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			Application Number		
			Filing Date	2023-07-13	
			First Named Inventor	KARTALOV EMIL; P.	
			Art Unit		
			Examiner Name	Not yet assigned	
			Attorney Docket Number	88DG-373535-US	
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U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	001	US-5079351	01-07-1992	SNINSKY; John J. et al.	
	002	US-5538848	07-23-1996	LIVAK; Kenneth J. et al.	
	003	US-5618711	04-08-1997	GELFAND; David H. et al.	
	004	US-5677152	10-14-1997	BIRCH; David Edward et al.	
	005	US-5723591	03-03-1998	LIVAK; Kenneth J. et al.	
	006	US-5773258	06-30-1998	BIRCH; David Edward et al.	
	007	US-5789224	08-04-1998	GELFAND; David H. [Us] et al.	
	008	US-5804375	09-08-1998	GELFAND; David H. et al.	
	009	US-5834203	11-10-1998	KATZIR; Nir et al.	
	010	US-5876930	03-02-1999	LIVAK; Kenneth J. et al.	
	011	US-5882856	03-16-1999	SHUBER; Anthony P.	
	012	US-5928862	07-27-1999	MORRISON; Larry E.	
	013	US-5948360	09-07-1999	RAO; Prabhakar P. et al.	
	014	US-5981180	11-09-1999	CHANDLER; Van S. et al.	
	015	US-5994056	11-30-1999	HIGUCHI; Russell G.	
	016	US-6030787	02-29-2000	LIVAK; Kenneth J. et al.	
	017	US-6103463	08-15-2000	CHETVERIN; Alexander B. et al.	
	018	US-6127155	10-03-2000	GELFAND; David H. et al.	
	019	US-6171785	01-09-2001	HIGUCHI; Russell G.	
	020	US-6258569	07-10-2001	LIVAK; Kenneth J. et al.	
	021	US-6534266	03-18-2003	SINGER; Robert H.	

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		Number-Kind Code ² (if known)			
	022	US-6534274	03-18-2003	BECKER; Michael M. et al.	
	023	US-6548259	04-15-2003	WARD; David C. et al.	
	024	US-6642062	11-04-2003	KAUVAR; Lawrence M. et al.	
	025	US-6893875	05-17-2005	TSUJI; Yasuhiro et al.	
	026	US-7101663	09-05-2006	GODFREY; Tony E. et al.	
	027	US-7141377	11-28-2006	GELFAND; David H. et al.	
	028	US-7348141	03-25-2008	FRENCH; David John et al.	
	029	US-7385043	06-10-2008	KRAMER; Fred R.	
	030	US-7410764	08-12-2008	GOCKE; Christopher et al.	
	031	US-7413708	08-19-2008	MAYRAND; Paul E.	
	032	US-7473767	01-06-2009	DIMITROV; Krassen	
	033	US-7507575	03-24-2009	BEDINGHAM; William [Us] et al.	
	034	US-7575864	08-18-2009	BEDZYK; Laura A. et al.	
	035	US-7667024	02-23-2010	MAO; FEI et al.	
	036	US-7671184	03-02-2010	HAENER; Robert et al.	
	037	US-7709249	05-04-2010	BEDINGHAM; William et al.	
	038	US-7767423	08-03-2010	KOPRESKI; Michael [Us] et al.	
	039	US-7771949	08-10-2010	KRAMER; Fred R.	
	040	US-7919237	04-05-2011	DIMITROV; Krassen et al.	
	041	US-7919244	04-05-2011	MADEJON; Seiz Antonio et al.	

