

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

Assignment ID: PATI303738

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	Millennium Pharmaceuticals, Inc.	05/18/2023
RECEIVING PARTY DATA		
Company Name:	TAKEDA PHARMACEUTICAL COMPANY LIMITED	
Street Address:	1-1, DOSHOMACHI 4-CHOME, CHUO-KU	
City:	Osaka	
State/Country:	JAPAN	
Postal Code:	540-8645	
PROPERTY NUMBERS Total: 6		
Property Type	Number	
Application Number:	61481522	
Application Number:	61544054	
Application Number:	14114835	
Application Number:	16787521	
Application Number:	18046450	
Application Number:	17239512	
CORRESPONDENCE DATA		
Fax Number:		
<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:	8572873100	
Email:	louisa.leffert@wbd-us.com,boston.docket@wbd-us.com	
Correspondent Name:	Womble Bond Dickinson (US) LLP	
Address Line 1:	470 Atlantic Ave.	
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Address Line 4:	Boston, MASSACHUSETTS 02210	
NAME OF SUBMITTER:	Louisa Stansbury	
SIGNATURE:	Louisa Stansbury	
DATE SIGNED:	07/25/2024	
Total Attachments: 13		

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ASSIGNMENT

In accordance with the **Intercompany Agreement on Assignment of Legal Title to Patents** dated effective as of March 31, 2021 (the "Agreement"), made by and between Millennium Pharmaceuticals, Inc., a company organized under the laws of Delaware, having a place of business at 35 Landsdowne St., Cambridge, Massachusetts ("ASSIGNOR"), and TAKEDA PHARMACEUTICAL COMPANY LIMITED, a company organized under the laws of Japan, having a place of business at 1-1, Doshomachi 4-chome, Chuo-ku, Osaka 540-8645 Japan ("ASSIGNEE"), ASSIGNOR confirms its transfer and assignment to ASSIGNEE of legal title to the patents or patent applications, and inventions (as defined in 35 USC Sec. 100) in such patents or patent applications ("Inventions"), identified in the attached Schedule A, as well as priority applications referenced therein of which ASSIGNOR is aware.

NOW, THEREFORE, to all whom it may concern be it known that, in consideration of agreements previously and duly entered into between the parties, the receipt of which is hereby acknowledged, ASSIGNOR hereby confirms and/or declares that it holds legal title to the patent applications, the same to be held and enjoyed by ASSIGNEE, its successors and assigns, in and to any and all Inventions described in the patent applications, and/or any priority applications noted in Schedule A. ASSIGNOR'S assignment and transfer applies to the patents or patent applications identified in Schedule A, any Inventions disclosed and/or claimed in these patents or patent applications, any and all patents and patent applications arising from such application and any addition, division, continuation, continuation in part, substitution, extension, renewal, reissue, confirmation thereof, including their patent term adjustments (PTA), extensions (PTE) or supplementary protection certificates (SPC). Such legal title includes the entire undivided right to claim priority in respect of any invention in the said applications in any applicable country in connection with filing a patent application in any applicable country. Also, this assignment and transfer pertains to any legal title ownership rights arising under or pursuant to any and all international agreements, treaties, or laws relating to the protection of industrial property, including: (i) the entire undivided rights to claim priority under the International Convention for the Protection of Industrial Property; (ii) in and to any such patent(s) as may issue thereon including any and all original and reissued patents which have been or shall be issued. ASSIGNEE shall hold and enjoy legal title in said Inventions, applications, and patent(s) for its own use and for its successors, assigns and legal representatives, to the full end of term for which said patent(s) may be granted and extended by any patent term adjustment, extension or supplemental protection certificate.

AND, ASSIGNOR hereby acknowledges that this assignment carries with it the right in ASSIGNEE to apply for, and receive Legal Title to, any and all patent(s) for said Inventions in ASSIGNEE'S own name;

IN TESTIMONY WHEREOF, ASSIGNOR by its duly authorized representative acting on his/her own free will have caused this instrument to be duly executed and have hereunto set his/her hand and affixed his/her seal on the date set forth below.

SIGNED this 18th day of May, 2023.

