

<b>PATENT ASSIGNMENT COVER SHEET</b>
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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	06/07/2017
<b>RECEIVING PARTY DATA</b>	
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<b>State/Country:</b>	KOREA, REPUBLIC OF
<b>Postal Code:</b>	25108
<b>PROPERTY NUMBERS Total: 6</b>	
<b>Property Type</b>	<b>Number</b>
<b>Patent Number:</b>	9545242
<b>Patent Number:</b>	9468422
<b>Application Number:</b>	14752165
<b>Application Number:</b>	15276027
<b>Patent Number:</b>	9082178
<b>Application Number:</b>	15386143
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<b>DATE SIGNED:</b>	06/28/2017
<b>Total Attachments: 2</b>	

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## Assignment

Whereas, **KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY**, of 291, Daehak-Ro, Yuseong-Gu, Daejeon 34141, Republic of Korea, hereinafter referred to as "Assignor", is co-owner of the entire right, title and interest of

**U.S. Patent No. 9,545,242,**

**U.S. Patent No. 9,468,422,**

**U.S. Patent Application No. 15/276,027** (continuation application of U.S. Patent Application No. 14/861,083, issued as U.S. Patent No. 9,468,422), and

**U.S. Patent Application No. 15/386,143** (continuation application of U.S. Patent Application No. 14/861,028, issued as U.S. Patent No. 9,545,242).

Whereas, **Samsung Medison Co., Ltd.**, of 3366, Hanseo-ro, Nam-myeon, Hongcheon-gun, Gangwon-do, REPUBLIC OF KOREA, 25108 hereinafter referred to as "Assignee", desires to acquire the entire ownership right, title, and interest of the Assignor in said United States Patents and United States Patent Applications, so the Assignee becomes the owner of the entire right, title and interest of said United States Patent.

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged, the above named Assignor hereby sells, assigns and transfers to the above named Assignee, its successors and assigns, its entire right, title and interest in said United States Patents and United States Patent Applications, and any continuations, divisionals, reissues and/or re-examinations thereof, together with all claims for damages by reason of past infringement, with the right of Assignee to sue for and collect the same for their own use and enjoyment.

Assignor 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 (whose title is supplied below) is authorized to act on behalf of the application (e.g., where the applicant is a juristic entity).

**KOREA ADVANCED INSTITUTE OF  
SCIENCE AND TECHNOLOGY**

Date: 2019.6.9

By: Kwon Kim  
Name

Kwon Kim  
Signature

Title: IP Manager

## Assignment

Whereas, **KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY**, of 373-1 Guseong-Dong, Yuseong-Gu, Daejeon 305-338, Republic of Korea, hereinafter referred to as "Assignor", is co-owner of the entire right, title and interest of

**U.S. Patent No. 9,082,178, and**

**U.S. Patent Application No. 14/752,165** (continuation application of U.S. Patent Application No. 12/846,545, issued as U.S. Patent No. 9,082,178).

Whereas, **Samsung Medison Co., Ltd.**, of 3366, Hanseo-ro, Nam-myeon, Hongcheon-gun, Gangwon-do, REPUBLIC OF KOREA, 25108 hereinafter referred to as "Assignee", desires to acquire the entire ownership right, title, and interest of the Assignor in said United States Patent and United States Patent Application, so the Assignee becomes the owner of the entire right, title and interest of said United States Patent.

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged, the above named Assignor hereby sells, assigns and transfers to the above named Assignee, its successors and assigns, its entire right, title and interest in said United States Patent and United States Patent Application, and any continuations, divisionals, reissues and/or re-examinations thereof, together with all claims for damages by reason of past infringement, with the right of Assignee to sue for and collect the same for their own use and enjoyment.

Assignor 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 (whose title is supplied below) is authorized to act on behalf of the application (e.g., where the applicant is a juristic entity).

**KOREA ADVANCED INSTITUTE OF  
SCIENCE AND TECHNOLOGY**

Date: 2017. 6. 7

By: Kwon Kim  
Name

Kwon Kim  
Signature

Title: IP Manager