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		Number-Kind Code ² (if known)			
	042	US-7930106	04-19-2011	CARRICK; James M. [Us] et al.	
	043	US-7941279	05-10-2011	HWANG; Jenq-Neng et al.	
	044	US-8039215	10-18-2011	HIGUCHI; Russell [Us] et al.	
	045	US-8148512	04-03-2012	DIMITROV; Krassen et al.	
	046	US-8426132	04-23-2013	LI; BIN [Us] et al.	
	047	US-8455184	06-04-2013	ATCHLEY; Daniel H. [Us] et al.	
	048	US-8492094	07-23-2013	DIMITROV; Krassen [Us] et al.	
	049	US-8519115	08-27-2013	WEBSTER; Philippa J. [Us] et al.	
	050	US-8614061	12-24-2013	BRABETZ; Werner [De] et al.	
	051	US-8771955	07-08-2014	REED; Michael W. [Us] et al.	
	052	US-8838394	09-16-2014	KARTALOV; Emil [Us] et al.	
	053	US-8877464	11-04-2014	BABIEL; Reiner [De] et al.	
	054	US-8962250	02-24-2015	STANLEY; Keith [Au] et al.	
	055	US-9133506	09-15-2015	KATZIR; NIR [Il] et al.	
	056	US-9222128	12-29-2015	SAXONOV; Serge et al.	
	057	US-9260761	02-16-2016	TYAGI; Sanjay [Us] et al.	
	058	US-9366632	06-14-2016	LINK; Darren R. et al.	
	059	US-9422593	08-23-2016	ROTHMANN; Thomas [De] et al.	
	060	US-9441266	09-13-2016	LARSON; Jonathan William et al.	

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		Number-Kind Code ² (if known)			
	061	US-9447457	09-20-2016	CHUN; Jong Yoon [Kr] et al.	
	062	US-9458497	10-04-2016	HASSIBI; Arjang et al.	
	063	US-9791372	10-17-2017	MALIK; Imran R. et al.	
	064	US-10066263	09-04-2018	RAJAGOPAL; Aditya et al.	
	065	US-10068051	09-04-2018	KARTALOV; Emil et al.	
	066	US-10068051	09-04-2018	KARTALOV; Emil et al.	
	067	US-10301668	05-28-2019	JACKY; Lucian A.E.	
	068	US-10770170	09-08-2020	KARTALOV; Emil P. et al.	
	069	US-20020022273	02-21-2002	EMPEDOCLES; Stephen A. [Us] et al.	
	070	US-20020146734	10-10-2002	ORTYN; William E. et al.	
	071	US-20030134320	07-17-2003	BARRUS; Jeffrey K. et al.	
	072	US-20030148280	08-07-2003	HARRIS; Barbara J. et al.	
	073	US-20030148544	08-07-2003	NIE; Shuming et al.	
	074	US-20040053230	03-18-2004	SCHAFFER; Michael Edward [Us] et al.	
	075	US-20040191794	09-30-2004	WEINDEL; Kurt et al.	
	076	US-20050053950	03-10-2005	ZUDAIRE UBANI; Enrique et al.	
	077	US-20050064435	03-24-2005	SU; Xing et al.	
	078	US-20050106607	05-19-2005	YIN; Li-Te et al.	
	079	US-20050164264	07-28-2005	SHIPWASH; Edward	
	080	US-20050214753	09-29-2005	SHULTZ; John W. et al.	

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	081	US-20050250146	11-10-2005	MCMILLAN; William A.	
	082	US-20050260640	11-24-2005	ANDERSEN; Mark R. et al.	
	083	US-20060216708	09-28-2006	VENEMA; Fokke	
	084	US-20070072211	03-29-2007	NEWTON; Nick et al.	
	085	US-20070178485	08-02-2007	EL-DEIRY; Wafik S. et al.	
	086	US-20070231824	10-04-2007	CHEE; Mark S. et al.	
	087	US-20080050737	02-28-2008	ARIELI; Boaz et al.	
	088	US-20080069733	03-20-2008	MALTEZOS; George et al.	
	089	US-20080096767	04-24-2008	KOHN; Heinz G.	
	090	US-20080124705	05-29-2008	KRAMER; Fred R.	
	091	US-20090042735	02-12-2009	BLAIR; Steven M. et al.	
	092	US-20090048785	02-19-2009	KATZIR; NIR et al.	
	093	US-20090062129	03-05-2009	MCKERNAN; Kevin [Us] et al.	
	094	US-20100015607	01-21-2010	GEISS; Gary K. et al.	
	095	US-20100041092	02-18-2010	LIN; Michael Z. et al.	
	096	US-20100047924	02-25-2010	WEBSTER; Philippa J. et al.	
	097	US-20100112710	05-06-2010	GEISS; Gary K. et al.	
	098	US-20100120043	05-13-2010	SOOD; Anup et al.	
	099	US-20100151443	06-17-2010	XIANG; Qing et al.	
	100	US-20100159447	06-24-2010	LI; BIN et al.	
	101	US-20100210472	08-19-2010	EMPEDOCLES; Stephen A. et al.	

