

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT7127171

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	CHEMIMAGE CORPORATION	04/01/2003
RECEIVING PARTY DATA		
Name:	CHEMIMAGE TECHNOLOGIES LLC	
Street Address:	7325 PENN AVENUE	
Internal Address:	SUITE 200	
City:	PITTSBURGH	
State/Country:	PENNSYLVANIA	
Postal Code:	15208	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Application Number:	17322368
CORRESPONDENCE DATA		
Fax Number:	(412)454-5060	
<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:	(412)454-5000	
Email:	docketingpgh@troutman.com	
Correspondent Name:	TROUTMAN PEPPER HAMILTON SANDERS LLP	
Address Line 1:	UNION TRUST BUILDING	
Address Line 2:	501 GRANT STREET, SUITE 300	
Address Line 4:	PITTSBURGH, PENNSYLVANIA 15219	
ATTORNEY DOCKET NUMBER:	138282.011621	
NAME OF SUBMITTER:	MICHAEL VERTULLO	
SIGNATURE:	/Michael Vertullo/	
DATE SIGNED:	01/19/2022	
Total Attachments: 21		
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ASSIGNMENT

WHEREAS, CHEMIMAGE CORPORATION, having an address of 7301 Penn Avenue, Pittsburgh, PA 15208 (hereinafter "Assignor"), is desirous of selling its entire right, title and interest in and to any and all Letters Patent of the United States and foreign countries that may be obtained therefor as set forth and disclosed in the patent application(s) listed in **Schedule A** attached hereto (hereinafter the "Invention"):

WHEREAS, CHEMIMAGE TECHNOLOGIES LLC, having an address of 7301 Penn Avenue, Pittsburgh, PA 15208 (hereinafter "Assignee"), is desirous of acquiring Assignor's entire right, title and interest in and to said Invention and in and to any and all Letters Patent of the United States and foreign countries that may be obtained therefor.

NOW, THEREFORE, for good and valuable consideration, the receipt for and sufficiency of which is hereby acknowledged, effective as of at least April 1, 2003, Assignee and does hereby sell, assign, transfer and set over unto Assignee, its legal representatives, successors, and assigns, Assignor's entire right, title and interest in and to said Invention as set forth in the scheduled application(s), including any applications which claim priority to the scheduled application(s), any application(s) to which the scheduled application(s) claim priority, and any continuations, continuations-in-part, divisions, registrations, reissues, re-examinations or extensions thereof, whether in the U.S. or any foreign country, and in and to any and all patents of the United States and foreign countries which may be issued for said Invention;

AND for good and valuable consideration, the receipt for and sufficiency of which is hereby acknowledged, Assignor does hereby sell, assign, transfer and set over unto Assignee, its legal representatives, successors, and assigns all rights to claim priority rights deriving from the Invention and scheduled application(s); all causes of action and remedies related to the Invention and scheduled application(s) (including, without limitation, the right to sue for past, present, or future infringement, misappropriation or violation of rights related to any of the foregoing and the right to collect royalties and other payments under or on account of any of the foregoing); and any and all other rights and interests arising out of, in connection with, or in relation to the Invention and scheduled application(s).

UPON SAID CONSIDERATION, Assignor shall not execute any writing or do any act whatsoever conflicting with the terms and conditions of this Assignment, and that Assignor will, at any time upon request, without further or additional consideration, but at the expense of said Assignee, execute such additional assignments and other writings and do such additional acts as said Assignee may deem necessary or desirable to perfect Assignee's enjoyment of this grant, and render all necessary assistance in making application for or obtaining original patents or applications, continuations, continuations-in-part, divisions, registrations, reissues, re-examinations or extensions thereof, whether in the U.S. or any foreign country, for said Invention, and in enforcing any rights or choses in action accruing as a result of such applications or patents, by giving testimony in any and all proceedings or transactions involving such applications or patents, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind and inure to the benefit of the assigns and legal representatives of Assignor and Assignee.

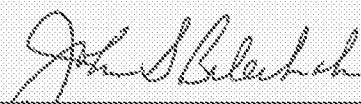
The undersigned hereby grant(s) the firm of PEPPER HAMILTON LLP the power to insert on this Assignment any further identification, including the country, application number, filing date and/or title, which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office or other patent office for recordation of this document; and

The undersigned requests that any patents that may be issued for said Invention be issued to said Assignee, its legal representatives, successors or assigns, as an owner of my entire right, title and interest in and to said patent and the Invention covered thereby.

Agreed and accepted:

CHEMIMAGE CORPORATION

Date: 10/7/2016

Assignee: 
By: JOHN S. BELECHNAK
Title: COO

Agreed and accepted:

CHEMIMAGE TECHNOLOGIES LLC

Date: 10/7/2016

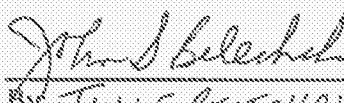
Assignee: 
By: JOHN S. BELECHNAK
Title: COO

EXHIBIT A
PATENT PORTFOLIO

Case Number	Ctry	SubCase	CaseType	Status	Application Number	Filing Date	Patent Number	Issue Date
138282.001	EP	03	PCT	Abandoned	06755747.5	02/23/2006		
138282.001	IN	06	PCT	Abandoned	7661/DELNP/2007	10/05/2007		
138282.001	US	01	PCT	Published	11/918486	01/06/2009		
138282.001	WO	02	ORD	Expired	PCT/US06/006213	02/23/2006		
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138282.004	US	61	CIP	Granted	11/440846	05/25/2006	7262840	08/28/2007