MILLENNIUM PHARMACEUTICALS, INC.

By: 

Name: Constance Yeung

Title: Vice President, IP Region Head

Witness Signature: 

DAPHNE HOWE
Name (please print)

Date: May 18, 2023

TAKEDA PHARMACEUTICAL COMPANY LIMITED

By: 

Name: Changgang Lou

Title: IP Region Head

SCHEDULE A

Reference No.	Country	Status	Application Number	Filing Date	Patent Number	Issue Date
PAT8679EPAL01	AL	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679AR01	AR	Published	P120101539	02-May-2012		
PAT8679DIVAR02	AR	Published	P210101621	14-Jun-2021		
PAT8679EPAT01	AT	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTAU01	AU	Granted	2012250873	12-Apr-2013	2012250873	20-Oct-2016
PAT8679DIVAU02	AU	Granted	2016231469	19-Sep-2016	2016231469	04-Apr-2019
PAT8679DIVAU03	AU	Granted	2018278866	11-Dec-2018	2018278866	22-Oct-2020
MPI09-003P3RNAUDV3	AU	Abandoned	2019201926	20-Mar-2019		
PAT8679DIVAU05	AU	Granted	2020250249	08-Oct-2020	2020250249	19-Jan-2023
PAT8679DIVAU06	AU	Pending	2022231726	15-Sep-2022		
PAT8679EPBA01	BA	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
MPI09-003P3RNBD	BD	Abandoned	120/2012	02-May-2012		
PAT8679EPBE01	BE	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPBG01	BG	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTBR01	BR	Published	1120130284242	04-Nov-2013		
PAT8679DIVBR02	BR	Pending	BR122021020169-2	07-Oct-2021		
PAT8679PCTCA01	CA	Granted	2834867	31-Oct-2013	2834867	12-Feb-2019
PAT8679DIVCA02	CA	Granted	3,028,209	20-Dec-2018	3028209	05-Jan-2021
PAT8679EPCH01	CH	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTCL01	CL	Granted	201303146	30-Oct-2013	60010	17-Jul-2020
PAT8679DIVCL02	CL	Published	201700830	05-Apr-2017		
PAT8679PCTCN01	CN	Granted	201280030450.4	20-Dec-2013	ZL201280030450.4	26-Dec-2017
PAT8679DIVCN02	CN	Granted	201711161579.X	20-Nov-2017	ZL 201711161579.X	08-Apr-2022
PAT8679DIVCN03	CN	Published	201711309462.1	11-Dec-2017		
PAT8679DIVCN04	CN	Granted	201711310404.0	11-Dec-2017	ZL 201711310404.0	20-Sep-2022
PAT8679PCTCO01	CO	Granted	13259825	11-Jan-2013	30399	16-Dec-2016
MPI09-003P3RNCR)	CR	Abandoned	2013-0677	19-Dec-2013		

