505222167 12/06/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5268936

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------|----------------|
| MIHO YAMAUCHI | 09/12/2018 |
| MASAAKI SADAKIYO | 09/12/2018 |
| SHO KITANO | 09/12/2018 |
| SHINICHI HATA | 09/12/2018 |

RECEIVING PARTY DATA

| Name: | JAPAN SCIENCE AND TECHNOLOGY AGENCY | |
|-----------------|-------------------------------------|--|
| Street Address: | 4-1-8, HONCHO | |
| City: | KAWAGUCHI-SHI, SAITAMA | |
| State/Country: | JAPAN | |
| Postal Code: | 332-0012 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16082489 |

CORRESPONDENCE DATA

Fax Number: (206)224-0779

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.

Phone: (206)695-1653 **Email:** efiling@cojk.com

Correspondent Name: GEORGE E. RENZONI, PH.D.

Address Line 1: CHRISTENSEN O'CONNOR JOHNSON KINDNESS

Address Line 2: 1201 THIRD AVENUE, SUITE 3600 Address Line 4: SEATTLE, WASHINGTON 98101

| ATTORNEY DOCKET NUMBER: | SHIGA-1-67031 | |
|---------------------------------|----------------|--|
| NAME OF SUBMITTER: MORRY DENTON | | |
| SIGNATURE: | /Morry Denton/ | |
| DATE SIGNED: | 12/06/2018 | |

Total Attachments: 8

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PATENT 505222167 REEL: 047688 FRAME: 0035

PATENT REEL: 047688 FRAME: 0036

AF40-01US(PCT) OSP-77195 US 宣/譲①

Attorney Docket No. SHIGA167031

DECLARATION AND ASSIGNMENT

| Title of invention:CATALYST_AND_USE_OF_SAME |
|--|
| DECLARATION |
| As the below-named inventor, I hereby declare that: |
| This declaration is directed to PCT International Application No. PCT/JP2017/008360, filed on March 2, 2017. |
| The above-identified application was made or authorized to be made by me. |
| I believe I am the original inventor or an original joint inventor of the claimed invention in the above-identified application. |
| I have reviewed and understood the contents of the above-identified application, including the claims. |
| I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me that is material to the patentability of the claimed invention, as defined in 37 CFR 1.56. |
| I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. |
| ASSIGNMENT |
| WHEREAS, I, Miho YAMAUCHI, am an inventor named in an application for Letters Patent of the United States |
| entitled CATALYST AND USE OF SAME |
| (hereinafter referred to as the INVENTION), the specification of which was filed on; |
| and I hereby authorize the attorneys of the firm of Christensen O'Connor Johnson Kindness PLLC to insert herein the |
| application number of the U.S. application when known (Application No. 16/082, 489); |
| WHEREAS, JAPAN SCIENCE AND TECHNOLOGY AGENCY (hereinafter referred to as ASSIGNEE), whose |
| mailing address is 4-1-8, Honcho, Kawaguchi-shi, Saitama 332-0012 Japan, is desirous of acquiring the entire right, |
| title, and interest in and to the INVENTION in the United States; |
| NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I hereby assign unto said ASSIGNEE the entire right, title, and interest in and to said INVENTION, including any and all Letters Patent of the United States granted on any division, continuation, continuation-in-part, or reissue of said application; said INVENTION and all applications and patents on said INVENTION to be held and enjoyed by ASSIGNEE as entirely |
| as the same would have been held and enjoyed by me had this assignment not been made; and I do hereby further agree |

Page 1 of 2

and promise to execute all instruments and render all such assistance as ASSIGNEE may request in order to make and prosecute any and all applications on said INVENTION, to enforce any and all patents on said INVENTION, and to

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Attorney Docket No. _

SHIGA167031

confirm in ASSIGNEE legal title to said INVENTION and all applications and patents on said INVENTION, all without charge to ASSIGNEE but at no expense to me.

I authorize any member of the firm of Christensen O'Connor Johnson Kindness PLLC to insert or complete any information in this document needed to effect its recordal in the U.S. Patent and Trademark Office.