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	103	US-20100248257	09-30-2010	JACOBSEN; Kivin et al.	
	104	US-20100261026	10-14-2010	FERREE; Sean M. et al.	
	105	US-20100267064	10-21-2010	KARTALOV; Emil P. et al.	
	106	US-20100273173	10-28-2010	HIRAI; Mitsuharu et al.	
	107	US-20100324834	12-23-2010	TREPTOW; Rainer [De] et al.	
	108	US-20110104684	05-05-2011	HOOPER; Dennis G.	
	109	US-20110151459	06-23-2011	ROTHMANN; Thomas et al.	
	110	US-20110151550	06-23-2011	SAGNER; Gregor et al.	
	111	US-20110171658	07-14-2011	CARRICK; James M.	
	112	US-20110207623	08-25-2011	DIMITROV; Krassen et al.	
	113	US-20110223602	09-15-2011	WHITMAN; Douglas F. [Us] et al.	
	114	US-20110237459	09-29-2011	NOVA; Michael P. et al.	
	115	US-20120003646	01-05-2012	JOO; Sunghae A. et al.	
	116	US-20120040349	02-16-2012	VON; Lode Piia et al.	
	117	US-20120040352	02-16-2012	WANGH; Lawrence J. [Us] et al.	
	118	US-20120045756	02-23-2012	ROTHMANN; Thomas et al.	
	119	US-20120077195	03-29-2012	LI; Qingge et al.	
	120	US-20120101740	04-26-2012	ORPANA; Arto [Se] et al.	
	121	US-20120122704	05-17-2012	ATCHLEY; Daniel H. et al.	

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	Complete if Known Application Number Filing Date: 2023-07-13 First Named Inventor: KARTALOV EMIL; P. Art Unit Examiner Name: Not yet assigned Attorney Docket Number: 88DG-373535-US
Sheet 7 of 27	

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	122	US-20120141995	06-07-2012	LI; Qingge et al.	
	123	US-20120171677	07-05-2012	LUDOWISE; Peter D.	
	124	US-20120184017	07-19-2012	CHATTERJEE; DEB K.	
	125	US-20120190030	07-26-2012	CHUN; Jong Yoon et al.	
	126	US-20120196283	08-02-2012	BABIEL; Reiner et al.	
	127	US-20120244534	09-27-2012	CHING; Jesus et al.	
	128	US-20120252014	10-04-2012	LOEFFERT; Dirk et al.	
	129	US-20120252017	10-04-2012	REED; Michael W. et al.	
	130	US-20120258457	10-11-2012	JAROSCH; Florian et al.	
	131	US-20120302448	11-29-2012	HUTCHISON; John Brian et al.	
	132	US-20130017971	01-17-2013	GEISS; Gary K. [Us] et al.	
	133	US-20130040841	02-14-2013	SAXONOV; Serge et al.	
	134	US-20130078626	03-28-2013	WASSERSTROM; Adam et al.	
	135	US-20130116780	05-09-2013	MILLER; Eran et al.	
	136	US-20130261019	10-03-2013	LIN; Chenxiang [Us] et al.	
	137	US-20130288244	10-31-2013	DECIU; Cosmin et al.	
	138	US-20140004520	01-02-2014	MOHAPATRA; Shyam S. et al.	
	139	US-20140038195	02-06-2014	MALIK; Imran R. [Us] et al.	
	140	US-20140171341	06-19-2014	JOUVENOT; Yann et al.	
	141	US-20140213471	07-31-2014	RAJAGOPAL; Aditya et al.	