Reference No.	Country	Status	Application Number	Filing Date	Patent Number	Issue Date
PAT8679EPCY01	CY	Granted	12721093.8	11-May-2013	CY 1119435T1	12-Jul-2017
PAT8679EPCZ01	CZ	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPDE01	DE	Granted	12721093.8	11-May-2013	602012034403.2	12-Jul-2017
PAT8679EPDK01	DK	Granted	12721093.8	11-May-2013	DK 2704798T3	12-Jul-2017
MPI09-003P3RNDO	DO	Abandoned	P2013-0253	30-Oct-2013		
PAT8679PCTDZ01	DZ	Granted	130703	11-Nov-2013	11702	15-Sep-2022
PAT8679PCTEA01	EA	Granted	201391614	29-Nov-2013	032729	31-Jul-2019
PAT8679DIVEA02	EA	Granted	201892377	19-Nov-2018	034583	21-Feb-2020
PAT8679DIVEA03	EA	Published	201992881	27-Dec-2019		
PAT8679PCTEC01	EC	Published	SP-13-13050	26-Nov-2013		
PAT8679DIVEC02	EC	Published	SENADI-2022-34515	29-Apr-2022		
PAT8679EPEE01	EE	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTEG01	EG	Pending	PCT 1682/2013	03-Nov-2013		
PAT8679DIVEG02	EG	Pending	D1PCT1682/2013	14-Oct-2021		
PAT8679DIVEG03	EG	Pending	D2PCT1682/2013	14-Oct-2021		
PAT8679PCTEP01	EP	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679DIVEP02	EP	Published	17180246.5	07-Jul-2017		
PAT8679DIVEP03	EP	Published	18150968.8	10-Jan-2018		
PAT8679EPES01	ES	Granted	12721093.8	11-May-2013	ES 2645187T3	12-Jul-2017
PAT8679EPFI01	FI	Granted	12721093.8	05-Nov-2013	2704798	12-Jul-2017
PAT8679EPFR01	FR	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPGB01	GB	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679GC01	GC	Granted	2012-21175	02-May-2012	GC0011444	12-Oct-2020
PAT8679DIVGC02	GC	Pending	2012/37652	28-May-2019		
MPI09-003P3RNGE	GE	Abandoned	13304	29-Nov-2013	P 6734	25-Sep-2017
PAT8679EPGR01	GR	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679REGHK01	HK	Granted	14108748.2	27-Aug-2014	1195276	15-Jun-2018
PAT8679REGHK02	HK	Published	18107977.2	21-Jun-2018		
PAT8679REGHK03	HK	Published	18115181.7	27-Nov-2018		

Reference No.	Country	Status	Application Number	Filing Date	Patent Number	Issue Date
PAT8679EPHR01	HR	Granted	12721093.8	11-May-2013	HR P20171432T1	12-Jul-2017
PAT8679EPHU01	HU	Granted	12721093.8	11-May-2013	HU E036663T2	12-Jul-2017
PAT8679PCTID01	ID	Granted	W00201305115	01-Nov-2013	IDP000057598	29-Mar-2019
PAT8679DIVID02	ID	Granted	P00201900176	09-Jan-2019	IDP000075275	24-Feb-2021
PAT8679EP1E01	IE	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTIL01	IL	Abandoned	229104	28-Oct-2013		
PAT8679DIVIL02	IL	Granted	267668	26-Jun-2019	267668	30-Jan-2021
PAT8679DIVIL03	IL	Granted	275038	01-Jun-2020	275038	02-Feb-2023
PAT8679DIVIL04	IL	Pending	296847	28-Sep-2022		
PAT8679DIVIL05	IL	Pending	296838	28-Sep-2022		
PAT8679PCTIN01	IN	Granted	9441/DELNP/2013	01-Nov-2013	335696	21-Apr-2020
PAT8679DIVIN02	IN	Published	202018016918	20-Apr-2020		
PAT8679IR01	IR	Pending	391000762	24-Apr-2012		
PAT8679EPIS01	IS	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPIT01	IT	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
MPI09-003P3RNJO	JO	Abandoned	PA/106/2012	02-May-2012		
PAT8679PCTJP01	JP	Granted	2014-509378	11-Jan-2013	6190360	10-Aug-2017
PAT8679DIVJP02	JP	Granted	2017-091845	02-May-2017	6534415	07-Jun-2019
PAT8679DIVJP03	JP	Granted	2018-130978	10-Jul-2018	6473845	01-Feb-2019
PAT8679DIVJP04	JP	Granted	2019-074688	10-Apr-2019	6878489	06-May-2021
PAT8679DIVJP05	JP	Allowed	2021-075479	28-Apr-2021		
PAT8679DIVJP06	JP	Pending	2023-061100	05-Apr-2023		
MPI09-003P3RNKE	KE	Abandoned	KE/P/2013/001940	30-Oct-2013		
MPI09-003P3RNKR	KR	Abandoned	10-2013-7031382	26-Nov-2013		
PAT8679DIVKR02	KR	Granted	10-2017-7027571	27-Sep-2017	10-1923371	23-Nov-2018
PAT8679DIVKR03	KR	Granted	10-2018-7012689	03-May-2018	10-1923378	23-Nov-2018
PAT8679DIVKR04	KR	Granted	10-2018-7033652	20-Nov-2018	10-2096484	27-Mar-2020
PAT8679DIVKR05	KR	Granted	10-2020-7008950	27-Mar-2020	10-2275603	05-Jul-2021
PAT8679DIVKR06	KR	Granted	10-2021-7020871	02-Jul-2021	10-2465394	04-Nov-2022
PAT8679DIVKR07	KR	Published	10-2022-7038842	04-Nov-2022		