山内美花·

September 12, 2018

Date

AF40-01US(PCT) OSP-77195 US 宣/譲②

SHIGA167031

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| ASSIGNMENT |
| WHEREAS, I, Masaaki SADAKIYO, am an inventor named in an application for Letters Patent of the United States |
| entitledCATALYST AND USE OF SAME |
| (hereinafter referred to as the INVENTION), the specification of which was filed on; |
| and I hereby authorize the attorneys of the firm of Christensen O'Connor Johnson Kindness PLLC to insert herein the application number of the U.S. application when known (Application No16/082,489); |
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| NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I hereby assign unto said ASSIGNEE the entire right, title, and interest in and to said INVENTION, including any and all Letters Patent of the United States granted on any division, continuation, continuation-in-part, or reissue of said application; said INVENTION and all applications and patents on said INVENTION to be held and enjoyed by ASSIGNEE as entirely as the same would have been held and enjoyed by me had this assignment not been made; and I do hereby further agree and promise to execute all instruments and render all such assistance as ASSIGNEE may request in order to make and |
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Page 1 of 2

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Attorney Docket No. SHIGA167031

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原清正葬》

September 12, 2018

Date

AF40-01US(PCT) OSP-77195 US 宣/譲③

Attorney Docket No. SHIGA167031

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| ASSIGNMENT |
| WHEREAS, I, Sho KITANO, am an inventor named in an application for Letters Patent of the United States entitled CATALYST AND USE OF SAME |
| (hereinafter referred to as the INVENTION), the specification of which was filed on; |
| and I hereby authorize the attorneys of the firm of Christensen O'Connor Johnson Kindness PLLC to insert herein the application number of the U.S. application when known (Application No16/082,489); |
| WHEREAS, JAPAN SCIENCE AND TECHNOLOGY AGENCY (hereinafter referred to as ASSIGNEE), whose |
| mailing address is 4-1-8, Honcho, Kawaguchi-shi, Saitama 332-0012 Japan, is desirous of acquiring the entire right, title, and interest in and to the INVENTION in the United States; |
| NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I hereby assign unto said ASSIGNEE the entire right, title, and interest in and to said INVENTION, including any and all Letters Patent |
| of the United States granted on any division, continuation, continuation-in-part, or reissue of said application; said |

Page 1 of 2

INVENTION and all applications and patents on said INVENTION to be held and enjoyed by ASSIGNEE as entirely as the same would have been held and enjoyed by me had this assignment not been made; and I do hereby further agree and promise to execute all instruments and render all such assistance as ASSIGNEE may request in order to make and prosecute any and all applications on said INVENTION, to enforce any and all patents on said INVENTION, and to

Declaration and Assignment

AF40-01US(PCT) OSP-77195 US 宣/譲③

Attorney Docket No. SHIGA167031

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I authorize any member of the firm of Christensen O'Connor Johnson Kindness PLLC to insert or complete any information in this document needed to effect its recordal in the U.S. Patent and Trademark Office.

| 北野 | 翔了 | | September | 12, | 2018 | |
|------------|----|------|-----------|-----|------|--|
| Sho KITANO | | Date | | | | |

AF40-01US(PCT) OSP-77195 US 宣/譲④

SHIGA167031

Attorney Docket No.

DECLARATION AND ASSIGNMENT

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| I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. |
| ASSIGNMENT |
| WHEREAS, I, Shinichi HATA, am an inventor named in an application for Letters Patent of the United States entitled CATALYST AND USE OF SAME |
| (hereinafter referred to as the INVENTION), the specification of which was filed on; |
| and I hereby authorize the attorneys of the firm of Christensen O'Connor Johnson Kindness PLLC to insert herein the |
| application number of the U.S. application when known (Application No. <u>16/082,489</u>); |
| WHEREAS, JAPAN SCIENCE AND TECHNOLOGY AGENCY (hereinafter referred to as ASSIGNEE), whose |
| mailing address is 4-1-8, Honcho, Kawaguchi-shi, Saitama 332-0012 Japan, is desirous of acquiring the entire right, |
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| Shinichi Hata | |
|---------------|-------------------------|
| Shinichi HATA | September 12, 2018 Date |

Page 2 of 2

Declaration and Assignment

RECORDED: 12/06/2018

PATENT REEL: 047688 FRAME: 0044