pages including cover sheet, attachments, and documents:		
	PATENT		

REEL: 029441 FRAME: 0470

Guidelines for Completing Patents Cover Sheets (PTO-1595)

Cover Sheet information must be submitted with each document to be recorded. If the document to be recorded concerns both patents and trademarks separate patent and trademark cover sheets, including any attached pages for continuing information, must accompany the document. All pages of the cover sheet should be numbered consecutively, for example, if both a patent and trademark cover sheet is used, and information is continued on one additional page for both patents and trademarks, the pages of the cover sheet would be numbered from 1 to 4.

Item 1. Name of Conveying Party(ies).

Enter the full name of the party(ies) conveying the interest. If there is insufficient space, enter a check mark in the "Yes" box to indicate that additional information is attached. The name of the additional conveying party(ies) should be placed on an attached page clearly identified as a continuation of the information Item 1. Enter a check mark in the "No" box, if no information is contained on an attached page. If the document to be recorded is a joint research agreement, enter the name(s) of the party(ies) other than the owner of the patent or patent application as the conveying party(ies).

Item 2. Name and Address of Receiving Party(ies).

Enter the name and full address of the first party receiving the interest. If there is more than one party receiving the interest, enter a check mark in the "Yes" box to indicate that additional information is attached. Enter a check mark in the "No" box, if no information is contained on an attached page. If the document to be recorded is a joint research agreement, enter the name(s) of the patent or patent application owner(s) as the receiving party.

Item 3. Nature of Conveyance/Execution Date(s).

Enter the execution date(s) of the document. It is preferable to use the name of the month, or an abbreviation of that name, in order that confusion over dates is minimized. Place a check mark in the appropriate box describing the nature of the conveying document. If the "Other" box is checked, specify the nature of the conveyance.

Item 4. Application Number(s) or Patent Number(s).

Indicate the application number(s), and/or patent number(s) against which the document is to be recorded. National application numbers must include both the series code and a six-digit number (e.g., 07/123,456), and international application numbers must be complete (e.g., PCT/US91/12345).

Enter a check mark in the appropriate box: "Yes" or "No " if additional numbers appear on attached pages. Be sure to identify numbers included on attached pages as the continuation of Item 4. Also enter a check mark if this Assignment is being filed with a new application.

Item 5. Name and Address of Party to whom correspondence concerning the document should be

mailed. Enter the name and full address of the party to whom correspondence is to be mailed.

Item 6. Total Applications and Patents involved.

Enter the total number of applications and patents identified for recordation. Be sure to include all applications and patents identified on the cover sheet and on additional pages.

Block 7. Total Fee Enclosed.

Enter the total fee enclosed or authorized to be charged. A fee is required for each application and patent against which the document is recorded.

Item 8. Payment Information.

Enter the deposit account number and authorized user name to authorize charges.

Item 9. Signature.

Enter the name of the person submitting the document. The submitter must sign and date the cover sheet. Enter the total number of pages including the cover sheet, attachments, and document.

This collection of information is required by 35 USC 261 and 262 and 15 USC 1057 and 1060. The information is used by the public to submit (and by the USPTO to process) patent and trademark assignment requests. After the USPTO records the information, the records for patent and trademarks, assignments, and other associated documents can be inspected by the public. To view documents recorded under secrecy orders or documents recorded due to the interest of the federal government, a written authorization must be submitted. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the form to the USPTO. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Manager of the Assignment Division, USPTO, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Assignment Recordation Services, Director of the USPTO. P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement for Patent Assignment Recordation Form Cover Sheet

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with the above request for information. This collection of information is authorized by 35 U.S.C. 1, 2, 261 and E.O. 9424. This information will primarily be used by the USPTO for the recordation of assignments related to patents and patent applications. Submission of this information is voluntary but is required in order for the USPTO to record the requested assignment. If you do not provide the information required on the cover sheet, the assignment will not be recorded, and all documents will be returned to you.

After the information is recorded, the records and associated documents can be inspected by the public and are not confidential, except for documents that are sealed under secrecy orders or related to unpublished patent applications. Assignment records relating to unpublished patent applications are maintained in confidence in accordance with 35 U.S.C. 122. Records open to the public are searched by users for the purpose of determining ownership for other property rights with respect to patents and trademarks.

