505019989 07/25/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5066737

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ANDRE ROGER ABAD	01/27/2016
DAVID CHARLES CERF	01/27/2016
SCOTT HENRY DIEHN	01/27/2016
HUA DONG	01/28/2016
XIAOMEI SHI	01/27/2016
THOMAS CHAD WOLFE	01/27/2016
LAN ZHOU	01/27/2016

RECEIVING PARTY DATA

Name:	PIONEER HI-BRED INTERNATIONAL, INC.
Street Address:	7100 N.W. 62ND AVENUE
Internal Address:	P.O. BOX 1014
City:	JOHNSTON
State/Country:	IOWA
Postal Code:	50131-1014

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16072698

CORRESPONDENCE DATA

Fax Number: (515)535-6883

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: 515-535-5859

Email: IPSUPPORT@PIONEER.COM

Correspondent Name: PIONEER HI-BRED INTERNATIONAL, INC.

Address Line 1: 7250 N.W. 62ND AVENUE

Address Line 2: P.O. BOX 552

Address Line 4: JOHNSTON, IOWA 50131-0552

ATTORNEY DOCKET NUMBER:	6060-US-PCT	
NAME OF SUBMITTER:	S. CHRISTOPHER BAUER	
SIGNATURE:	/S. Christopher Bauer/	

DATE SIGNED:	07/25/2018
Total Attachments: 7	
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	ER ABAD, hereby declare that I am an inventor of an invention entitled <u>NOVEL BACILLUS</u> OPTERAN ACTIVITY the subject matter of which is described in the application for patent (Attorney
Docket No: 6060-US-PSP)	, and the state of
declaration executed on	
Minitad States Patent Apr	olication Serial No. 62/287281, filed on January 26, 2016
	6 filed on
	to Application Serial No, filed on
For volvable capeldorate	on, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing
	iee, which is hereby acknowledged, I hereby:
State of Iowa in the United State	IONEER HI-BRED INTERNATIONAL, INC., a corporation organized and existing under the laws of the es of America and having its principal place of business at 7100 NW 62 nd Avenue, P.O. Box 1014,
	in referred to as the assignee, and to assignee's successors and assigns,
	I interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority
	d application(s) for Patent by virtue of the International Convention for the Protection of Industrial
	tion") and any other treaty or understanding for intellectual property for any and all member
	nvention or other treaty or understanding, including rights in any and all provisional applications,
	, whether joint or sole, disclosed in such aforesaid application(s) for Patent, and/or related to or
arising out of such aforesaid appl	ication(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such Inventions
in any country whatsoever, include	fing all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations-in-
	n applications based in whole or in part upon such aforesaid application(s) for Patent and/or such
Inventions, (5) any and all paten	ts for any such inventions in any country whatsoever, including any and all reexams, reissues and
	whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions; (B)
The state of the s	oplications in its name or in my name, (2) file such applications under the aforesaid International
· · · · · · · · · · · · · · · · · · ·	r understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents
and Trademarks of the United Sta	ites of America and any counterpart in any other patent office being hereby authorized to issue or
	l assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits
and damages for any and all infri	ngements thereof, whether past, present or future, to the full end of the term or terms for which
said patents may be granted, as	fully and entirely as the same would have been held and enjoyed by the undersigned without this
assignment;	
	, without further compensation but at assignee's expense for actual and reasonable costs incurred,
(A) to communicate to said a	ssignee, its successors, assigns, and legal representatives, any facts known to me respecting such
Inventions or the rights describe	d above, (B) to testify in any legal proceeding respecting such inventions or the rights described
above, the location of that testim	ony to be in the country in which I reside or in the nearest country in which such testimony is legal
should my country of residence p	rohibit such testimony, (C) to execute all applications, papers or instruments necessary or required
by said assignee, its successors,	assigns and legal representatives, to carry into effect any of the provisions of this instrument,
including petitions, specification	s, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be
requested by said assignee and	(D) generally to do everything possible to aid said assignee, its successors, assigns, and legal
representatives to obtain, mainta	in, defend and enforce patent protection for such inventions and/or secure title to such inventions
with assignee;	
III. Represent, warrant and cover	ant that I have the full right and lawful authority to make this assignment, that such assigned right
is not pre-dated by any grant, lice	nse, or other right heretofore given by me to any party other than the assignee hereto;
IV. Agree that my grants and obl	igations herein shall also bind all of my heirs, executors, administrators, legal representatives, and
assigns; and	
V. Agree that an authorized re	presentative of assignee is hereby granted the power to insert in this assignment any further
identification which may be nece	ssary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent