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138282.004	WO	02	ORD	Expired	PCT/US03/00868	01/10/2003	
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138282.006	US	01	ORD	Granted	12/614000	11/06/2009	8467052
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138282.036	US	00	PRO	Pending	61/816435	04/26/2013		

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138282.052	WO	02	ORD	Expired	PCT/US06/043930	11/13/2006		
138282.054	EP	03	PCT	Abandoned	07757497.8	02/26/2007		
138282.057	US	00	PRO	Expired	61/026538	02/06/2008		
138282.058	US	00	PRO	Abandoned	61/026580	02/06/2008		
138282.059	US	00	PRO	Expired	61/131417	06/09/2008		
138282.059	US	10	PRO	Expired	61/268172	06/09/2009		
138282.060	US	00	PRO	Expired	61/113419	06/09/2008		
138282.060	US	10	PRO	Expired	61/268122	06/09/2009		
138282.061	US	00	PRO	Expired	61/081367	07/17/2008		
138282.061	US	01	ORD	Abandoned	12/504914	07/17/2009		
138282.062	US	00	PRO	Expired	61/188351	08/08/2008		
138282.062	US	01	ORD	Granted	12/537671	08/07/2009	8416405	04/09/2013
138282.063	US	00	PRO	Expired	61/087345	08/08/2008		
138282.063	US	01	ORD	Granted	12/537513	08/07/2009	8253936	08/28/2012
138282.064	US	00	PRO	Expired	61/199236	11/14/2008		
138282.065	US	00	PRO	Expired	61/281660	11/20/2009		

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138282.065	US	10	PRO	Expired	61/199843	11/20/2008	
138282.066	US	00	PRO	Expired	61/206951	02/06/2009	
138282.067	US	00	PRO	Abandoned	61/168042	04/09/2009	
138282.068	US	00	PRO	Expired	61/169364	04/15/2009	
138282.068	US	01	ORD	Granted	12/759082	04/13/2010	01/17/2012
138282.069	US	00	PRO	Expired	61/215082	05/01/2009	
138282.069	US	01	ORD	Granted	12/799779	04/30/2010	10/16/2012
138282.069	US	11	CIP	Granted	13/651600	10/15/2012	03/24/2015
138282.070	US	00	PRO	Expired	61/268885	06/17/2009	
138282.072	US	00	PRO	Expired	61/335785	01/12/2010	
138282.073	US	00	PRO	Expired	61/301814	02/05/2010	
138282.074	US	00	PRO	Expired	61/303814	02/12/2010	
138282.075	US	00	PRO	Expired	61/305667	02/18/2010	
138282.076	US	00	PRO	Expired	61/321940	04/08/2010	
138282.076	US	10	PRO	Expired	61/473367	04/08/2011	
138282.076	US	20	PRO	Expired	61/620511	04/05/2012	
138282.077	US	00	PRO	Expired	61/324963	04/16/2010	
138282.077	US	01	ORD	Granted	13/066428	04/14/2011	03/19/2013
138282.077	US	11	CIP	Granted	13/842166	03/15/2013	02/09/2016
138282.077	US	21	CIP	Abandoned	13/913251	06/07/2013	
138282.078	US	00	PRO	Expired	61/395156	05/07/2010	
138282.078	US	10	PRO	Expired	61/516822	04/08/2011	
138282.079	US	00	PRO	Expired	61/395440	05/13/2010	
138282.079	US	01	ORD	Abandoned	13/068542	05/12/2011	
138282.080	US	00	PRO	Expired	61/396220	05/24/2010	
138282.081	US	00	PRO	Expired	61/398213	06/22/2010	
138282.081	US	01	CIP	Abandoned	13/134978	06/22/2011	
138282.082	US	00	PRO	Expired	61/403141	09/10/2010	
138282.082	US	01	ORD	Granted	13/199859	09/12/2011	09/03/2013
138282.082	US	10	PRO	Expired	61/699010	09/10/2012	
138282.082	US	20	PRO	Expired	61/573617	09/10/2011	
138282.083	US	00	PRO	Expired	61/403329	09/14/2010	
138282.083	US	01	CIP	Abandoned	13/199977	09/14/2011	
138282.083	US	11	CIP	Abandoned	13/199981	09/14/2011	
138282.084	US	00	PRO	Expired	61/403331	09/14/2010	