Reference No.	Country	Status	Application Number	Filing Date	Patent Number	Issue Date
PAT8679LB01	LB	Granted	3884	30-Apr-2012	9675	02-May-2012
PAT8679EPLI01	LI	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPLT01	LT	Granted	12721093.8	11-May-2013	LT 2704798T	12-Jul-2017
PAT8679EPLU01	LU	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPLV01	LV	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
MPI09-003P3RNMA	MA	Abandoned	36501	26-Nov-2013	35136	02-May-2014
PAT8679EPMC01	MC	Granted	12721093.8	05-Nov-2013	2704798	12-Jul-2017
PAT8679EPME01	ME	Granted	12721093.8	05-Nov-2013	ME 02859B	12-Jul-2017
PAT8679EPMK01	MK	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679REGMO01	MO	Granted	J/3004	19-Mar-2018	J/003004	18-Jul-2018
PAT8679REGMO02	MO	Granted	J/006236	08-Jul-2022	J/006236	26-Sep-2022
PAT8679REGMO03	MO	Granted	J/006678	23-Nov-2022	J/006678	28-Dec-2022
PAT8679EPMT01	MT	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTMX01	MX	Granted	MX/a/2013/012724	31-Oct-2013	MX348814	30-Jun-2017
PAT8679DIVMX02	MX	Granted	MX/a/2016/012776	29-Sep-2016	356827	15-Jun-2018
PAT8679DIVMX03	MX	Granted	MX/a/2018/003210	14-Mar-2018	383317	07-Jun-2021
PAT8679DIVMX04	MX	Published	MX/a/2021/006723	07-Jun-2021		
PAT8679PCTMY01	MY	Granted	PI2013003922	28-Oct-2013	MY-172735-A	11-Dec-2019
PAT8679DIVMY02	MY	Granted	PI2016001847	13-Oct-2016	MY-183471-A	19-Feb-2021
PAT8679DIVMY03	MY	Pending	PI 2020006961	23-Dec-2020		
MPI09-003P3RNNG	NG	Abandoned	NG/C/2013/079	30-Oct-2013	NG/C/2013/079	04-Mar-2016
PAT8679EPNL01	NL	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPNO01	NO	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTNZ01	NZ	Granted	617833	15-Nov-2013	617833	02-Aug-2016
PAT8679PCTPE01	PE	Granted	2431-2013	31-Oct-2013	9097	18-Sep-2018
PAT8679DIVPE02	PE	Published	1579-2018	28-Aug-2018		
PAT8679PCTPH01	PH	Granted	1-2013-502236	31-Oct-2013	1-2013-502236	22-May-2019
PAT8679DIVPH02	PH	Granted	1-2018-500030	03-Jan-2018	1-2018-500030	22-Mar-2022
PAT8679DIVPH03	PH	Published	1-2020-500336	13-Feb-2020		
PAT8679PK01	PK	Abandoned	275/2012	02-May-2012		

