

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5267610

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	ANTON TOUTOV	10/13/2015
	KERRY BETZ	10/19/2015
	ALEXEY FEDOROV	08/25/2015
	BRIAN M. STOLTZ	02/19/2016
	WENBO LIU	09/15/2015
	ROBERT H. GRUBBS	08/24/2015
RECEIVING PARTY DATA		
Name:	CALIFORNIA INSTITUTE OF TECHNOLOGY	
Street Address:	1200 EAST CALIFORNIA BOULEVARD	
Internal Address:	M/C 6-32	
City:	PASADENA	
State/Country:	CALIFORNIA	
Postal Code:	91125	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Application Number:	16159298
CORRESPONDENCE DATA		
Fax Number:	(215)568-3439	
<i>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.</i>		
Phone:	2155683100	
Email:	assignments@woodcock.com	
Correspondent Name:	BAKER & HOSTETLER LLP	
Address Line 1:	2929 ARCH STREET	
Address Line 2:	12TH FLOOR, CIRA CENTRE	
Address Line 4:	PHILADELPHIA, PENNSYLVANIA 19104	
ATTORNEY DOCKET NUMBER:	101465.000458 /CIT-6967C2	
NAME OF SUBMITTER:	FAITH A. POORE	
SIGNATURE:	/Faith A. Poore/	
DATE SIGNED:	12/05/2018	

PATENT

Total Attachments: 12

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ASSIGNMENT

WHEREAS, I, **Anton Toutov**, a citizen of **Canada**, residing at **385 South Catalina Avenue, Apt. 232, Pasadena, California 91106**, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Numbers **101465.000223 / CIT-6967** and **101465.000224 / CIT-6967-PCT** ("the invention"), assigned application numbers **14/818,417** and **PCT/US2015/043708**, both filed on **August 5, 2015**, entitled **SILYLATION OF AROMATIC HETEROCYCLES BY EARTH ABUNDANT TRANSITION-METAL-FREE CATALYSTS** ("the subject application"); both claiming benefit of application number **62/033,975** filed **August 6, 2014**, application number **62/094,381** filed **December 19, 2014**, and application number **62/141,905** filed **April 2, 2015** ("the priority applications");

AND WHEREAS, **California Institute of Technology**, ASSIGNEE, having a place of business at **1200 East California Boulevard, M/C 6-32, Pasadena, California 91125**, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority applications, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority applications and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

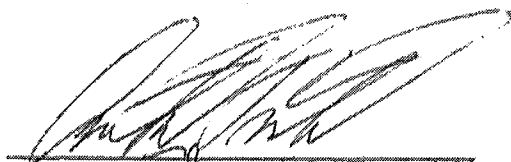
AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in

the prosecution of any application for industrial property protection describing and/or claiming the invention, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives, and assigns, to obtain and enforce proper protection for the invention in all countries.

IN TESTIMONY WHEREOF, I have signed my name below on the date indicated above my signature.

Executed this 13th day of October, year of 2015.



Signature – Anton Toutov

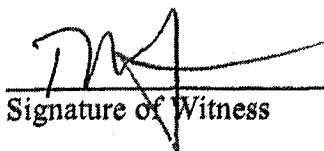
STATEMENT OF WITNESS

SIGNED at Pasadena CA USA
(City) (State) (Country)

This 13 day of October, 2015.

I, Patrick Montgomery whose full residence address is
73 S Berkeley Ave Pasadena, CA 91107

was personally present and did see Anton Toutov execute the above assignment on the 13
day of October, 2015, and such assignor is personally known to me to be the person
described in such document.



Signature of Witness

ASSIGNMENT

WHEREAS, I, **Kerry Betz**, a citizen of **United States**, residing at **1805 Deer Valley Road, Boulder, Colorado 80305**, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Numbers **101465.000223 / CIT-6967** and **101465.000224 / CIT-6967-PCT** ("the invention"), assigned application numbers **14/818,417** and **PCT/US2015/043708**, both filed on **August 5, 2015**, entitled **SILYLATION OF AROMATIC HETEROCYCLES BY EARTH ABUNDANT TRANSITION-METAL-FREE CATALYSTS** ("the subject application"); both claiming benefit of application number **62/033,975** filed **August 6, 2014**, application number **62/094,381** filed **December 19, 2014**, and application number **62/141,905** filed **April 2, 2015** ("the priority applications");

AND WHEREAS, **California Institute of Technology**, ASSIGNEE, having a place of business at **1200 East California Boulevard, M/C 6-32, Pasadena, California 91125**, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority applications, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority applications and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in

the prosecution of any application for industrial property protection describing and/or claiming the invention, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives, and assigns, to obtain and enforce proper protection for the invention in all countries.

