## 505004177 07/16/2018 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5050925

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
MICHAEL A. GIARDELLO		05/02/2018
MARK S. TRIMMER		05/15/2018
LI-SHENG WANG		05/02/2018
NOAH H. DUFFY		05/03/2018

NOAH H. DOFFT	03/03/2018
ADAM M. JOHNS	05/14/2018
NICHOLAS J. RODAK	05/02/2018
BRYAN A. FLAMENGO	05/08/2018
JOHN H. PHILLIPS	05/02/2018

#### **RECEIVING PARTY DATA**

Name:	UMICORE AG & CO. KG
Street Address:	RODENBACHER CHAUSSEE 4
City:	HANNU-WOLFGANG
State/Country:	GERMANY
Postal Code:	63457

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15762918

#### **CORRESPONDENCE DATA**

Fax Number:	(302)	351-6938
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:	302-4	67-4200
Email:	Amy.	Hamm@DBR.com
Correspondent Name:	ASHL	EY I. PEZZNER
Address Line 1:	DRIN	KER BIDDLE & REATH LLP
Address Line 2:	222 E	DELAWARE AVE.
Address Line 4:	WILM	IINGTON, DELAWARE 19801
ATTORNEY DOCKET NUMBER		213612-0011
NAME OF SUBMITTER:		ASHLEY I. PEZZNER
SIGNATURE:		/Ashley I. Pezzner/

DATE SIGNED:	07/16/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 8	<b>.</b>
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DECLA	RATION (37 CFR 1	.63) FOR UTILITY OR I	DESIGN APPLICATION USING AN
Title of	APPLICATION D	ATA SHEET (37 CFR 1	. 76) AND ASSIGNMENT
Invention			METATHESIS CATALYSTS
	amed Inventor, I here		
This declaration			
is directed to:	PC1/US2016/	1053288 filed on Septembe	national application number r 23, 2016.
The above-ide	ntified application was	made or authorized to be n	nade by me.
I believe that I a	am the original invento	or or an original joint invento	or of a claimed invention in the application.
WHEREAS, UI Hannu-Wolfga	nicore AG & Co. KG I ng, Germany	having a place of business	at: Rodenbacher Chaussee 4, 63457
is desirous of a	iy ne disilien meleio	bt. title and interest in and	, to said invention and in and to any Letters nd its territorial possessions and in any
exclusive right countries (inclu relevant intern tille and interes and ils territoria relesues, contin	to the said Invention ding the right to clain ational Treaties and st in and to any and a al possessions and in uations, substitutions.	In the United States and trans in the United States and in priorily under the terms Arrangements from the a all Letters Patent which ma n any and all foreign cour and renewals thereof.	n the receipt and sufficiency of which is asfer unto said ASSIGNEE(S), the full and its territorial possessions and in all foreign of the International Convention and other foresaid application) and the entire right, ay be granted therefor in the United States atries and in and to any and all divisions,
to said ASSIGN the sole use a term for which held by me had	VEE(S) as the assign nd behoof of said A said Letters Patent n this Assignment and	nee of my entire right, til SSIGNEE(S), its (his) suc nay be granted, as fully ar i sale not been made.	Is in the United States and its territorial I all of said Letters Patent, when granted, the and interest in and to the same, for sessors and assigns, to the full end of the ad entirely as the same would have been