Routine uses of the information you provide may also include disclosure to appropriate Federal, state, local, or foreign agencies in support of their enforcement duties and statutory or regulatory missions, including investigating potential violations of law or contract and awarding contracts or other benefits; to a court, magistrate, or administrative tribunal in the course of presenting evidence; to members of Congress responding to requests for assistance from their constituents; to the Office of Management and Budget in connection with the review of private relief legislation; to the Department of Justice in connection with a Freedom of Information Act request; to a contractor in the performance of their duties; to the Office of Personnel Management for personnel studies; and to the General Services Administration (GSA) as part of their records management responsibilities under the authority of 44 U.S.C. 2904 and 2906. Such disclosure to GSA shall not be used to make determinations about individuals.

ASSIGNMENT

WHEREAS, Jong-Nam KIM, a citizen of Republic of Korea, whose post office address is Hanbit Apt. 101-1801, Eceun-dong, Yuseong-gu, Daejeon 305-755 Republic of Korea, Jong-Ho PARK, a citizen of Republic of Korea, whose post office address is Lucky-Hana Apt. 110-508. Sinseong-dong, Yuseong-gu, Daejeon 305-721 Republic of Korea, Seong-Jun LEE, a citizen of Republic of Korea, whose post office address is EXPO. Apt. 210-1502, Jeonmin-dong, Yuseong-gu, Daejeon 305-761 Republic of Korea, Min-Su KO, a citizen of Republic of Korea, whose post office address is Ssangyong-Sweetdothome Apt. 409-1101. Gwanpyeong-dong, Yuseong-gu, Daejeon 305-509 Republic of Korea, Hee Tae BEUM, a citizen of Republic of Korea, whose post office address is Daedeok Techno Valley 5-Danji 503-1301, Gwanpyeong-dong, Yuseong-gu, Daejeon 305-509 Republic of Korea, Jongkee PARK, a citizen of Republic of Korea, whose post office address is Yeolmaemaeul Apt. 308-504, Jijok-dong, Yuseong-gu, Daejeon 305-330 Republic of Korea, Chang Hyun KO, a citizen of Republic of Korea, whose post office address is Sujeongtown Apt. 14-808, Dunsan-dong, Seo-gu, Daejeon 302-120 Republic of Korea, Sang Sup HAN, a citizen of Republic of Korea, whose post office address is Vertinum Apt. 309-402, Jijok-dong, Yuseong-gu, Daejeon 305-772 Republic of Korea, and Soon-Haeng CHO, a citizen of Republic of Korea, whose post office address is 155-34 Whaam-dong, Yuseong-gu, Daejeon 305-348 Republic of Korea, hereinafter referred to as the ASSIGNORS, have invented a certain improvement relating to

SEPARATION OF OLEFINS FROM OLEFINS/PARAFFINS MIXED GAS

for which they have executed an application for Letters Patent for the United States in the United States Patent and Trademark Office even date herewith.

If this Assignment is filed after the filing date of the above-identified application, the undersigned hereby authorize and request Taeksoo Lee, Rcg. No. 61,976 of the LRK Patent Firm, LLC, whose address is 1952 Gallows Rd. Suite 200, Vienna, Virginia 22182, to insert here in parenthesis (Application No. ______, filed _____) the filing date and application number of said application when known.

AND WHEREAS, <u>KOREA INSTITUTE OF ENERGY RESEARCH</u>, a corporation organized and existing under the laws of <u>Republic of Korea</u>, whose post-office address is <u>71-2</u> <u>Jang-dong</u>, <u>Yuseong-gu</u>, <u>Daejeon 305-343</u> <u>Republic of Korea</u>, and <u>SK ENERGY CO., LTD.</u>, a corporation organized and existing under the laws of <u>Republic of Korea</u>, whose post-office address is <u>99 Seolin-dong</u>, <u>Jongno-gu</u>, <u>Seoul 110-728</u> <u>Republic of Korea</u> are desirous of becoming joint owners with each having an equal undivided interest, and are hereinafter known as the ASSIGNEES, are desirous of acquiring the entire right, title and interest for the United States in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, and prolongations thereof.

Attorney Docket No.: P10253US

NOW, THIS WITNESSETH that for and in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt whereof is hereby acknowledged, said ASSIGNORS hereby assign, sell and transfer to said ASSIGNEES, their assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, for the United States including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, said ASSIGNEES and their assigns and legal representatives to have, hold, exercise and enjoy the said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges, and advantages in any ways arising from or pertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, and prolongations thereof, for the use and benefit of said ASSIGNEES and their assigns and legal representatives in as ample and beneficial a manner to all intents and purposes as the said ASSIGNORS might or could have held and enjoyed the same, if this assignment had not been made.