IN TESTIMONY WHEREOF, I have signed my name below on the date indicated above my signature.

Executed this 19 day of October, year of 2015.

K. N. Betz
Signature – Kerry Betz

STATEMENT OF WITNESS

SIGNED at Pasadena CA USA
(City) (State) (Country)

This 19th day of October, 2015.

I, Anton Tontov whose full residence address is
385 South Catalina Ave. Apt 232, Pasadena CA-USA 91106

was personally present and did see **Kerry Betz** execute the above assignment on the 19th day of October, 2015, and such assignor is personally known to me to be the person described in such document.

[Signature]
Signature of Witness

ASSIGNMENT

WHEREAS, I, **Alexey Fedorov**, a citizen of both **Russia** and **Switzerland**, residing at **Richtiarkade 7, Wallisellen CH-8304 Switzerland**, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Numbers **101465.000223 / CIT-6967** and **101465.000224 / CIT-6967-PCT** ("the invention"), assigned application numbers **14/818,417** and **PCT/US2015/043708**, both filed on **August 5, 2015**, entitled **SILYLATION OF AROMATIC HETEROCYCLES BY EARTH ABUNDANT TRANSITION-METAL-FREE CATALYSTS** ("the subject application"); both claiming benefit of application number **62/033,975** filed **August 6, 2014**, application number **62/094,381** filed **December 19, 2014**, and application number **62/141,905** filed **April 2, 2015** ("the priority applications");

AND WHEREAS, **California Institute of Technology**, ASSIGNEE, having a place of business at **1200 East California Boulevard, M/C 6-32, Pasadena, California 91125**, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority applications, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority applications and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in

DOCKET NO.: 101465.000223 / CIT-6967

the prosecution of any application for industrial property protection describing and or claiming the invention, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives, and assigns, to obtain and enforce proper protection for the invention in all countries.

IN TESTIMONY WHEREOF, I have signed my name below on the date indicated above my signature.

Executed this 25 day of August, year of 2015.


Signature Alexey Fedorov

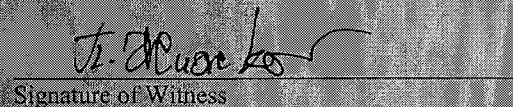
STATEMENT OF WITNESS

SIGNED at Zürich ZH Switzerland
(City) (State) (Country)

This 25 day of August, 2015.

I, Zhizhko Pavel whose full residence address is
8th Tekstilschikov st., 5V, app 24, Moscow,
109129 Russia

was personally present and did see Alexey Fedorov execute the above assignment on the 25 day of August, 2015, and such assignor is personally known to me to be the person described in such document.


Signature of Witness

ASSIGNMENT

WHEREAS, I, Brian M. Stoltz, a citizen of United States, residing at 1954 East California Boulevard, San Marino, California 91108, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Numbers 101465.000223 / CIT-6967 and 101465.000224 / CIT-6967-PCT ("the invention"), assigned application numbers 14/818,417 and PCT/US2015/043708, both filed on August 5, 2015, entitled **SILYLATION OF AROMATIC HETEROCYCLES BY EARTH ABUNDANT TRANSITION-METAL-FREE CATALYSTS** ("the subject application"); both claiming benefit of application number 62/033,975 filed August 6, 2014, application number 62/094,381 filed December 19, 2014, and application number 62/141,905 filed April 2, 2015 ("the priority applications");

AND WHEREAS, California Institute of Technology, ASSIGNEE, having a place of business at 1200 East California Boulevard, M/C 6-32, Pasadena, California 91125, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority applications, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority applications and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in

the prosecution of any application for industrial property protection describing and/or claiming the invention, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives, and assigns, to obtain and enforce proper protection for the invention in all countries.

IN TESTIMONY WHEREOF, I have signed my name below on the date indicated above my signature.