execute all div assignment par make all right successors and	Islonal, continuation, ers to cause any and ut oaths, and, gene assigns, to obtain a	, substitute, renewal and re d all of said Letters Pate	E(S) or its (his) representatives any facts agai proceeding, sign all lawful papers, bissue applications, execute all necessary int to be issued to said ASSIGNEE(S), ible to aid said ASSIGNEE(S), its (his) ion for said invention in the United States
I hereby ack U,S.C. 1001 by	nowledge that any wi fine or imprisonment c	illful false statement made of not more than five (6) yea	in this declaration is punishable under 18 ars, or both.
LEGAL NAME (	DF INVENTOR		
Inventor: Micha	ael A. Giardello		Date: May 2, 2018
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Signature:	200	Ulag	//
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DECLA	RATION (37 CFR 1.63) FOR UTILITY OR I APPLICATION DATA SHEET (37 CFR 1	DESIGN APPLICATION USING AN
Title of Invention	METAL CARBENE OLEFIN I	
	amed inventor, I hereby declare that:	
This declaration		•
Is directed to:	[ x ] United States application or PCT Intern PCT/US2016/053288 filed on Septembe	ational application number
The above-Ide	ntified application was made or authorized to be n	nade by me.
	am the original inventor or an original joint invento	
WHEREAS, U/ Hannu-Wolfgar	micore AG & Co. KG having a place of business ang, Germany	at: Rodenbacher Chaussee 4, 63457
I is desirous of a	erred to as "ASSIGNEE(S)") icquiring the entire right, title and interest in and i y be granted therefore in the United States ar countries;	to said invention and in and to any Letters nd its territorial possessions and in any
exclusive right countries (inclu relevant interna- title and interes and its territoria relssues, contin	REFORE, for good and valuable consideration iledged, I, by these presents do assign and tran to the said invention in the United States and it ding the right to claim priority under the terms of ational Treaties and Arrangements from the all it in and to any and all Letters Patent which ma al possessions and in any and all foreign coun uations, substitutions and renewals thereof.	ister unto said ASSIGNEE(S), the full and te territorial possessions and in all foreign of the international Convention and other foresaid application) and the entire tight, y be granted therefor in the United States thes and in and to any and all divisions,
to said ASSIGN the sole use a term for which	thorize and request the Patent Office Officials d any and all foreign countries to issue any and IEE(S) as the assignee of my entire right, tit nd behoof of said ASSIGNEE(S), its (his) succ said Letters Patent may be granted, as fully an this Assignment and sale not been made.	le and interest in and to the same, for
execute all div assignment pap make all right successors and	ree that I will communicate to said ASSIGNEE specting said invention, and testify in any le isional, continuation, substitute, renewal and re ers to cause any and all of said Letters Pate ul oaths, and, generally do everything possi assigns, to obtain and enforce proper protectl possessions and in any and all foreign countries.	issue applications, execute all necessary to be issued to said ASSIGNEE(S).
I hereby ack	nowledge that any willful false statement made i Ine or imprisonment of not more than five (5) year	n this declaration is punishable under 18 rs, or both.
LEGAL NAME C	DF INVENTOR	
Inventor: Mark	S. Trimmer	Date:
Signature: 🎢	Marth	