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Substitute for form 1449/PTO <h2 style="text-align: center;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center;">(Use as many sheets as necessary)</p>	Complete if Known												
Sheet 8 of 27	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Application Number</td> <td></td> </tr> <tr> <td>Filing Date</td> <td>2023-07-13</td> </tr> <tr> <td>First Named Inventor</td> <td>KARTALOV EMIL; P.</td> </tr> <tr> <td>Art Unit</td> <td></td> </tr> <tr> <td>Examiner Name</td> <td>Not yet assigned</td> </tr> <tr> <td>Attorney Docket Number</td> <td>88DG-373535-US</td> </tr> </table>	Application Number		Filing Date	2023-07-13	First Named Inventor	KARTALOV EMIL; P.	Art Unit		Examiner Name	Not yet assigned	Attorney Docket Number	88DG-373535-US
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		Number-Kind Code ² (if known)			
	142	US-20140274774	09-18-2014	LI; Kelly et al.	
	143	US-20150057178	02-26-2015	KARTALOV; Emil et al.	
	144	US-20150140554	05-21-2015	SNYDER; Richard O. et al.	
	145	US-20150211054	07-30-2015	KOSTEM; Emrah et al.	
	146	US-20150275295	10-01-2015	WANG; Linfa et al.	
	147	US-20160040256	02-11-2016	CHEN; Caifu et al.	
	148	US-20160108464	04-21-2016	SAXONOV; Serge et al.	
	149	US-20160201122	07-14-2016	BUSHKIN; Yuri et al.	
	150	US-20160273048	09-22-2016	ROPERCH; Jean-Pierre	
	151	US-20170145490	05-25-2017	CHIU; Daniel T. et al.	
	152	US-20170314073	11-02-2017	GRÖMMINGER; Sebastian et al.	
	153	US-20170362636	12-21-2017	RAJAGOPAL; Aditya et al.	
	154	US-20180030551	02-01-2018	RAJAGOPAL; Aditya et al.	
	155	US-20180052110	02-22-2018	MALIK; Imran R. et al.	
	156	US-20180057864	03-01-2018	JACKY; Lucien A. E. et al.	
	157	US-20190002963	01-03-2019	RAJAGOPAL; Aditya	
	158	US-20190032112-A1	01-31-2019	RAJAGOPAL; Aditya et al.	
	159	US-20190112636	04-18-2019	RAJAGOPAL; Aditya et al.	
	160	US-20190233882	08-01-2019	JACKY; Lucien et al.	
	161	US-20200010876-A1	01-09-2020	MACDONALD; Christopher	

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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	001	CN-101570782-A	11-04-2009	CHUNHUA YANG [CN]	Abstract:	<input checked="" type="checkbox"/>
	002	CN-1936019-A	03-28-2007	UNIV XIAMEN [CN]	Abstract:	<input checked="" type="checkbox"/>
	003	EP-0519338-A1	12-23-1992	HOFFMANN LA ROCHE [CH]		<input type="checkbox"/>
	004	EP-1448581-B1	11-12-2008	INST SYSTEMS BIOLOGY [US]		<input type="checkbox"/>
	005	EP-1629108-B1	12-31-2014	PHRI PROPERTIES INC [US]		<input type="checkbox"/>
	006	EP-1963531-B1	09-21-2011	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	007	EP-2224017-A1	09-01-2010	ARKRAY INC [JP]		<input type="checkbox"/>
	008	WO-0107640-A2	02-01-2001	SEC DEP HOME DEPT [GB], et al.		<input type="checkbox"/>
	009	WO-02056014-A2	07-18-2002	GLAXO GROUP LTD [GB], et al.		<input type="checkbox"/>
	010	WO-02056014-A3	10-09-2003	GLAXO GROUP LTD [GB], et al.		<input type="checkbox"/>