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138282.085	US	00	PRO	Expired	61/403330	09/14/2010
138282.085	US	10	PRO	Expired	61/573891	09/14/2011
138282.085	US	20	PRO	Expired	61/743952	09/14/2012
138282.086	US	00	PRO	Expired	61/404265	09/30/2010
138282.086	US	01	ORD	Abandoned	13/200779	09/30/2011
138282.087	US	00	PRO	Expired	61/390241	10/06/2010
138282.088	US	00	PRO	Expired	61/456663	11/10/2010
138282.089	US	00	PRO	Expired	61/458236	11/19/2010
138282.089	US	01	ORD	Abandoned	13/373563	11/17/2011
138282.090	US	00	PRO	Expired	61/431514	01/11/2011
138282.090	US	01	CIP	Published	13/347788	01/11/2012
138282.091	US	00	PRO	Expired	61/438723	02/02/2011
138282.091	US	01	ORD	Abandoned	13/364646	02/02/2012
138282.092	US	00	PRO	Expired	61/434034	01/19/2011
138282.092	US	01	CIP	Granted	13/374867	8736777 05/27/2014
138282.093	US	00	PRO	Expired	61/464432	03/04/2011
138282.094	US	00	PRO	Expired	61/468627	03/29/2011
138282.094	US	01	ORD	Abandoned	13/432938	03/28/2012
138282.095	US	00	PRO	Expired	61/465218	03/16/2011
138282.096	US	00	PRO	Expired	61/465217	03/16/2011
138282.097	US	00	PRO	Expired	61/468624	03/29/2011
138282.098	US	00	PRO	Expired	61/487841	05/19/2011
138282.099	US	00	PRO	Expired	61/571397	06/27/2011
138282.099	US	10	PRO	Expired	61/664807	06/27/2012
138282.099	US	20	PRO	Expired	61/840222	06/27/2013
138282.100	US	00	PRO	Expired	61/505184	07/07/2011
138282.101	US	00	PRO	Expired	61/528450	08/29/2011
138282.102	US	00	PRO	Expired	61/652898	05/30/2012
138282.103	US	00	PRO	Expired	61/665340	06/28/2012
138282.104	US	00	PRO	Expired	61/745060	12/21/2012
138282.105	US	00	PRO	Expired	61/744249	09/21/2012
138282.106	US	00	PRO	Expired	61/714570	10/16/2012
138282.106	US	01	CIP	Abandoned	14/055554	10/16/2013
138282.107	US	00	PRO	Expired	61/728860	11/21/2012
138282.108	US	00	PRO	Expired	61/797293	12/03/2012

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138282.108	US	01	CIP	Granted	13/998776	12/03/2013	9274046	03/01/2016
138282.109	US	00	PRO	Expired	61/728650	11/20/2012		
138282.110	US	00	PRO	Expired	61/796268	11/06/2012		
138282.111	US	00	PRO	Expired	61/723152	11/06/2012		
138282.112	US	00	PRO	Expired	61/797686	12/13/2012		
138282.113	US	00	PRO	Expired	61/848242	12/28/2012		
138282.114	US	00	PRO	Expired	61/848243	12/28/2012		
138282.116	US	00	PRO	Expired	61/833622	06/11/2013		
138282.116	US	01	ORD	Published	14/302225	06/11/2014		
138282.117	US	00	PRO	Expired	61/857080	07/22/2013		
138282.117	US	10	PRO	Expired	62/027340	07/22/2014		
138282.117	US	20	PRO	Expired	62/195394	07/22/2015		
138282.117	US	30	PRO	Pending	62/365613	07/22/2016		
138282.118	US	00	PRO	Pending	61/864996	08/12/2013		
138282.119	US	00	PRO	Expired	60/187560	03/07/2000		
138282.119	US	01	ORD	Granted	09/800953	03/07/2001	6,717,668	04/06/2004
138282.120	US	01	PRI	Abandoned	10/920333	08/18/2004		
138282.120	WO	02	ORD	Abandoned	PCT/US05/29207	08/17/2005		
138282.121	US	01	DES	Granted	29/186577	07/18/2003	D500,257	12/28/2004
138282.121	US	11	DES	Granted	29/205208	05/11/2004	D503,642	04/05/2005
138282.122	US	01	PRI	Granted	10/879632	06/30/2004	7239383	07/03/2007
138282.123	US	01	ORD	Granted	10/893230	07/19/2004	6,985,233	01/10/2006
138282.123	WO	02	ORD	Expired	PCT/US04/23073	07/19/2004		
138282.124	US	01	ORD	Abandoned	10/893331	07/19/2004	6985216	01/10/2006
138282.124	US	11	CON	Granted	11/216175	09/01/2005	7262839	08/28/2007
138282.125	CA	05	PCT	Abandoned	2532949	07/19/2004		
138282.125	CN	08	PCT	Abandoned	200480025624.3	07/19/2004	200480025624.3	
138282.125	CN	18	DIV	Abandoned	2008101166445.1	07/19/2004	ZL200480025624.3	
138282.125	EP	03	PCT	Abandoned	04778290.9	07/19/2004		
138282.125	EP	13	PCT	Abandoned	07757944.9	03/05/2007		
138282.125	EP	23	PCT	Abandoned	07757946.4	03/05/2007		
138282.125	HK	19	RCN	Abandoned	07102035.6	02/23/2007		
138282.125	IN	06	PCT	Abandoned		07/19/2004		
138282.125	JP	04	PCT	Abandoned	2006-521126	07/19/2004		
138282.125	US	00	PRO	Expired	60/488246	07/18/2003		