	recordation of this Assignment, including the power to insert on this assignment information
regarding application number and	
In Witness Whereof, I have execu	ited this Worldwide Assignment on the 27 day of <u>JAPUA & 7</u> , 20 <u>6</u> , and agree that this
	fective as of the earliest priority date for the aforesaid application(s) for Letters Patent.
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ANDRE ROGER ABAD	- WVV4 - 11 14-27
Name of Inventor	Signature of Inventor
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DAVID CHARLES CERF Name of Inventor Signature of Inventor
Worldwide Assignment shall be effective as of the earliest priority date for the aforesald application(s) for Letters Patent.
In Witness Whereof, I have executed this Worldwide Assignment on the <u>27</u> day of <u>January</u> , 20 <u>16</u> , and agree that this Worldwide Assignment shall be effective as of the earliest priority date for the aforesald application(s) for Letters Patent.
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office of any other country for recordation of this Assignment, including the power to insert on this assignment information
identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent
V. Agree that an authorized representative of assignee is hereby granted the power to insert in this assignment any further
assigns; and
IV. Agree that my grants and obligations herein shall also bind all of my heirs, executors, administrators, legal representatives, and
is not pre-dated by any grant, license, or other right heretofore given by me to any party other than the assignee hereto;
III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned right
with assignee;
representatives to obtain, maintain, defend and enforce patent protection for such Inventions and/or secure title to such Inventions
requested by said assignee and (D) generally to do everything possible to aid said assignee, its successors, assigns, and legal
including petitions, specifications, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be
by said assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument,
should my country of residence prohibit such testimony, (C) to execute all applications, papers or instruments necessary or required
above, the location of that testimony to be in the country in which I reside or in the nearest country in which such testimony is legal
Inventions or the rights described above, (B) to testify in any legal proceeding respecting such Inventions or the rights described
(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting such
II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurred,
assignment;
said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without this
and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which
transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profits
and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue or
Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents
the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid International
extensions of any patent based in whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions; (B)
Inventions, (5) any and all patents for any such inventions in any country whatsoever, including any and all reexams, reissues and
part, international and convention applications based in whole or in part upon such aforesaid application(s) for Patent and/or such
in any country whatsoever, including all provisional, non-provisional, divisional, renewal, substitute, continuation, continuations-in-
arising out of such aforesaid application(s) for Patent ("Inventions"), (4) any and all applications for Patent for any such Inventions
(3) any and all of my inventions, whether joint or sole, disclosed in such aforesaid application(s) for Patent, and/or related to or
countries of the International Convention or other treaty or understanding, including rights in any and all provisional applications,
Property ("International Convention") and any other treaty or understanding for intellectual property for any and all member
rights derived from such aforesaid application(s) for Patent by virtue of the International Convention for the Protection of Industrial
Johnston, Iowa 50131-1014, herein referred to as the assignee, and to assignee's successors and assigns, (A) the entire right, title, and interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority
State of lows in the United States of America and having its principal place of business at 7100 NW 62 nd Avenue, P.O. Box 1014, Johnston, Joyne F0121 1014, barein referred to as the assigned, and to assigned a spigned and assigned.
I. Sell, assign, and transfer unto PIONEER HI-BRED INTERNATIONAL, INC., a corporation organized and existing under the laws of the
obligation of assignment to assignee, which is hereby acknowledged, I hereby:
For valuable consideration, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing
which claim(s) its earliest priority to Application Serial No, filed on
PCT Application Serial No filed on
United States Patent Application Serial No. 62/287281, filed on January 26, 2016
declaration executed on
Docket No: 6060-US-PSP)
THURINGIENSIS GENE WITH LEPIDOPTERAN ACTIVITY the subject matter of which is described in the application for patent (Attorney
I, the undersigned <u>DAVID CHARLES CERF</u> , hereby declare that I am an inventor of an invention entitled <u>NOVEL BACILLUS</u>