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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	011	WO-03002979-A2	01-09-2003	ILLUMINA INC [US], et al.		<input type="checkbox"/>
	012	WO-03020967-A1	03-13-2003	ROCHE DIAGNOSTICS GMBH [DE], et al.		<input type="checkbox"/>
	013	WO-2004087950-A2	10-14-2004	ROCHE DIAGNOSTICS GMBH [DE], et al.		<input type="checkbox"/>
	014	WO-2006079049-A2	07-27-2006	THIRD WAVE TECH INC [US], et al.		<input type="checkbox"/>
	015	WO-2007076128-A2	07-05-2007	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	016	WO-2007076128-A3	11-29-2007	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	017	WO-2007076129-A2	07-05-2007	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	018	WO-2007076129-A3	03-06-2008	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	019	WO-2007076132-A2	07-05-2007	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	021	WO-2007139766-A2	12-06-2007	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	022	WO-2007139766-A3	12-11-2008	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	023	WO-2008118998-A2	10-02-2008	PRIMERA BIOSYSTEMS INC [US], et al.		<input type="checkbox"/>
	024	WO-2008124847-A2	10-16-2008	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	025	WO-2008124847-A3	02-19-2009	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
	026	WO-2009036514-A2	03-26-2009	MOLECULAR PLANT BREEDING NOMINEES LTD [AU], et al.		<input type="checkbox"/>
	027	WO-2010007355-A1	01-21-2010	LUMORA LTD [GB], et al.		<input type="checkbox"/>
	028	WO-2010013017-A1	02-04-2010	OXITEC LTD [GB], et al.		<input type="checkbox"/>
	029	WO-2010017543-A1	02-11-2010	SMITHS DETECTION INC [US], et al.		<input type="checkbox"/>
	030	WO-2010019826-A1	02-18-2010	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>

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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
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Sheet	13	of	27	Attorney Docket Number	88DG-373535-US

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Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	041	WO-2012135340-A2	10-04-2012	NANOSTRING TECHNOLOGIES INC [US], et al.		<input type="checkbox"/>
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	043	WO-2013096851-A1	06-27-2013	HARVARD COLLEGE [US]		<input type="checkbox"/>
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	047	WO-2015147370-A1	10-01-2015	SEEGENE INC [KR]		<input type="checkbox"/>
	048	WO-2016154600-A1	09-29-2016	MASSACHUSETT S GEN HOSPITAL [US]		<input type="checkbox"/>
	049	WO-2017139354-A1	08-17-2017	UNIV MICHIGAN REGENTS [US]		<input type="checkbox"/>
	050	WO-2017173035-A1	10-05-2017	CHROMACODE INC [US]		<input type="checkbox"/>

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				Application Number	
				Filing Date	2023-07-13
				First Named Inventor	KARTALOV EMIL; P.
				Art Unit	
				Examiner Name	Not yet assigned
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	051	WO-2017218777-A1	12-21-2017	CALIFORNIA INST OF TECHN [US]		<input type="checkbox"/>
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	058	WO-9919515-A1	04-22-1999	LUMINEX CORP [US]		<input type="checkbox"/>