Reference No.	Country	Status	Application Number	Filing Date	Patent Number	Issue Date
PAT8679EPPL01	PL	Granted	12721093.8	11-May-2013	PL 2704798T3	12-Jul-2017
PAT8679EPPT01	PT	Granted	12721093.8	05-Nov-2013	PT 2704798T	12-Jul-2017
PAT8679EPRO01	RO	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPRS01	RS	Granted	12721093.8	11-May-2013	RS 56397B1	12-Jul-2017
PAT8679EPSE01	SE	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
MPI09-003P3RNSG	SG	Abandoned	201307968-6	25-Oct-2013		
PAT8679DIVSG02	SG	Published	10201603393Y	28-Apr-2016		
PAT8679EPSI01	SI	Granted	12721093.8	11-May-2013	SI 2704798T1	12-Jul-2017
PAT8679EPSK01	SK	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679EPSM01	SM	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679PCTTH01	TH	Published	1301006284	01-Nov-2013		
MPI09-003P3RNTN	TN	Abandoned	TN2013/0442	29-Oct-2013	23638	03-Jun-2015
PAT8679EPTR01	TR	Granted	12721093.8	11-May-2013	2704798	12-Jul-2017
PAT8679TW01	TW	Granted	101115712	02-May-2012	I556828	11-Nov-2016
PAT8679DIVTW02	TW	Granted	105130046	14-Sep-2016	I664978	11-Jul-2019
PAT8679DIVTW03	TW	Granted	107138209	29-Oct-2018	I664980	11-Jul-2019
PAT8679PCTUA01	UA	Granted	a201313899	29-Nov-2013	0116189	26-Feb-2018
PAT8679DIVUA02	UA	Granted	a201707804	25-Jul-2017	126545	02-Nov-2022
PAT8679DIVUA03	UA	Pending	a 2022 02177	24-Jun-2022		
MPI09-003P3RNUS	US	Abandoned	13/462,414	02-May-2012		
PAT8679CONUS06	US	Granted	15/214,993	20-Jul-2016	10,143,752	04-Dec-2018
PAT8679CONUS15	US	Published	17/652,090	22-Feb-2022		
PAT8679CONUS07	US	Granted	15/215,000	20-Jul-2016	10,004,808	26-Jun-2018
MPI09-003P3RNUSCN1	US	Abandoned	15/678,744	16-Aug-2017		
MPI09-003P3RNCN4	US	Abandoned	15/927,032	20-Mar-2018		
PAT8679CONUS08	US	Granted	15/215,012	20-Jul-2016	9,663,579	30-May-2017
MPI09-003P3RNCN2CN1	US	Abandoned	16/015,167	21-Jun-2018		
PAT8679CONUS12	US	Published	16/208,294	03-Dec-2018		
PAT8679CONUS14	US	Published	16/726,092	23-Dec-2019		

Reference No.	Country	Status	Application Number	Filing Date	Patent Number	Issue Date
PAT8679CONUS13	US	Published	16/743,813	15-Jan-2020		
PAT8679PRIUS01PRO	US	Expired	61/481,533	02-May-2011		
PAT8679PRIUS02PRO	US	Pending	61/550,545	24-Oct-2011		
PAT8679PRIUS03PRO	US	Expired	61/585,859	12-Jan-2012		
PAT8679PCTUS05	US	Granted	14/114,832	25-Feb-2014	9,764,033	19-Sep-2017
MPI09-003P3RNUY	UY	Abandoned	34.053	02-May-2012		
MPI09-003P3RNUZ	UZ	Abandoned	IAP20130496	29-Nov-2013		
MPI09-003P3RNUZDV1	UZ	Abandoned	IAP20190009	10-Jan-2019		
PAT8679VE01	VE	Published	2012-000551	02-May-2012		
PAT8679PCTVN01	VN	Granted	1-2013-03794	02-Dec-2013	26192	01-Oct-2020
PAT8679DIVVN02	VN	Published	1-2020-04791	20-Aug-2020		
MPI09-003P3RNWO	WO	Nationalized	PCT/US2012/036072	02-May-2012		
PAT8679PCTZA01	ZA	Granted	2013/08069	28-Oct-2013	2013/08069	27-Jan-2016
PAT8679DIVZA02	ZA	Granted	2015/07858	21-Oct-2015	2015/07858	31-Jan-2018
PAT8679DIVZA03	ZA	Granted	2017/07158	20-Oct-2017	2017/07158	30-Jan-2019
PAT8679DIVZA04	ZA	Granted	2018/06946	18-Oct-2018	2018/06946	30-Mar-2022
PAT16519EPAL01	AL	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519AM01	AM	Abandoned	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519AR01	AR	Published	P120101540	02-May-2012		
PAT16519DIVAR02)	AR	Published	P210101761	25-Jun-2021		
PAT16519EPAT01	AT	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519PCTAU01	AU	Granted	2012250872	01-Nov-2013	2012250872	26-Oct-2017
PAT16519DIVAU02	AU	Granted	2017204192	21-Jun-2017	2017204192	02-Jan-2020
PAT16519DIVAU03	AU	Granted	2019216679	15-Aug-2019	2019216679	06-Jan-2022
PAT16519DIVAU04	AU	Pending	2021225160	31-Aug-2021		
PAT1651AZ01	AZ	Abandoned	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519EPBA01	BA	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
MPI10-011P2RNBD	BD	Abandoned	119/2012	02-May-2012		
PAT16519EPBE01	BE	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPBG01	BG	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017

