PATENT ASSIGNMENT

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------|----------------|
| Young Min Chung | 05/11/2010 |
| Yong Tak Kwon | 05/12/2010 |
| Tae Jin Kim | 05/12/2010 |
| Seong Jun Lee | 05/12/2010 |
| Min Su Ko | 05/12/2010 |
| Seung Hoon Oh | 05/14/2010 |
| Yong Seung Kim | 05/12/2010 |
| In Kyu Song | 05/10/2010 |

RECEIVING PARTY DATA

| Name: | SK ENERGY CO., LTD. |
|-----------------|--|
| Street Address: | 99 Seorin-dong, Jongro-gu |
| City: | Seoul |
| State/Country: | KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF |
| Postal Code: | 110-110 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12746558 |

CORRESPONDENCE DATA

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PATENT

REEL: 024493 FRAME: 0090

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| ATTORNEY DOCKET NUMBER: | LEE-10-1200 |
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| NAME OF SUBMITTER: | Nancy Nunez |
| Total Attachments: 2 source=Assignment#page1.tif source=Assignment#page2.tif | |

PATENT REEL: 024493 FRAME: 0091

ASSIGNMENT

WHEREAS, we, Young Min CHUNG: Yong Tak KWON: Tae Jin KIM: Seong Jun LEE: Min Su KO: Seung Hoon OH: Yong Seung KIM and In Kyu SONG, citizens of Republic of Korea, residing at 102-903, Chonggu Narae Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-729(KR): 203, Doum Vill, 120-4, Sinseong-dong, Yuseong-gu, Daejeon 305-804(KR): 111-703, Sejong Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-728(KR): 210-1502, Expo Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-761(KR): 409-1101, Ssangyong Sweet Dot Home, 666, Gwanpyeong-dong, Yuseong-gu, Daejeon 305-509(KR): 203, Deok-su Villa, 458-3, Jeonmin-dong, Yuseong-gu, Daejeon 305-810(KR): 104-1403, SK View Apt., Sindorim-dong, Guro-gu, Seoul 152-070(KR) and 202, 958-16, Daechi-dong, Gangnam-gu, Seoul 135-280(KR), respectively, (hereinafter referred to as "the undersigned"), having made an invention entitled MIXED MANGANESE FERRITE CATALYSTS, METHOD OF PREPARING THEREOF AND METHOD OF PREPARING 1,3-BUTADIENE USING THEREOF, identified in International Application No. PCT/KR2008/006568, and US Application No. 12/746,558, (DLA Piper is authorized to insert the Serial No. when known),

WHEREAS, <u>SK ENERGY CO., LTD.</u>, with offices at <u>99 Seorin-dong, Jongro-gu, Seoul 110-110, Republic of Korea</u> (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations thereof, all rights to claim priority based thereon, all rights to file foreign applications on said invention, and all letters patent and reissues thereof, issuing for said invention in the United States of America and in any and all foreign countries.

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

PATENT REEL: 024493 FRAME: 0092 The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

EXECUTED on the date(s) set forth below.

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| Seong Jun | LEE |

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RECORDED: 06/07/2010