	RY DIEHN, hereby declare that I am an inventor of an invention entitled <u>NOVEL BACILLUS</u> OPTERAN ACTIVITY the subject matter of which is described in the application for patent (Attorney)
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declaration executed on	*
	lication Serial No. 62/287281, filed on January 26, 2016
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State of Iowa in the United State	is of America and having its principal place of business at 7100 NW 62 nd Avenue, P.O. Box 1014 in referred to as the assignee, and to assignee's successors and assigns,
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	ts for any such inventions in any country whatsoever, including any and all reexams, reissues and
	whole or in part upon such aforesaid application(s) for Letters Patent and/or such Inventions; (B
	pplications in its name or in my name, (2) file such applications under the aforesaid Internationa
	r understanding, (3) have said patents granted in its name or mine, the Commissioner of Patents
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	ngements thereof, whether past, present or future, to the full end of the term or terms for which
said patents may be granted, as f	ully and entirely as the same would have been held and enjoyed by the undersigned without this
assignment;	
	, without further compensation but at assignee's expense for actual and reasonable costs incurred,
	ssignee, its successors, assigns, and legal representatives, any facts known to me respecting such
	f above, (B) to testify in any legal proceeding respecting such inventions or the rights described
	ony to be in the country in which I reside or in the nearest country in which such testimony is legal
	ohibit such testimony, (C) to execute all applications, papers or instruments necessary or required
	assigns and legal representatives, to carry into effect any of the provisions of this instrument,
	, oaths, assignments, disclaimers, and lawful affidavits in form and substance which may be
requested by said assignee and	(D) generally to do everything possible to aid said assignee, its successors, assigns, and legal
representatives to obtain, maintai	n, defend and enforce patent protection for such inventions and/or secure title to such inventions
with assignee;	
III. Represent, warrant and coven	ant that I have the full right and lawful authority to make this assignment, that such assigned right
	nse, or other right heretofore given by me to any party other than the assignee hereto;
	gations herein shall also bind all of my heirs, executors, administrators, legal representatives, and
assigns; and	
v. Agree that an authorized rep	presentative of assignee is hereby granted the power to insert in this assignment any further
office of any other country for	isary or desirable to comply with the rules of the U.S. Patent and Trademark Office or the patent
regarding application number and	recordation of this Assignment, including the power to insert on this assignment information filing date when known.
In Witness Whereof, I have execu	ted this Worldwide Assignment on the 🔀 day of كمرية ويورية ويورية ويورية , and agree that this
Worldwide Assignment shall be ef	fective as of the earliest priority date for the aforesaid application(s) for Letters Patent.
	W. W. Market M. Land M
SCOTT HENRY DIEHN	Just Warry 1782 Na
Name of Inventor	Signature of Inventor

I, the undersigned HUA DONG,	hereby declare that I am a	in inventor of an invention entitled NOVEL BACILLUS THURINGIENSIS GENE
	the subject matter of whic	th is described in the application for patent (Attorney Docket No: 6060-US-
<u>PSP</u>)		
declaration executed		
PSP) declaration executed of the second of	pplication Serial No. <u>62/28</u>	17281, filed on <u>January 26, 2016</u>
PCT Application Serial	No.	filed on, filed on
which claim(s) its earliest priori	ty to Application Serial No.	filed on
		uacy of which is hereby acknowledged, and in fulfillment of my pre-existing
obligation of assignment to assi		
1. Self, assign, and transfer unto	PIONEER HI-BRED INTERN	(ATIONAL, INC., a corporation organized and existing under the laws of the
		ig its principal place of business at 7100 NW 62 nd Avenue, P.O. Box 1014,
		gnee, and to assignee's successors and assigns,
		the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority
		nt by virtue of the International Convention for the Protection of Industrial
		eaty or understanding for intellectual property for any and all member
		y or understanding, including rights in any and all provisional applications,
		disclosed in such aforesaid application(s) for Patent, and/or related to or
		iventions"), (4) any and all applications for Patent for any such Inventions
		provisional, divisional, renewal, substitute, continuation, continuations-in-
	· ·	whole or in part upon such aforesaid application(s) for Patent and/or such
		ns in any country whatsoever, including any and all reexams, reissues and
		such aforesaid application(s) for Letters Patent and/or such Inventions; (B)
		or in my name, (2) file such applications under the aforesaid International
		ve said patents granted in its name or mine, the Commissioner of Patents
		counterpart in any other patent office being hereby authorized to issue or
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		ther past, present or future, to the full end of the term or terms for which
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assignment;	cho michomic Conthangana	and the state of t
(A) to communicate to call	as, without further compe	ensation but at assignee's expense for actual and reasonable costs incurred,
		assigns, and legal representatives, any facts known to me respecting such
		n any legal proceeding respecting such Inventions or the rights described in which I reside or in the nearest country in which such testimony is legal
		(C) to execute all applications, papers or instruments necessary or required
		isentatives, to carry into effect any of the provisions of this instrument,
		disclaimers, and lawful affidavits in form and substance which may be
		erything possible to aid said assignee, its successors, assigns, and legal
representatives to obtain main	tain defend and enforce n	patent protection for such inventions and/or secure title to such inventions
with assignee;	tam, desent and emorce p	nateur brotection for arch inventions winton Sectife fille to 2000 linkeutious
	enant that I have the full r	ight and lawful authority to make this assignment, that such assigned right
is not pre-dated by any grant li	cense or other right herete	ofore given by me to any party other than the assignee hereto;
IV. Agree that my grants and o	hlipations berein shall also	bind all of my helrs, executors, administrators, legal representatives, and
assigns; and	anguina mereni arida 6030	s when the county interest executions, annium to actual the Ball representatives, and
The state of the s	renresentative of assigner	e is hereby granted the power to insert in this assignment any further
identification which may be ne	cessary or desirable to cor	mply with the rules of the U.S. Patent and Trademark Office or the patent
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regarding application number a	nd filing date when known.	i.
In Witness Whereof, I have exe	cuted this Morldwide Assi	ignment on the 25 day of, 20/6 and agree that this
Worldwide Assignment shall be	effective as of the earliest	priority date for the aforesaid application(s) for Letters Patent.
	of manufacture	
MAN DONO	The state of the s	
HUA DONG <		
Name of Inventor	Signature of Inventor	Reference.