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138282.125	US	01	ORD	Granted	10/893332	07/19/2004	7012695	03/14/2006
138282.125	US	11	CIP	Granted	11/366332	03/03/2006	7738095	06/15/2010
138282.125	US	21	CIP	Granted	11/366660	03/03/2006	7548310	06/16/2009
138282.125	US	31	CIP	Granted	11/366331	03/03/2006	7440096	10/21/2008
138282.125	US	41	CON	Abandoned	12/430581	04/27/2009		
138282.125	US	51	CON	Granted	12/719004	03/09/2010	8269174	09/18/2012
138282.125	US	61	CIP	Abandoned	12/802649	06/11/2010		
138282.125	WO	02	ORD	Expired	PCT/US04/022712	07/19/2004		
138282.125	WO	12	ORD	Expired	PCT/US07/63344	03/05/2007		
138282.125	WO	22	ORD	Expired	PCT/US07/63346	03/05/2007		
138282.125	WO	32	ORD	Expired	PCT/US07/063348	03/05/2007		
138282.126	CA	25	PCT	Abandoned	2578183	02/23/2007		
138282.126	CN	28	PCT	Abandoned	200580029584.4	03/02/2007	200580029584.4	09/05/2008
138282.126	EP	23	PCT	Abandoned	05789312.5	03/19/2007		
138282.126	IN	26	PCT	Abandoned	1516/DELNP/2007			
138282.126	US	00	PRO	Expired	60/144518	07/19/1999		
138282.126	US	01	ORD	Granted	09/619371	07/19/2000	6788860	09/07/2004
138282.126	US	11	CIP	Granted	10/610481	06/30/2003	7123358	10/17/2006
138282.126	US	21	PRI	Granted	10/934885	09/03/2004	7239782	07/03/2007
138282.126	US	31	PRI	Granted	10/956044	10/04/2004	7218822	05/15/2007
138282.126	US	41	CON	Granted	11/744797	05/04/2007	7,551,821	06/23/2009
138282.126	US	51	CON	Granted	11/798483	05/14/2007	7,522,797	04/21/2009
138282.126	WO	22	ORD	Expired	PCT/US05/29745	08/19/2005		
138282.127	CA	05	PCT	Abandoned	2596076	07/26/2007		
138282.127	CN	08	PCT	Abandoned	200680001757.6	07/03/2007		
138282.127	EP	03	PCT	Abandoned	06733982.0	01/30/2006		
138282.127	IN	06	PCT	Abandoned	5476/DELNP/2007	07/16/2007		
138282.127	JP	04	PCT	Abandoned	2007-553277	01/30/2006		
138282.127	US	01	PRI	Abandoned	11/045051	01/31/2005		
138282.127	WO	02	ORD	Expired	PCT/US06/002975	01/30/2006		
138282.128	CA	05	PCT	Abandoned	2596077	01/30/2006		
138282.128	CN	08	PCT	Abandoned	200680001758.0	07/03/2007		
138282.128	EP	03	PCT	Abandoned	06733983.8	01/30/2006		
138282.128	IN	06	PCT	Abandoned	5473/DELNP/2007	01/30/2006		
138282.128	US	01	PRI	Granted	11/045080	01/31/2005	7283241	10/16/2007

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138282.128	US	11	CON	Granted	11/902874	09/26/2007	7,414,725	08/19/2008
138282.128	WO	02	ORD	Expired	PCT/US06/02976	01/30/2006		
138282.129	CA	05	PCT	Abandoned	2596251	01/26/2006		
138282.129	CN	08	PCT	Abandoned		01/26/2006		
138282.129	EP	03	PCT	Abandoned	06733993.7	01/26/2006		
138282.129	IN	06	PCT	Abandoned		01/26/2006		
138282.129	JP	04	PCT	Abandoned		01/26/2006		
138282.129	US	01	PRI	Granted	11/049064	02/02/2005	6992809	01/31/2006
138282.129	US	11	CIP	Granted	11/112634	04/22/2005	7,362,489	04/22/2008
138282.129	WO	02	ORD	Expired	PCT/US06/003012	01/26/2006		
138282.129	WO	12	ORD	Expired	PCT/US06/015010	04/21/2006		
138282.130	CA	05	PCT	Abandoned	2571473	05/06/2005		
138282.130	CN	08	PCT	Abandoned	200580021791.5	05/06/2005		
138282.130	EP	03	PCT	Abandoned	05761059.4	08/19/2005		
138282.130	HK	09	RCN	Abandoned				
138282.130	IN	06	PCT	Abandoned	7770/DELNP/2006	12/20/2006		
138282.130	US	01	ORD	Granted	10/879636	06/30/2004	7,408,636	08/05/2008
138282.130	WO	02	ORD	Expired	PCT/US06/16142	05/06/2005		
138282.131	EP	03	PCT	Abandoned	06848454.2	12/19/2006		
138282.131	US	00	PRO	Expired	60/752503	12/21/2005		
138282.131	US	01	ORD	Granted	11/611924	12/18/2006	7,859,753	12/28/2010
138282.131	WO	02	ORD	Expired	PCT/US2006/062275	12/19/2006		
138282.132	US	01	ORD	Granted	10/893339	07/19/2004	7084972	08/01/2006
138282.132	US	11	CON	Granted	11/364180	03/01/2006	7307705	12/11/2007
138282.134	US	00	PRO	Expired	60/711455	08/25/2005		
138282.134	US	01	CIP	Granted	11/509705	08/25/2006	7286222	10/23/2007
138282.134	US	11	CON	Granted	11/902613	09/24/2007	7542138	06/02/2009
138282.135	US	00	PRO	Expired	60/720782	09/27/2005		
138282.135	US	01	ORD	Granted	11/534912	09/25/2006	7,336,323	02/26/2008
138282.135	US	11	CON	Abandoned	12/014480	01/15/2008		
138282.136	US	00	PRO	Expired	60/748194	12/08/2005		
138282.136	US	01	ORD	Granted	11/635659	12/08/2006	7,337,066	02/26/2008
138282.137	EP	03	PCT	Abandoned	06848924.4	12/20/2006		
138282.137	EP	13	PCT	Abandoned	06845789.4	12/20/2006		
138282.137	EP	23	PCT	Abandoned	06850591.6	12/20/2006		