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	001	ARYA, et al., Basic principles of real-time quantitative PCR, 2005, Expert Rev. Mol. Diagn., 5(2), pg. 209-219.	<input type="checkbox"/>
	002	BEIGE, et al. Clinical evaluation of a Mycobacterium tuberculosis PCR assay. J Clin Microbiol. 1995 Jan;33(1):90-5.	<input type="checkbox"/>
	003	BLACKET et al. Universal primers for fluorescent labeling of PCR fragments - an efficient and cost-effective approach to genotyping by fluorescence. Molecular Ecology Resources 12(3):456-463 (2012) Epub 2012 Jan 24.	<input type="checkbox"/>
	004	CHAMBERLAIN, et al. Deletion screening of the Duchenne muscular dystrophy locus via multiplex DNA amplification. Nucleic Acids Res. 1988 Dec 9;16(23):11141-56.	<input type="checkbox"/>
	005	CHAPIN et al., Rapid microRNA profiling on encoded gel microparticles. Angewandte Chemie International Edition, 50(10):2289-2293, 2011.	<input type="checkbox"/>
	006	CHEN, et al. A Homogeneous, ligase-mediated DNA diagnostic test. Genome Research, 1998, volume 8, pages 549-556.	<input type="checkbox"/>
	007	CHONG, et al. Single-tube multiplex-PCR screen for common deletional determinants of alpha-thalassemia. Blood. 2000 Jan 1;95(1):360-2.	<input type="checkbox"/>
	008	Chromatogram, 2011, 2 pages. Dorland's illustrated medical dictionary. Retrieved online on 22 January 2014 from « http://www.credoreference.com ».	<input type="checkbox"/>
	009	CHUN et al. Dual priming oligonucleotide system for the multiplex detection of respiratory viruses and SNP genotyping of CYP2C19 gene. Nucleic Acids Res. 35(6):e40 (2007).	<input type="checkbox"/>

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	010	CRAIG, et al. Ordering of cosmid clones covering Herpes simplex virus type I (HSV-I) genome: a test case for fingerprinting by hybridisation. Nucleic Acids Research, 1990, volume 18, pages 2653-2660.	<input type="checkbox"/>
	011	DOS SANTOS, et al. A simple one-step real-time RT-PCR for diagnosis of dengue virus infection. J Med Virol. 2008 Aug;80(8):1426-33. .	<input type="checkbox"/>
	012	EL-HAJJ, et al. Detection of rifampin resistance in Mycobacterium tuberculosis in a single tube with molecular beacons. J Clin Microbiol. 2001 Nov;39(11):4131-7.	<input type="checkbox"/>
	013	EMBL-Bank: AJ303204. http://www.ebi.ac.uk/Tools/dbfetch/embfetch?db=embl&id=AJ303204&format=default&style=default&Retrieve=Retrieve . Accessed February 2012.	<input type="checkbox"/>
	014	EMBL-Bank: GQ395623. http://www.ebi.ac.uk/Tools/dbfetch/embfetch?db=embl&id=GQ395623&format=default&style=default&Retrieve=Retrieve . Accessed February 2012.	<input type="checkbox"/>
	015	EP17814096.8 Extended European Search Report dated December 2, 2019.	<input type="checkbox"/>
	016	European Office Action for Patent Application No. EP13824744.0 dated November 6, 2018.	<input type="checkbox"/>
	017	European Patent Application No. 17776626 Office Action dated October 18, 2019.	<input type="checkbox"/>
	018	EVANS et al. Digital PCR for Noninvasive Detection of Aneuploidy: Power Analysis Equations for Feasibility. Fetal Diagn. Ther. 31:244-247(2012).	<input type="checkbox"/>
	019	Extended European Search Report for Patent Application No. 13744261.2 dated May 3, 2016.	<input type="checkbox"/>