Reference No.	Country	Status	Application Number	Filing Date	Patent Number	Issue Date
PAT16519PCTBR01	BR	Allowed	1120130281693	31-Oct-2013		
PAT16519DIVBR02	BR	Allowed	1220190172650	19-Aug-2019		
PAT16519DIVBR03	BR	Allowed	BR122021011134-0	11-Jun-2021		
PAT16519DIVBR04	BR	Published	BR122022017593-7	01-Sep-2022		
PAT16519EABY01	BY	Granted	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519PCTCA01	CA	Granted	2834900	31-Oct-2013	2834900	02-Mar-2021
PAT16519DIVCA02	CA	Granted	3,051,418	08-Aug-2019	3051418	18-May-2021
PAT16519EPCH01	CH	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519PCTCL01	CL	Granted	201303145	30-Oct-2013	60804	27-Oct-2020
PAT16519DIVCL02	CL	Granted	201700829	05-Apr-2017	66142	09-Dec-2022
PAT16519DIVCL03	CL	Pending	202001579	12-Jun-2020		
PAT16519PCTCN01	CN	Granted	201280021789.8	04-Nov-2013	ZL201280021789.8	05-Jun-2018
PAT16519DIVCN02	CN	Allowed	201711133991.0	15-Nov-2017		
PAT16519DIVCN03	CN	Published	201810453956.5	11-May-2018		
PAT16519DIVCN04	CN	Published	201810453958.4	11-May-2018		
PAT16519PCTCO01	CO	Granted	13259852	01-Nov-2013	13259852	17-Apr-2020
MPI10-011P2RNCR	CR	Abandoned	2013-0556	29-Oct-2013		
PAT16519EPCY01	CY	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPCZ01	CZ	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPDE01	DE	Granted	12722973.0	05-Nov-2013	602012034414.8	12-Jul-2017
PAT16519EPDK01	DK	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
MPI10-011P2RNDO	DO	Abandoned	P2013-0252	29-Oct-2013		
PAT16519PCTDZ01	DZ	Pending	130699	07-Nov-2013		
PAT16519PCTEA01	EA	Granted	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519DIVEA02	EA	Published	201990056	16-Jan-2019		
PAT16519PCTEC01	EC	Published	SP-13-13059	28-Nov-2013		
PAT16519DIVEC02	EC	Published	SENADI-2022-46340	10-Jun-2022		
PAT16519EPEE01	EE	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519PCTEG01	EG	Pending	PCT 1683/2013	03-Nov-2013		