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138282.137	EP	33	PCT	Abandoned	06845787.8	12/20/2006	
138282.137	EP	43	PCT	Abandoned	06845788.6	07/01/2008	
138282.137	US	00	PRO	Expired	60/754324	12/29/2005	
138282.137	US	01	ORD	Abandoned	11/641666	12/20/2006	
138282.137	US	11	ORD	Abandoned	11/641667	12/20/2006	
138282.137	US	21	ORD	Granted	11/641668	12/20/2006	07/20/2010
138282.137	US	31	ORD	Abandoned	11/641669	12/20/2006	
138282.137	US	41	ORD	Granted	11/641671	12/20/2006	10/19/2010
138282.137	WO	02	ORD	Expired	PCT/US06/49371	12/20/2006	
138282.137	WO	12	ORD	Expired	PCT/US06/48381	12/20/2006	
138282.137	WO	22	ORD	Expired	PCT/US06/48379	12/20/2006	
138282.137	WO	32	ORD	Expired	PCT/US06/48380	12/20/2006	
138282.137	WO	42	ORD	Expired	PCT/US06/48378	12/20/2006	
138282.139	US	00	PRO	Expired	60/756124	01/04/2006	
138282.139	US	01	ORD	Abandoned	11/649293	01/04/2007	
138282.139	WO	02	ORD	Expired	PCT/US2007/000048	01/04/2007	
138282.140	US	01	ORD	Abandoned	11/649292	01/04/2007	
138282.140	WO	02	ORD	Expired	PCT/US2007/000047	01/04/2007	
138282.141	US	00	PRO	Expired	60/757268	01/09/2006	
138282.141	US	01	ORD	Granted	11/621166	01/09/2007	12/07/2010
138282.141	WO	02	ORD	Expired	PCT/US2007/060268	01/09/2007	
138282.142	EP	03	PCT	Abandoned	07811802.3	02/13/2007	
138282.142	US	00	PRO	Expired	60/772624	02/13/2006	
138282.142	US	01	ORD	Granted	11/674552	02/13/2007	01/06/2009
138282.142	WO	02	ORD	Expired	PC/US07/62075	02/13/2007	
138282.143	US	01	ORD	Granted	11/675155	02/13/2007	07/27/2010
138282.143	WO	02	ORD	Expired	PCT/US2007/062080	02/13/2007	
138282.144	US	00	PRO	Expired	60/777219	02/27/2006	
138282.144	US	01	ORD	Granted	11/679112	02/26/2007	12/30/2008
138282.144	WO	02	ORD	Expired	PCT/US2007/062822	02/26/2007	
138282.145	US	00	CIP	Closed			
138282.145	US	01	PRI	Abandoned	11/681326	03/02/2007	
138282.145	WO	02	ORD	Expired	PCT/US2007/063193	03/02/2007	
138282.146	EP	03	PCT	Abandoned	07771726.2	02/24/2008	
138282.146	US	00	PRO	Expired	60/778588	03/02/2006	

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138282.146	US	01	ORD	Granted	11/712917	03/02/2007	7,629,591	12/08/2009
138282.146	US	11	CIP	Granted	12/632187	12/07/2009	8,158,957	04/17/2012
138282.146	WO	02	ORD	Expired	PCT/US2007/05250	03/02/2007		
138282.147	EP	03	PCT	Abandoned	07757942.3	03/05/2007		
138282.147	US	00	PRO	Expired	60/778794	03/03/2006		
138282.147	US	01	ORD	Granted	11/682302	03/05/2007	7,471,389	12/30/2008
138282.147	WO	02	ORD	Transferred	PCT/US2007/063341	03/05/2007		
138282.148	US	01	PRI	Granted	11/890517	08/07/2007	7,626,696	12/01/2009
138282.148	WO	02	ORD	Expired	PCT/US2007/017505	08/07/2007		
138282.149	US	01	ORD	Granted	11/537233	09/29/2006	7,417,796	08/26/2008
138282.149	US	11	CON	Abandoned	12/196817	08/22/2008		
138282.150	US	01	ORD	Abandoned	11/016847	12/21/2004		
138282.150	US	11	CON	Granted	11/229539	09/20/2005	7,420,679	09/02/2008
138282.151	US	01	ORD	Abandoned	11/000545	11/30/2004		
138282.152	US	01	ORD	Abandoned	10/882082	06/30/2004	7,046,359	05/16/2006
138282.152	US	11	CON	Granted	11/399032	04/06/2006	7,317,526	01/08/2008
138282.153	US	00	PRO	Expired	60/588212	07/15/2004		
138282.154	US	00	PRO	Expired	60/645127	01/20/2005		
138282.154	US	01	ORD	Abandoned	11/336588	01/20/2006		
138282.154	WO	02	ORD	Expired	PCT/US06/002176	01/19/2006		
138282.155	EP	03	PCT	Abandoned	06736070.1	02/24/2006		
138282.155	IN	06	PCT	Abandoned	7301/DELNP/2007	02/24/2006		
138282.155	US	00	PRO	Expired	60/656057	02/24/2005		
138282.155	US	01	CIP	Granted	11/361256	02/24/2006	7,596,404	09/29/2009
138282.155	US	11	CIP	Granted	12/565279	09/23/2009	8078368	12/13/2011
138282.155	US	21	CON	Abandoned	13/316703	12/12/2011		
138282.155	WO	02	ORD	Expired	PCT/US2006/006663	02/24/2006		
138282.156	CA	05	PCT	Abandoned	2604661	04/14/2006		
138282.156	CN	08	PCT	Abandoned	200680021059.2	04/14/2006		
138282.156	EP	03	PCT	Abandoned	06750319.3	04/14/2006		
138282.156	IN	06	PCT	Abandoned		04/14/2006		
138282.156	US	00	PRO	Expired	60/671397	04/14/2005		
138282.156	US	01	ORD	Abandoned	11/404964	04/14/2006		
138282.156	WO	02	ORD	Expired	PCT/US2006/014252	04/14/2006		
138282.157	US	00	PRO	Expired	60/671585	04/15/2005		