AND said ASSIGNORS hereby agree to execute all papers necessary to file applications in the United States for said invention and to assign the same to said ASSIGNEES, or any assignee acquiring title to said invention, and to execute any other papers that may be needed in connection with filing said application and securing Letters Patent thereon.

AND said ASSIGNORS authorize and request the Commissioner of Patents to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said ASSIGNEES, their assigns and legal representatives, in accordance herewith.

IN TESTIMONY WHEREOF, this assignment is executed by said ASSIGNORS, on the respective dates indicated below.

18/09/2009

Jong-Nam KIM

Date

Date

Jong-Ho PARK

Min-Su KO

Attorney Docket No.: P10253US

Page - 3 -

11/09 (2009) Date KC Char KO 18/69 Date Soon-Haeng CHO

(7 Date Sang Sup

Witnessed by:

Date

Date

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TO:LRK PATENT FIRM, LLC COMPAL 1952 GALLOWS RD. SUITE 200



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE



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OCTOBER 02, 2009

PTAS

LRK PATENT FIRM, LLC 1952 GALLOWS RD. SUITE 200 VIENNA, VA 22182

> UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE	: 10/02/2009	REEL/FRAME: 023321/0535
		NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR: PARK, JONG-HO	DOC DATE: 09/17/2009
ASSIGNOR: KIM, JONG-NAM	DOC DATE: 09/18/2009
ASSIGNOR: LEE, SEONG-JUN	DOC DATE: 09/17/2009
ASSIGNOR: KO, MIN-SU	DOC DATE: 09/17/2009
ASSIGNOR: BEUM, HEE TAE	DOC DATE: 09/18/2009
ASSIGNOR: PARK, JONGKEE	DOC DATE: 09/17/2009

P.O. Box 1450, Alexandria, Virginia 22313-1450 - www.uspto.gov

PATENT REEL: 029441 FRAME: 0476 USPTO

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023321/0535 PAGE 2 ASSIGNOR: DOC DATE: 09/17/2009 KO, CHANG HYUN ASSIGNOR: DOC DATE: 09/19/2009 HAN, SANG SUP ASSIGNOR: CHO, SOON-HAENG DOC DATE: 09/18/2009 ASSIGNEE: KOREA INSTITUTE OF ENERGY RESEARCH 71-2 JANG-DING, YUSEONG-GU DAEJEON, REPUBLIC OF KOREA 305-343 FILING DATE: SERIAL NUMBER: 12593252 ISSUE DATE: PATENT NUMBER: TITLE: PRODUCTION OF HIGH PURITY BUTENE-1 FROM C4 OLEFINS/PARAFFINS MIXED GAS

ASSIGNMENT SERVICES BRANCH PUBLIC RECORDS DIVISION

USPTO

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PATENT ASSIGNMENT

Electronic Version v1.1	
Stylesheet Version v1.1	

10/02/2009 500979221

SUBMISSION TYPE:	BMISSION TYPE: NEW ASSIGNMENT		
NATURE OF CONVEY	EYANCE: ASSIGNMENT		
CONVEYING PARTY D	ATA		
Name Execution Date			Execution Date
Jong-Ho PARK			09/17/2009
Jong-Nam KIM		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	09/18/2009
Seong-Jun LEE			09/17/2009
Min-Su KO			09/17/2009
Hee Tae BEUM			09/18/2009
Jangkee PARK			09/17/2009
Chang Hyun KO			09/17/2009
Sang Sup HAN			09/19/2009
Soon-Haeng CHO	<u></u>		09/18/2009
Street Address: City: State/Country:	Korea Institute of Energy Research 71-2 Jang-ding, Yuseong-gu Daejeon REPUBLIC OF KOREA 305-343		
Property Typ	08	Number	
Application Number:		12593252	
CORRESPONDENCE DATA Fax Number: (703)854-1332 Correspondence will be sent via US Mail when the fax attempt is unsuccessful. Phone: 703-854-1331 Email: plee@irkpatent.com Correspondent Name: LRK Patent Firm, LLC Address Line 1: 1952 Gallows Rd. Suite 200 Address Line 4: Vienna, VIRGINIA 22182			

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10/2/2009 8:03:40 PM PAGE 5/005 Fax Server

TO:LRK PATENT FIRM, LLC COMPAN 1952 GALLOWS RD. SUITE 200

NAME OF SUBMITTER:	Taeksoo Lee	
Total Attachments: 3 source=P10254_ans#page1.tif		
source=P10254_ans#page2.tif source=P10254_ans#page3.tif		