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PAT16519DIVEG02	EG	Pending	D1 PCT 1683/2013	03-Nov-2013		
PAT16519DIVEG03	EG	Pending	D2 PCT 1683/2013	03-Nov-2013		
PAT16519PCTEP01	EP	Withdrawn	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519DIVEP02	EP	Published	17180247.3	07-Jul-2017		
PAT16519EPSE01	ES	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPFR01	FR	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPGB01	GB	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519GC01	GC	Pending	2012-21174	05-Feb-2012		
PAT16519DIVGC02	GC	Pending	2012/37401	16-Apr-2019		
PAT16519DIVGC03	GC	Pending	2012/40930	18-Nov-2020		
PAT16519PCTGE01	GE	Abandoned	AP2012013302	29-Nov-2013	P 6866	03-Jul-2018
MPI10-011P2RNGEDV1	GE	Abandoned	AP201214491	16-May-2017		
PAT16519REGHK01	HK	Granted	14108793.6	28-Aug-2014	1195276	15-Jun-2018
PAT16519REGHK02	HK	Published	18113059.1	12-Oct-2018		
PAT16519EPHR01	HR	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPHU01	HU	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519PCTID01	ID	Granted	W00201305114	01-Nov-2013	IDP000046522	19-Jun-2017
PAT16519DIVID02	ID	Granted	P00201703708	09-Jun-2017	IDP000072891	18-Nov-2020
PAT16519EP1E01	IE	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519PCTIL01	IL	Granted	229169	31-Oct-2013	229169	01-Oct-2020
PAT16519DIVIL02	IL	Granted	272237	26-Jan-2020	272237	02-Aug-2022
PAT16519DIVIL03	IL	Allowed	274846	21-May-2020		
PAT16519DIVIL04	IL	Pending	290848	23-Feb-2022		
PAT16519DIVIL05	IL	Pending	290849	23-Feb-2022		
PAT16519PCTIN01	IN	Granted	9719/DELNP/2013	12-Nov-2013	414645	15-Dec-2022
PAT16519DIVIN02	IN	Published	201918049164	29-Nov-2019		
PAT16519IR01	IR	Granted	391000761	24-Apr-2012	92027	01-May-2017
PAT16519IS01	IS	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
MPI10-011P2RNJO	JO	Abandoned	PA/107/2012	02-May-2012		
PAT16519PCTJP01	JP	Granted	2014-509377	01-Nov-2013	6190359	10-Aug-2017

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PAT16519DIVJP02	JP	Granted	2017-094129	10-May-2017	6467457	18-Jan-2019
PAT16519DIVJP03	JP	Granted	2019-003265	11-Jan-2019	6751450	18-Aug-2020
PAT16519DIVJP04	JP	Granted	2020-136927	14-Aug-2020	7107997	19-Jul-2022
PAT16519DIVJP06	JP	Published	2022-112814	14-Jul-2022		
MPI10-011P2RNKE	KE	Abandoned	KE/P/2013/001945	31-Oct-2013		
PAT16519PCTKG01	KG	Abandoned	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519PCTKR01	KR	Granted	10-2013-7031205	25-Nov-2013	10-1875155	29-Jun-2018
PAT16519DIVKR02	KR	Granted	10-2017-7012979	12-May-2017	10-1884406	26-Jul-2018
PAT16519DIVKR03	KR	Granted	10-2018-7018702	29-Jun-2018	10-2014512	20-Aug-2019
PAT16519DIVKR04	KR	Granted	10-2019-7024347	20-Aug-2019	10-2136208	15-Jul-2020
PAT16519DIVKR05	KR	Granted	10-2020-7020503	15-Jul-2020	10-2308938	28-Sep-2021
PAT16519DIVKR06	KR	Granted	10-2021-7031194	28-Sep-2021	10-2493433	25-Jan-2023
PAT16519DIVKR07	KR	Published	10-2023-7002891	25-Jan-2023		
PAT16519EAKZ01	KZ	Granted	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519LB01	LB	Granted	3885	30-Apr-2012	9676	02-May-2012
PAT16519EPLI01	LI	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPLT01	LT	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
MPI10-011P2RNMA	MA	Abandoned	36502	26-Nov-2013	35312	01-Aug-2014
PAT16519EPMC01	MC	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519REGMO01	MO	Granted	J/3181	11-Jul-2018	J/003181	07-Nov-2018
PAT16519PCTMX01	MX	Granted	MX/a/2013/012725	31-Oct-2013	354101	13-Feb-2018
PAT16519DIVMX02	MX	Granted	MX/a/2017/007134	05-Jun-2017	367097	05-Aug-2019
PAT16519DIVMX03	MX	Granted	MX/a/2019/009244	02-Aug-2019	384203	02-Jul-2021
PAT16519DIVMX04	MX	Published	MX/a/2021/008112	02-Jul-2021		
PAT16519PCTMY01	MY	Granted	PI2013003974	31-Oct-2013	MY-188820-A	05-Jan-2022
PAT16519DIVMY02	MY	Pending	PI2021003088	03-Jun-2021		
MPI10-011P2RNNG	NG	Abandoned	NG/C/2013/722	31-Oct-2013	NG/C/2013/722	04-Mar-2016
PAT16519EPNO01	NO	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519PCTNZ01	NZ	Granted	617340	01-Nov-2013	617340	30-Mar-2016
PAT16519PCTPE01	PE	Granted	2433-2013	31-Oct-2013	9008	24-Jul-2018