I, the undersigned XIAOMEL SHI, hereby declare that I am an inventor of an invention entitled NOVEL BACILLUS THURINGIENSI
GENE WITH LEPIDOPTERAN ACTIVITY the subject matter of which is described in the application for patent (Attorney Docket No
<u>6060-US-PSP</u>)
declaration executed on
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For valuable consideration, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existin
obligation of assignment to assignee, which is hereby acknowledged, I hereby:
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State of lowa in the United States of America and having its principal place of business at 7100 NW 62 nd Avenue, P.O. Box 1014
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the entire right to (1) file such applications in its name or in my name, (2) file such applications under the aforesaid International
Convention or any other treaty or understanding, (3) have said patents granted in its name or mine, the Commissioner of Patent
and Trademarks of the United States of America and any counterpart in any other patent office being hereby authorized to issue of
transfer all of said patents to said assignee in accordance herewith, and (4) enforce said patents and to sue for and recover profit
and damages for any and all infringements thereof, whether past, present or future, to the full end of the term or terms for which
said patents may be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned without the
assignment;
II. Agree, whenever assignee asks, without further compensation but at assignee's expense for actual and reasonable costs incurred
(A) to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to me respecting suc
Inventions or the rights described above, (B) to testify in any legal proceeding respecting such Inventions or the rights describe
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representatives to obtain, maintain, defend and enforce patent protection for such Inventions and/or secure title to such Invention
with assignee;
III. Represent, warrant and covenant that I have the full right and lawful authority to make this assignment, that such assigned right
is not pre-dated by any grant, license, or other right heretofore given by me to any party other than the assignee hereto;
IV. Agree that my grants and obligations herein shall also bind all of my heirs, executors, administrators, legal representatives, an
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office of any other country for recordation of this Assignment, including the power to insert on this assignment information
regarding application number and filing date when known.
In Witness Whereof, I have executed this Worldwide Assignment on the $\frac{27}{2}$ day of $\frac{120}{2}$, 20/6 and agree that this
Worldwide Assignment shall be effective as of the earliest priority date for the aforesaid application(s) for Letters Patent.
XIAOMEI SHI
Name of Inventor Signature of Inventor
association assume assume as the state of th

I, the undersigned THOMAS CHA	<u>AD_WOLFE</u> , hereby declare that I am an inventor of an invention entitled <u>NOVEL_BACILLUS</u>
	OPTERAN ACTIVITY the subject matter of which is described in the application for patent (Attorney
Docket No: 6060-US-PSP)	
	lication Serial No. 62/287281, filed on January 26, 2016
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For valuable consideration	n, the receipt and adequacy of which is hereby acknowledged, and in fulfillment of my pre-existing
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	n referred to as the assignee, and to assignee's successors and assigns,
	interest in and to: (1) the aforesaid application(s) for Letters Patent ("Patent"), (2) any priority
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	plications in its name or in my name, (2) file such applications under the aforesaid International
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Inventions or the rights described	l above, (B) to testify in any legal proceeding respecting such inventions or the rights described
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III. Represent, warrant and covens	ant that I have the full right and lawful authority to make this assignment, that such assigned right
is not pre-dated by any grant, licen	ise, or other right heretofore given by me to any party other than the assignee hereto;
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assigns; and	
V. Agree that an authorized rep	resentative of assignee is hereby granted the power to insert in this assignment any further
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	recordation of this Assignment, including the power to insert on this assignment information
recording application according and	Office data into a for any
In Witness Whereof I have execut	ted this Worldwide Assignment on the Analysis of Sorvery 20/4, and agree that this
Warldwide Assignment shall be off	rective as of the earliest priority date for the aforesaid application(s) for Letters Patent.
*** de de de la company de la	conse no presse carnese privitely nate to: the appleasant application(s) for tetters Patent,
	and the second s
THOMAS CHAD WOLFE	Thomas Chal Wolfe
Name of Investors	Carlotte Control of Co
Name of Inventor	Signature of Inventor