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### DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1. 76) AND ASSIGNMENT

Title of	
THE U	METAL CARDENE OF FEIN DEFAMILY AND
Invention	METAL CARBENE OLEFIN METATHESIS CATALYSTS
invention	
As the helow n	ament Inventor I borchy dealers that

As the below named Inventor, I hereby declare that:

This declaration [] The attached application, or

Is directed to: [x] United States application or PCT International application number PCT/US2016/053288 filed on September 23, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

WHEREAS, Umicore AG & Co. KG having a place of business at: Rodenbacher Chaussee 4, 63457 Hannu-Wolfgang, Germany

(hereinafter referred to as "ASSIGNEE(S)")

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, for good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, I, by these presents do assign and transfer unto said ASSIGNEE(S), the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE(S) as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE(S), its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made,

Further, I agree that I will communicate to said ASSIGNEE(S) or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE(S), make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE(S), its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

LEGAL NAME OF INVENTOR
Inventor: Li-Sheng Wang
Date: 5/2/18
Signature:

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1. 76) AND ASSIGNMENT		
Title of Invention	METAL CARBENE OLEFIN MI	ETATHESIS CATALYSTS
As the below n	amed Inventor, I hereby declare that:	
This declaration	[ ] The attached application, or	
is directed to:	[ x ] United States application or PCT interna PCT/US2016/053288 filed on September 3	tional application number 23, 2016.
The above-ider	ntilled application was made or authorized to be ma	ade by me.
I believe that I a	am the original inventor or an original joint inventor	of a claimed invention in the application.
WHEREAS, Un Hannu-Wolfgar	micore AG & Co, KG having a place of business al ng, Germany	: Rodenbacher Chaussee 4, 63457
Is desirous of a	erred to as "ASSIGNEE(S)") acquiring the entire right, title and interest in and to ay be granted therefore in the United States and a countries;	e said invention and in and to any Letters I its territorial possessions and in any
hereby acknow exclusive right countries (inclu relevant Intern tille and intere- and its territori	REFORE, for good and valuable consideration wedged, i, by these presents do assign and trans to the said invention in the United States and its right the right to claim priority under the terms o vational Treaties and Arrangements from the afor st in and to any and all Letters Patent which may al possessions and in any and all foreign count nuations, substitutions and renewals thereof.	fer unto said ASSIGNEE(S), the full and territorial possessions and in all foreign f the International Convention and other presaid application) and the entire right, the granted therefor in the United States
to said ASSIG the sole use a term for which	ulhorize and request the Patent Office Officials nd any and all foreign countries to issue any and NEE(S) as the assignee of my entire right, title and behoof of said ASSIGNEE(S), its (his) succe said Letters Patent may be granted, as fully and d this Assignment and sale not been made.	all of said Letters Patent, when granted, e and interest in and to the same, for essors and assigns, to the full end of the
known to me re execute all di assignment pa make all right successors an	gree that I will communicate to said ASSIGNEE especting said invention, and testify in any leg visional, continuation, substitute, renewal and rel pers to cause any and all of said Letters Pater tful oaths, and, generally do everything possi d assigns, to obtain and enforce proper protected I possessions and in any and all foreign countries,	gal proceeding, sign all lawful papers, ssue applications, execute all necessary at to be issued to said ASSIGNEE(S), ble to aid said ASSIGNEE(S), its (his)
l hereby acl U;S.C. 1001 by	knowledge that any willful false statement made in fine or imprisonment of not more than five (5) year	n this declaration is punishable under 18 s, or both.
LEGAL NAME	OF INVENTOR	
Inventor: Noal	h H. Duffy	Date: 5/3/18
Signature:	14 A	

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# PATENT REEL: 046355 FRAME: 0667

	DECLA	RATION (37 CFR 1.63) FOR UTILITY OR I APPLICATION DATA SHEET (37 CFR 1	DESIGN APPLICATION USING AN
	Title of Invention	METAL CARBENE OLEFIN N	
	As the below n	amed Inventor, I hereby declare that:	
	This declaratio		
	is directed to:	[ x ] United States application or PCT intern PCT/US2016/053288 filed on Septembe	ational application number r 23, 2016.
	The above-ide	ntified application was made or authorized to be n	nade by me.
		am the original inventor or an original joint invento	
	WHEREAS, Ui Hannu-Wolfgar	nicore AG & Co. KG having a place of business a ng, Germany	at: Rodenbacher Chaussee 4, 63457
	is desirous of a	erred to as "ASSIGNEE(S)") icquiring the entire right, title and interest in and i y be granted therefore in the United States an countries;	to said invention and in and to any Letters id its territorial possessions and in any
	exclusive right countries (inclu relevant Internatitle and interes and its territoria	REFORE, for good and valuable consideration redged, I, by these presents do assign and tran to the said invention in the United States and it ding the right to claim priority under the terms of ational Treaties and Arrangements from the at at in and to any and all Letters Patent which ma al possessions and in any and all foreign coun uations, substitutions and renewals thereof.	ster unto said ASSIGNEE(S), the full and ts territorial possessions and in all foreign of the International Convention and other foresaid application) and the entire right,
	to said ASSIGN the sole use a term for which	Ithorize and request the Patent Office Officials d any and all foreign countries to issue any and NEE(S) as the assignee of my entire right, tit nd behoof of said ASSIGNEE(S), its (his) succ said Letters Patent may be granted, as fully an this Assignment and sale not been made.	le and interest in and to the same, for
	execute all div assignment pap make all rightf successors and and its territorial	pree that I will communicate to said ASSIGNEE specting said invention, and testify in any le isional, continuation, substitute, renewal and re ers to cause any and all of said Letters Pate ul oaths, and, generally do everything possi assigns, to obtain and enforce proper protecti possessions and in any and all foreign countries.	gal proceeding, sign all lawful papers, issue applications, execute all necessary nt to be issued to said ASSIGNEE(S), ble to aid said ASSIGNEE(S), its (his) on for said invention in the United States
1	J,S.C. 1001 by	nowledge that any willful false statement made i fine or imprisonment of not more than five (5) year	n this declaration Is punishable under 18 rs, or both.
L	EGAL NAME C	DF INVENTOR	
1	nventor: Adam	M. Johns	Date:
S	lignature: La	dan Mar Il	
		$\bigcirc$	

## DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1. 76) AND ASSIGNMENT

Title of	
1	METAL CARBENE OLEFIN METATHESIS CATALYSTS
Invention	METAL VARDENE OLEFIN META (HESIS CATALYSTS
myonuon	
As the below n	amod Inventor I hereful at a tax the

As the below named inventor, I hereby declare that:

This declaration [] The attached application, or

[x] United States application or PCT international application number PCT/US2016/053288 filed on September 23, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

WHEREAS, Umicore AG & Co. KG having a place of business at: Rodenbacher Chaussee 4, 63457 Hannu-Wolfgang, Germany

(hereinafter referred to as "ASSIGNEE(S)")

is directed to:

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, for good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, I, by these presents do assign and transfer unto said ASSIGNEE(S), the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE(S) as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE(S), its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.

Further, I agree that I will communicate to said ASSIGNEE(S) or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE(S), make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE(S), its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

 LEGAL NAME OF INVENTOR

 Inventor: Nicholas J. Rodak

 Date: 5/2/18

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1, 76) AND ASSIGNMENT		
Title of METAL CARBENE OLEFIN METATHE		
As the below named inventor, I hereby declare that:		
This declaration [] The attached application, or		
Is directed to: [x] United States application or PCT international app PCT/US2016/053288 filed on September 23, 2016.	lication number	
The above-identified application was made or authorized to be made by me.		
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application,		
WHEREAS, Umicore AG & Co. KG having a place of business at: Rodenbacher Chaussee 4, 63457 Hannu-Wolfgang, Germany		
(hereinafter referred to as "ASSIGNEE(S)") is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;		
NOW, THEREFORE, for good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, i, by these presents do assign and transfer unto said ASSIGNEE(S), the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries. (Including the right to claim priority under the terms of the International Convention and other relevant international Treates and Arrangements from the aforesaid application) and the entire right, tille and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in all foreign relevant international possessions and in any and all foreign countries and in and to any and all divisions, relevance, continuations, substitutions and renewals thereof.		
I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letter's Patent, when granted, to said ASSIGNEE(S) as the assignee of my entire right, title and interest in and to the same, for the sole use and behoef of said ASSIGNEE(S), its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.		
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LEGAL NAME OF INVENTOR		
Inventor: Bryan A. Flamengo Date:	5/8/18	
Signature: Rycu Cliance ge		

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1. 76) AND ASSIGNMENT		
Title of METAL CARBENE OLEFIN ME	ETATHESIS CATALYSTS	
As the below named Inventor, I hereby declare that:		
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Is directed to: [x] United States application or PCT international application number PCT/US2016/053288 filed on September 23, 2016.		
The above-identified application was made or authorized to be made by me.		
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.		
WHEREAS, Umicore AG & Co. KG having a place of business at: Rodenbacher Chaussee 4, 63457 Hannu-Wolfgang, Germany		
(hereinafter referred to as "ASSIGNEE(S)")		
is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;		
NOW, THEREFORE, for good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, I, by these presents do assign and transfer unto said ASSIGNEE(S), the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.		
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I hereby acknowledge that any willful false statement made in this declaration Is punishable under 18 U,S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.		
LEGAL NAME OF INVENTOR		
Inventor: John H. Phillips	Date: 5/2/13	
Signature DUMA		

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