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PAT16519PCTPH01	PH	Granted	1-2013-502237	31-Oct-2013	1-2013-502237	22-Jun-2020
PAT16519DIVPH02	PH	Allowed	1-2018-502221	17-Oct-2018		
PAT16519DIVPH03	PH	Published	1-2019-501662	17-Jul-2019		
MPI10-011P2RNPK	PK	Abandoned	274/2012	02-May-2012		
PAT16519EPPL01	PL	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EPPT01	PT	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519EARU01	RU	Granted	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519EPSE01	SE	Granted	12722973.0	05-Nov-2013	2704742	12-Jul-2017
PAT16519PCTSG01	SG	Abandoned	201308094-0	31-Oct-2013		
PAT16519DIVSG02	SG	Granted	10201603406X	28-Apr-2016	10201603406X	24-Mar-2023
PAT16519DIVSG03	SG	Published	10202250219X	19-Jun-2022		
PAT16519PCTTH01	TH	Published	1301006283	01-Nov-2013		
PAT16519TJ01	TJ	Abandoned	201391613	29-Nov-2013	032625	28-Jun-2019
PAT16519TM01	TM	Abandoned	201391613	29-Nov-2013	032625	28-Jun-2019
MPI10-011P2RNTN	TN	Abandoned	TN2013/0455	31-Oct-2013	23650	03-Jun-2015
PAT16519TW01	TW	Granted	101115710	02-May-2012	I638661	21-Oct-2018
PAT16519DIVTW02	TW	Granted	106123969	18-Jul-2017	I698254	11-Jul-2020
PAT16519DIVTW03	TW	Granted	108104506	12-Feb-2019	I723339	01-Apr-2021
PAT16519DIVTW04	TW	Allowed	109140548	19-Nov-2020		
PAT16519DIVTW06	TW	Pending	111148303	15-Dec-2022		
PAT16519TW05PHAR	TW	Pending		17-Jun-2022		
PAT16519PCTUA01	UA	Granted	a201313902	02-May-2012	112984	25-Nov-2016
MPI10-011P2RNUSRCE2CN1	US	Abandoned	15/983,791	18-May-2018		
MPI10-011P2RNUSRCE2CN2	US	Abandoned	16/009,865	15-Jun-2018		
PAT16519CONUS06	US	Granted	16/787,521	11-Feb-2020	11,560,434	24-Jan-2023
PAT16519DIVUS08	US	Pending	18/046,450	13-Oct-2022		
PAT16519DIVUS07	US	Published	17/239,512	23-Apr-2021		
PAT16519PRIUS01PRO	US	Expired	61/481522	02-May-2011		

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PAT16519PRIUS02PRO	US	Expired	61/544054	06-Oct-2011		
PAT16519PCTUS03	US	Granted	14/114,835	24-Feb-2014	10,040,855	07-Aug-2018
MPI10-011P2RNUY	UY	Abandoned	34.054	02-May-2012		
MPI10-011P2RNUZ	UZ	Abandoned	IAP20130495	29-Nov-2013		
PAT16519VE01	VE	Published	2012-000553	02-May-2012		
PAT16519PCTVN01	VN	Published	1-2013-03795	02-Dec-2013		
PAT16519DIVVN02	VN	Pending	1-2019-04147	29-Jul-2019		
PAT16519DIVVN03	VN	Published	1-2022-08229	15-Dec-2022		
PAT16519PCT01	WO	Nationalized	PCT/US2012/036069	02-May-2012		
PAT16519PCTZA01	ZA	Granted	2013/08168	31-Oct-2013	2013/08168	28-Nov-2018
PAT16519DIVZA02	ZA	Granted	2017/07310	27-Oct-2017	2017/07310	28-Apr-2022