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138282.158	EP	03	PCT	Abandoned	06784732.7	06/09/2006	
138282.158	US	00	PRO	Expired	60/688812	06/09/2005	
138282.158	US	01	ORD	Published	11/450138	06/09/2006	
138282.158	US	11	CIP	Granted	12/017445	01/22/2008	02/07/2012
138282.158	US	21	CIP	Abandoned	12/196921	08/22/2008	
138282.158	US	31	CIP	Granted	12/339805	12/19/2008	05/17/2011
138282.158	US	41	CIP	Abandoned	13/081992	04/07/2011	
138282.158	US	51	CON	Abandoned	13/246906	09/28/2011	
138282.158	WO	02	ORD	Expired	PCT/US2006/022618	06/09/2006	
138282.159	US	00	PRO	Expired	60/688801	06/09/2005	
138282.160	EP	03	PCT	Abandoned	06824769.1	07/12/2006	
138282.160	US	00	PRO	Expired	60/699284	07/14/2005	
138282.160	US	01	ORD	Granted	11/484939	07/12/2006	09/02/2008
138282.160	WO	02	ORD	Expired	PCT/US06/27172	07/12/2006	
138282.161	CA	15	PCT	Abandoned	2614319	07/11/2006	
138282.161	EP	13	PCT	Abandoned	06786809.1	07/11/2006	
138282.161	US	00	PRO	Expired	60/699461	07/15/2005	
138282.161	US	01	ORD	Abandoned	11/269596	11/09/2005	
138282.161	US	11	CIP	Abandoned	11/484040	07/11/2006	
138282.161	US	21	CIP	Published	11/598248	11/09/2006	
138282.161	US	31	CIP	Abandoned	13/098832	05/02/2011	
138282.161	WO	12	ORD	Expired	PCT/US2006/026777	07/11/2006	
138282.162	US	00	PRO	Expired	60/711593	08/26/2005	
138282.164	EP	03	PCT	Abandoned	06825187.5	09/26/2006	
138282.164	US	00	PRO	Expired	60/720531	09/26/2005	
138282.164	US	01	ORD	Granted	11/527112	09/26/2006	06/30/2009
138282.164	WO	02	ORD	Expired	PCT/US2006/037780	09/26/2006	
138282.165	US	00	PRO	Expired	60/720709	09/27/2005	
138282.165	US	01	CIP	Granted	11/647195	12/29/2006	12/09/2008
138282.165	US	11	ORD	Granted	11/527839	09/27/2006	01/13/2009
138282.165	US	21	CON	Granted	12/329688	12/08/2008	04/20/2010
138282.165	US	31	CIP	Granted	12/762609	04/19/2010	10/16/2012
138282.165	WO	02	ORD	Abandoned	PCT/US2006/037892	09/27/2006	
138282.166	US	01	ORD	Granted	11/585535	10/24/2006	07/07/2009
138282.166	WO	02	ORD	Expired	PCT/US06/041471	10/24/2006	

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138282.167	EP	03	PCT	Abandoned	06831501.4	12/22/2006	
138282.167	US	00	PRO	Expired	60/754011	12/23/2005	
138282.167	US	01	ORD	Granted	11/645132	12/22/2006	7,692,776
138282.167	US	11	CIP	Granted	12/754229	04/05/2010	8368880
138282.167	US	21	CIP	Granted	12/924831	10/06/2010	9103714
138282.167	US	31	CIP	Abandoned	13/020935	02/04/2011	
138282.167	US	41	CIP	Abandoned	13/020944	02/04/2011	
138282.167	US	51	CIP	Abandoned	13/020997	02/04/2011	
138282.167	US	61	CIP	Published	13/758742	02/04/2013	
138282.167	US	71	CIP	Abandoned	14/055509	10/16/2013	
138282.167	WO	02	ORD	Expired	PCT/US06/49176	12/22/2006	
138282.168	EP	03	PCT	Abandoned	07709591.7	01/05/2007	
138282.168	US	00	PRO	Expired	60/756382	01/05/2006	
138282.168	US	01	ORD	Granted	11/650378	01/05/2007	7,570,356
138282.168	US	11	CIP	Granted	12/462350	08/03/2009	8379197
138282.168	WO	02	ORD	Expired	PCT/US2007/000397	01/05/2007	
138282.169	CA	05	PCT	Abandoned	2597287	02/09/2006	
138282.169	CN	08	PCT	Abandoned	200680011539.0	02/09/2006	
138282.169	EP	03	PCT	Abandoned	06849698.3	02/09/2006	
138282.169	IN	06	PCT	Abandoned	6927/DELNP/2007	02/09/2006	
138282.169	JP	04	PCT	Abandoned	2007-558028	02/09/2006	
138282.169	US	01	ORD	Granted	11/351286	02/09/2006	7,561,264
138282.169	WO	02	ORD	Expired	PCT/US2006/004561	02/09/2006	
138282.170	US	00	PRO	Expired	60/651375	02/09/2005	
138282.170	US	01	ORD	Granted	11/351280	02/09/2006	7,495,752
138282.171	US	01	ORD	Granted	11/351329	02/09/2006	7,480,054
138282.172	US	01	ORD	Granted	11/351269	02/09/2006	7,480,033
138282.173	US	01	ORD	Granted	11/351333	02/09/2006	7,403,273
138282.174	US	01	ORD	Granted	11/351278	02/09/2006	7,471,387
138282.174	WO	02	ORD	Expired	PCT/US06/004566	02/09/2006	
138282.175	US	00	PRO	Expired	60/777852	03/01/2006	
138282.176	US	00	PRO	Expired	60/778764	12/01/2006	
138282.177	US	00	PRO	Expired	60/784042	03/20/2006	
138282.178	EP	03	PCT	Abandoned	07754032.6		
138282.178	US	00	PRO	Expired	60/785557	03/24/2006	