I, the undersigned LAN ZHOU, he	reby declare that I am an inven	stor of an invention entitled NOVEL BACILLUS THURINGIENSIS GENE
	ie subject matter of which is de	scribed in the application for patent (Attorney Docket No: 6060-US-
PSP) declaration executed on United States Patent App PCT Application Serial No		
declaration executed on	olication Serial No. <u>62/287281</u> ,	filed on January 26, 2016
Officer States rate it App	o	filed on
which claim(s) its parliest princity	to Application Social No	filed on, filed on
For valuable consideration	on the receipt and adequacy of	which is hereby acknowledged, and in fulfillment of my pre-existing
obligation of assignment to assign		
		AL, INC., a corporation organized and existing under the laws of the
State of Iowa in the United State	es of America and having its or	fincipal place of business at 7100 NW 62 nd Avenue, P.O. Box 1014,
		nd to assignee's successors and assigns,
		presaid application(s) for Letters Patent ("Patent"), (2) any priority
		rtue of the International Convention for the Protection of Industrial
		understanding for intellectual property for any and all member
		derstanding, including rights in any and all provisional applications,
		ed in such aforesaid application(s) for Patent, and/or related to or
		ns"), (4) any and all applications for Patent for any such Inventions
		onal, divisional, renewal, substitute, continuation, continuations-in-
		or in part upon such aforesaid application(s) for Patent and/or such
inventions, (5) any and all pater	its for any such inventions in ar	ny country whatsoever, including any and all reexams, reissues and
extensions of any patent based in	n whole or in part upon such af	oresaid application(s) for Letters Patent and/or such Inventions; (B)
		y name, (2) file such applications under the aforesaid International
		patents granted in its name or mine, the Commissioner of Patents
and Trademarks of the United Sta	ates of America and any counte	rpart in any other patent office being hereby authorized to issue or
transfer all of said patents to said	d assignee in accordance herew	ith, and (4) enforce said patents and to sue for and recover profits
		st, present or future, to the full end of the term or terms for which
	fully and entirely as the same v	vould have been held and enjoyed by the undersigned without this
assignment;	a a market of the control of the con	
II. Agree, whenever assignee asks	s, without further compensation	but at assignee's expense for actual and reasonable costs incurred,
(A) to communicate to said a	assignee, its successors, assigns	, and legal representatives, any facts known to me respecting such
		egal proceeding respecting such Inventions or the rights described
		ch I reside or in the nearest country in which such testimony is legal
phy said assistant its specificate b	original and level representati	xecute all applications, papers or instruments necessary or required
		ves, to carry into effect any of the provisions of this instrument,
		ners, and lawful affidavits in form and substance which may be
representatives to obtain mainte	in defend and opforce patent.	g possible to aid said assignee, its successors, assigns, and legal protection for such inventions and/or secure title to such inventions
with assignee;	in, detend and emorce patent t	placerson for partitional author secure fittle to ancu suventions
The state of the s	and that I have the full right an	d lawful authority to make this assignment, that such assigned right
is not pre-dated by any grant line	nse or other right heretofore of	iven by me to any party other than the assignee hereto;
IV. Agree that my grants and obl	leations berein shall also bind a	all of my heirs, executors, administrators, legal representatives, and
assigns; and	Marie Marchin Dilon 2000 Dillo 0	m or my news, executions, administrators, regar representatives, and
•	oresentative of assignee is be	reby granted the power to insert in this assignment any further
identification which may be nece	ssary or desirable to comply wi	ith the rules of the U.S. Patent and Trademark Office or the patent
office of any other country for	recordation of this Assignmen	at, including the power to insert on this assignment information
regarding application number and	filing data whoo known	and the second s
In Witness Whereof, I have execu	ited this Worldwide Assignmen	t on the 2 day of January, 20 Land agree that this
Worldwide Assignment shall be et	ffertive as of the parliest priority	y date for the aforesaid application(s) for Letters Patent.
The second section of the sect	The cornest profits	y once for the arm esaid application(spage tetters ratelit.
LAN ZHOU		s
Name of Inventor	Signature of Inventor	
THE OTHER DESIGNATION	218 FORM & OF BIVEHOU	

PATENT REEL: 046458 FRAME: 0157

RECORDED: 07/25/2018