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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT	NEW ASSIGNMENT			
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT			
CONVEYING PARTY D	ΑΤΑ					
		Name	Execution Date			
SAMSUNG ELECTRON	IICS CO., L	.TD.	06/15/2017			
RECEIVING PARTY DA						
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State/Country:	KOREA, REPUBLIC OF					
Postal Code:	120-749	120-749				
Patent Number:	9-	168510				
Property Type Patent Number:	9.	Number 168510	_			
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Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET N NAME OF SUBMITTER: SIGNATURE: DATE SIGNED: Fotal Attachments: 2	H. 1 ⁻ R UMBER:	ARNESS, DICKEY & PIERCE, P.L.4 1730 PLAZA AMERICA DRIVE, SUI ESTON, VIRGINIA 20190 15639-000109-US ALEX CHANG /Alex Chang/ 06/15/2017				
Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET N NAME OF SUBMITTER: SIGNATURE: DATE SIGNED:	H. 1 ⁻ R UMBER:	ARNESS, DICKEY & PIERCE, P.L.4 1730 PLAZA AMERICA DRIVE, SUI ESTON, VIRGINIA 20190 15639-000109-US ALEX CHANG /Alex Chang/ 06/15/2017				

ASSIGNMENT

CORPORATE

Samsung Electronics Co., Ltd., a corporation having a principal place of business at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-742, Republic of Korea (hereafter the "Assignor"), is a joint owner by respective Assignment of the United States Patent identified below (hereafter the "Patent").

Industry-Academic Cooperation Foundation, Yonsei University, an entity having a principal place of business at Yonsei University, 134, Shinchon-dong, Seodacmoon-gu, Seoul 120-749, Republic of Korea, (hereafter the "Assignee"), is a joint owner by respective Assignment of the Patent and desires to acquire all of the rights of the Patent and all inventions described and claimed therein so as to be the sole owner.

THEREFORE, in consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to it, Assignor hereby sells and assigns to the Assignee the entire right, title, and interest in and to the Patent identified below, and all inventions described and claimed therein, and in any and all reissues and reexaminations as well as any and all continuations and divisionals thereof, such entire right, title, and interest to be held and enjoyed by the above-named Assignee the same as they would have been held and enjoyed by the Assignor had this Assignment and sale not been made.

U.S. Appl, No.	Filing Date	U.S. Pat. No.	Issue Date	Title
13/863,752	04/16/2013	9,168,510	10/27/2015	NICKEL CATALYSTS FOR REPORMING HYDROCARBONS

By its undersigned representative, the Assignor agrees

a. to execute all papers necessary in connection with the Patent and any reissues and reexaminations as well as any continuations and divisionals thereof and also to execute separate Assignment in connection with such applications or Letters Patent thereof as the Assignee may deem necessary or expedient;

b. to execute all papers necessary in connection with any interference which may be declared concerning the Patent and any reissues and reexaminations as well as any continuations and divisionals thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference; and

c. to perform all affirmative acts which may be necessary to obtain a grant of a valid patent to the Assignee on inventions described in the Patent and any reissues and reexaminations as well as any and all continuations and divisionals thereof.

PATENT REEL: 042721 FRAME: 0310

The Assignor hereby covenants that it has the right to convey its interest in the Patent identified above, and that it has not executed, and will not execute, any agreement in conflict therewith.

The Assignor certifies that it is the joint owner of the entire right, title, and interest in the Patent identified above by virtue of an Assignment of the Patent identified above. This Assignment was recorded on April 16, 2013 under reel/frame no. 030227/0217.

The undersigned has reviewed the documents in the Patent identified above and, to the best of undersigned's knowledge and belief, title is in the Assignor identified above.

The undersigned is empowered to sign this certificate on behalf of the Assignor.

The undersigned hereby declares that all statements made herein of his/her own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

IN WITNESS WHEREOF, executed by the Assignor's undersigned representative on the date following the undersigned's name.

Samsung Electronics Co., Ltd.

By: SAMSUNG ELECTRONICS CO., LTD

WAR Title:

Date:

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June 15, 2017

OH HYUN KNON , Vice Chairman & CEO