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138282.178	US	01	ORD	Granted	11/728430	03/26/2007	7649618	01/19/2010
138282.178	US	11	CIP	Abandoned	12/619336	11/16/2009		
138282.178	WO	02	ORD	Expired	PCT/US2007/007455	03/26/2007		
138282.179	US	00	PRO	Expired	60/801359	05/18/2006		
138282.180	US	00	PRO	Expired	60/834721	07/31/2006		
138282.180	US	01	ORD	Abandoned	11/831088	07/31/2007		
138282.180	US	11	CIP	Granted	12/931868	02/11/2011	8537354	09/17/2013
138282.180	US	21	CIP	Abandoned	12/931836	02/11/2011		
138282.181	US	00	PRO	Expired	60/839065	08/21/2006		
138282.181	US	01	ORD	Granted	11/894402	08/21/2007	7,573,570	08/11/2009
138282.181	WO	02	ORD	Expired	PCT/US2007/018479	08/21/2007		
138282.182	US	00	PRO	Expired	60/843146	09/08/2006		
138282.182	US	01	ORD	Abandoned	11/900169	09/10/2007		
138282.182	WO	02	ORD	Expired	PCT/US2007/019688	09/10/2007		
138282.184	US	00	PRO	Expired	60/852766	10/19/2006		
138282.184	US	01	ORD	Abandoned	11/975403	10/19/2007	7,659,978	02/09/2010
138282.184	WO	02	ORD	Abandoned	PCT/US2007/022345	10/19/2007		
138282.185	US	00	PRO	Expired	60/861943	11/30/2006		
138282.186	US	00	PRO	Expired	60/877918	12/29/2006		
138282.187	US	00	PRO	Expired	60/878325	01/03/2007		
138282.188	US	00	PRO	Expired	60/881886	01/23/2007		
138282.189	US	00	PRO	Expired	60/881894	01/23/2007		
138282.189	US	01	ORD	Granted	12/017409	01/23/2008	7,609,370	10/27/2009
138282.190	US	00	PRO	Expired	60/901497	02/14/2007		
138282.190	US	01	ORD	Granted	12/070010	02/14/2008	7,808,633	10/05/2010
138282.190	WO	02	ORD	Abandoned	PCT/US2008/001988	02/14/2008		
138282.191	US	00	PRO	Expired	60/896236	03/21/2007		
138282.192	US	00	PRO	Abandoned	60/944636	06/18/2007		
138282.193	EP	03	PCT	Abandoned	08797481.2	08/08/2008		
138282.193	US	00	PRO	Expired	60/954607	08/08/2007		
138282.193	US	01	ORD	Granted	12/188796	08/08/2008	8013991	09/06/2011
138282.193	US	11	CIP	Abandoned	13/225005	09/02/2011		
138282.193	US	31	CON	Abandoned	13/450579	04/19/2012		
138282.193	WO	02	ORD	Expired	PCT/US08/072617	08/08/2008		
138282.194	US	00	PRO	Expired	60/957757	08/24/2007		

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138282.195	US	00	PRO	Expired	60/971940	09/13/2007			
138282.195	US	01	ORD	Granted	12/206467	09/09/2008	7,755,757		07/13/2010
138282.195	US	11	CON	Granted	12/834370	07/12/2010	7990533		08/02/2011
138282.195	US	21	CIP	Abandoned	13/136366	07/29/2011			
138282.195	WO	02	ORD	Expired	PCT/US08/73598	09/08/2008			
138282.196	US	00	PRO	Expired	60/971949	09/13/2007			
138282.196	US	01	CIP	Granted	12/206500	09/08/2008	7956996		06/07/2011
138282.196	US	11	CIP	Abandoned	13/153775	06/06/2011			
138282.196	WO	02	ORD	Expired	PCT/US08/73609	09/08/2008			
138282.197	US	00	PRO	Expired	61/015532	12/20/2007			
138282.199	EP	03	PCT	Abandoned	05789119.4	08/17/2005			
138282.199	US	01	ORD	Granted	10/920320	08/18/2004	7,394,542		07/01/2008
138282.199	US	11	CON	Granted	11/824878	07/03/2007	7,411,672		08/12/2008
138282.199	WO	02	ORD	Expired	PCT/US05/29349	08/17/2005			
138282.200	CA	05	PCT	Abandoned	2585613	10/26/2005			
138282.200	CN	08	PCT	Abandoned	200580043803.4	10/26/2005			
138282.200	EP	03	PCT	Abandoned		10/26/2005			
138282.200	IN	06	PCT	Abandoned	3542/DELNP/2007	10/26/2005			
138282.200	US	00	PRO	Expired	60/625014	11/03/2004			
138282.200	US	01	ORD	Abandoned	11/252414	10/18/2005			
138282.200	WO	02	ORD	Expired	PCT/US2005/038694	10/26/2005			
138282.201	EP	03	PCT	Abandoned	06800399.5	07/27/2006			
138282.201	US	01	CIP	Granted	11/206007	08/17/2005	7,428,045		09/23/2008
138282.201	US	11	CON	Granted	12/191496	08/14/2008	7,623,232		11/24/2009
138282.201	US	21	CON	Granted	12/191559	08/14/2008	7,755,756		07/13/2010
138282.201	US	31	CIP	Granted	12/834462	07/12/2010	8395769		03/12/2013
138282.201	US	41	CIP	Abandoned	13/794186	03/11/2013			
138282.201	WO	02	ORD	Expired	PCT/US2006/029187	07/27/2006			
138282.202	CA	05	PCT	Abandoned	2572390	06/30/2005			
138282.202	CN	08	PCT	Abandoned	200580029223.X	06/30/2005			
138282.202	EP	03	PCT	Abandoned	05857501.0	06/30/2005			
138282.202	IN	06	PCT	Abandoned		06/30/2005			
138282.202	US	00	PRO	Expired	60/584738	06/30/2004			
138282.202	US	01	ORD	Granted	11/000778	11/30/2004	7,379,179		05/27/2008
138282.202	US	11	CIP	Granted	11/091126	03/28/2005	7,595,878		09/29/2009