Executed this 19th day of February, year of 2016.



Signature - Brian M. Stoltz


STATEMENT OF WITNESS

SIGNED at Pasadena CA USA
(City) (State) (Country)

This 19th day of February, ~~2015~~ 2016

I, Lynne Martinez whose full residence address is
509 E. Mission Road, San Gabriel, CA 91776

was personally present and did see **Brian M. Stoltz** execute the above assignment on the 19th day of February, 2016, and such assignor is personally known to me to be the person described in such document.



Signature of Witness

ASSIGNMENT

WHEREAS, I, **Wenbo Liu**, a citizen of **China**, residing at **1122 Cordova Street, Apt. 7, Pasadena, California 91106**, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Numbers **101465.000223 / CIT-6967** and **101465.000224 / CIT-6967-PCT** ("the invention"), assigned application numbers **14/818,417** and **PCT/US2015/043708**, both filed on **August 5, 2015**, entitled **SILYLATION OF AROMATIC HETEROCYCLES BY EARTH ABUNDANT TRANSITION-METAL-FREE CATALYSTS** ("the subject application"); both claiming benefit of application number **62/033,975** filed **August 6, 2014**, application number **62/094,381** filed **December 19, 2014**, and application number **62/141,905** filed **April 2, 2015** ("the priority applications");

AND WHEREAS, **California Institute of Technology**, ASSIGNEE, having a place of business at **1200 East California Boulevard, M/C 6-32, Pasadena, California 91125**, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority applications, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority applications and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.


AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in

the prosecution of any application for industrial property protection describing and/or claiming the invention, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives, and assigns, to obtain and enforce proper protection for the invention in all countries.

IN TESTIMONY WHEREOF, I have signed my name below on the date indicated above my signature.

Executed this 15th day of September, year of 2015.


Signature – Wenbo Liu

STATEMENT OF WITNESS


SIGNED at Pasadena California United States
(City) (State) (Country)

This 15th day of September, 2015.

I, Nicholas Ryan O'Connor whose full residence address is

1001 E Villa St., Apt. 28
Pasadena, CA 91106

was personally present and did see **Wenbo Liu** execute the above assignment on the 15th day of September, 2015, and such assignor is personally known to me to be the person described in such document.


Signature of Witness

ASSIGNMENT

WHEREAS, I, **Robert H. Grubbs**, a citizen of **United States**, residing at **1700 Spruce Street, South Pasadena, California 91030**, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Numbers **101465.000223 / CIT-6967** and **101465.000224 / CIT-6967-PCT** ("the invention"), assigned application numbers **14/818,417** and **PCT/US2015/043708**, both filed on **August 5, 2015**, entitled **SILYLATION OF AROMATIC HETEROCYCLES BY EARTH ABUNDANT TRANSITION-METAL-FREE CATALYSTS** ("the subject application"); both claiming benefit of application number **62/033,975** filed **August 6, 2014**, application number **62/094,381** filed **December 19, 2014**, and application number **62/141,905** filed **April 2, 2015** ("the priority applications");

AND WHEREAS, **California Institute of Technology**, ASSIGNEE, having a place of business at **1200 East California Boulevard, M/C 6-32, Pasadena, California 91125**, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority applications, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority applications and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

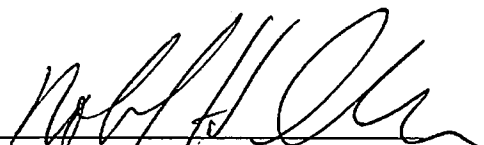
AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in

the prosecution of any application for industrial property protection describing and/or claiming the invention, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives, and assigns, to obtain and enforce proper protection for the invention in all countries.

IN TESTIMONY WHEREOF, I have signed my name below on the date indicated above my signature.

Executed this 24 day of Aug, year of 2015.


Signature – Robert H. Grubbs


STATEMENT OF WITNESS

SIGNED at Pasadena CA USA
(City) (State) (Country)

This 24 day of Aug, 2015.

I, Linda Syme whose full residence address is
520 N. Orange Grove Blvd
Pasadena, CA 91103

was personally present and did see **Robert H. Grubbs** execute the above assignment on the
24 day of Aug, 2015, and such assignor is personally known to me to be the
person described in such document.


Signature of Witness