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138282.202	US	21	CON	Abandoned	12/075004		03/06/2008	
138282.202	WO	02	ORD	Expired	PCT/US2005/023635		06/30/2005	
138282.203	EP	03	PCT	Abandoned	06784627.9		06/06/2006	
138282.203	WO	02	ORD	Expired	PCT/US2006/022083		06/06/2006	
138282.204	US	01	ORD	Granted	11/000683		11/30/2004	7,538,869
138282.204	US	11	CON	Granted	12/422360		04/13/2009	8,094,294
138282.204	US	21	CON	Abandoned	13/374703		01/09/2012	
138282.204	US	31	CIP	Published	13/626474		09/24/2012	
138282.204	WO	02	ORD	Abandoned	PCT/US05/023310		06/30/2005	
138282.205	US	00	PRO	Expired	60/568357		05/05/2004	
138282.205	US	01	ORD	Granted	11/000591		11/30/2004	7,697,576
138282.205	US	11	CON	Granted	12/755463		04/07/2010	8553732
138282.206	CA	05	PCT	Abandoned	2571932		06/30/2005	
138282.206	CN	08	PCT	Abandoned	200580029238.6		06/30/2005	
138282.206	EP	03	PCT	Abandoned	05857503.6		06/30/2005	
138282.206	IN	06	PCT	Abandoned	7893/DELNP/2006		06/30/2005	
138282.206	US	00	PRO	Expired	60/584719		06/30/2004	
138282.206	US	01	ORD	Granted	11/000841		11/30/2004	7,532,320
138282.206	WO	02	ORD	Expired	PCT/US2005/023705		06/30/2005	
138282.207	EP	03	PCT	Abandoned	06837304.2		11/30/2006	
138282.207	US	00	PRO	Expired	60/735062		11/09/2005	
138282.207	WO	02	ORD	Expired	PCT/US06/43755		11/09/2006	
138282.208	US	00	PRO	Expired	60/734839		11/09/2005	
138282.208	US	01	ORD	Granted	11/598245		11/09/2006	7,450,228
138282.208	US	11	CON	Granted	12/248344		10/09/2008	7,760,353
138282.208	WO	02	ORD	Expired	PCT/US06/043778		11/09/2006	
138282.209	US	00	ORD	Granted	11/393395		03/30/2006	7564541
138282.210	CA	05	PCT	Abandoned	2571765		06/30/2005	
138282.210	CN	08	PCT	Abandoned	20058002932.3		06/30/2005	
138282.210	EP	03	PCT	Abandoned	05767739.5		06/30/2005	
138282.210	IN	06	PCT	Abandoned			06/30/2005	
138282.210	US	00	PRO	Expired	60/625882		11/08/2004	
138282.210	US	01	PCT	Granted	10/556038		06/30/2005	7,564,546
138282.210	WO	02	ORD	Expired	PCT/US05/23638		06/30/2005	
138282.211	US	01	ORD	Granted	09/064347		04/22/1998	6,002,476
								12/14/1999

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138282.212	US	00	PRO	Abandoned	60/952612	07/30/2007
138282.213	US	00	PRO	Expired	61/455427	10/19/2010
138282.213	US	01	ORD	Abandoned	13/317497	10/19/2011
138282.214	EP	03	PCT	Abandoned	06851106.2	06/09/2006
138282.214	US	00	PRO	Expired	60/699251	07/14/2005
138282.214	WO	02	ORD	Expired	PCT/US06/022647	06/09/2006
138282.215	US	00	PRO	Expired	61/195329	10/06/2008
138282.215	US	10	PRO	Expired	61/278393	10/06/2009
138282.216	US	00	PRO	Expired	62/089777	12/09/2014
138282.216	US	10	PRO	Expired	62/113958	02/09/2015
138282.216	US	20	PRO	Pending	62/264993	12/09/2015
138282.217	US	00	PRO	Pending	62/255804	11/16/2015
138282.218	US	00	PRO	Pending	62/359030	07/06/2016