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	020	Extended European Search Report for Patent Application No. EP13824744.0 dated February 26, 2016.	<input type="checkbox"/>
	021	FODOR, et al. Multiplexed biochemical assays with biological chips. Nature. 1993 Aug 5;364(6437):555-6.	<input type="checkbox"/>
	022	FORTINA, et al. Digital mRNA profiling. Nat Biotechnol. 2008 Mar;26(3):293-4.	<input type="checkbox"/>
	023	FU et al. Multiplex detection and SNP genotyping in a single fluorescence channel. PLoS One 7(1):Article No. e30340 (January 2012).	<input type="checkbox"/>
	024	GANDELMAN, et al., Novel Bioluminescent Quantitative Detection of Nucleic Acid Amplification in Real-Time, PLoS One, 2010, 5(11):e14155, 14 pages.	<input type="checkbox"/>
	025	GenBank: M93130.1. Dengue type 3 virus complete genome RNA, complete cds. http://www.ncbi.nlm.nih.gov/nuccore/M93130 . Accessed February 2012.	<input type="checkbox"/>
	026	HAN, et al., Quantum-dot-tagged microbeads for multiplexed optical coding of biomolecules. Nature Biotechnology 19.99 (July 2001): 631-635.	<input type="checkbox"/>
	027	HARTMAN, et al. Development of a novel internal positive control for Taqman based assays. Mol Cell Probes. 2005 Feb;19(1):51-9. Epub 2004 Dec 10.	<input type="checkbox"/>
	028	HAUSTEIN et al. Fluorescence correlation spectroscopy: novel variations of an established technique. Ann Rev Biophys Biomol Struct 36:151-69 (2007).	<input type="checkbox"/>
	029	HEIDARI, et al. Detection of Plasmodium falciparum Directly from Blood Samples Using the Polymerase Chain Reaction. Journal of Sciences, Islamic Republic of Iran. 2005 16(1):21-24.	<input type="checkbox"/>

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	030	HENEGARIU, et al. Multiplex PCR: critical parameters and step-by-step protocol. Biotechniques. 1997 Sep;23(3):504-11.	<input type="checkbox"/>
	031	HIV databases. http://www.hiv.lanl.gov/content/index . Accessed February 2012.	<input type="checkbox"/>
	032	Holland, et al., Detection of specific polymerase chain reaction product by utilizing the 5' to 3' exonuclease activity of Thermus aquaticus DNA polymerase. PNAS (USA) 88:7276-7280, 1991.	<input type="checkbox"/>
	033	HOREJSH, et al. A molecular beacon, bead-based assay for the detection of nucleic acids by flow cytometry. Nucleic Acids Res. 2005 Jan 19;33(2):e13.	<input type="checkbox"/>
	034	HUANG, et al. Identification of 8 foodborne pathogens by multicolor combinational probe coding technology in a single real-time PCR. Clin Chem. 2007 Oct;53(10):1741-8. Epub 2007 Aug 10.	<input type="checkbox"/>
	035	HUANG, et al. Multicolor combinatorial probe coding for real-time PCR. PLoS One. 2011 Jan 14;6(1):e16033. .	<input type="checkbox"/>
	036	HUDECOVA, I. et al. Maternal Plasma Fetal DNA Fractions in Pregnancies with Low and High Risks for Fetal Chromosomal Aneuploidies. PLoS ONE 9(2):e88484 (2014). .	<input type="checkbox"/>
	037	International Search Report and Written Opinion dated 11/21/19 for PCT/US2019/050050.	<input type="checkbox"/>
	038	JOTHIKUMAR, et al. Design of FRET-TaqMan probes for multiplex real-time PCR using an internal positive control. Biotechniques. 2009 Jun;46(7):519-24. .	<input type="checkbox"/>
	039	KLOSTRANEC et al., Convergence of quantum dot barcodes with microfluidics and signal processing for multiplexed high-throughput infectious disease diagnostics. Nano Letters, 7(9):2812-2818, 2007.	<input type="checkbox"/>

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	041	LAO, et al. Multiplexing RT-PCR for the detection of multiple miRNA species in small samples. Biochem Biophys Res Commun. 2006 Apr 28;343(1):85-9. Epub 2006 Feb 28.	<input type="checkbox"/>
	042	LEE, et al. Novel multiplex PCR using dual-priming oligonucleotides for detection and discrimination of the Mycobacterium tuberculosis complex and M. bovis BCG. J Clin Microbiol. 2010 Dec;48(12):4612-4. Epub 2010 Oct 13.	<input type="checkbox"/>
	043	LEE, et al. Seven-color, homogeneous detection of six PCR products. Biotechniques. 1999 Aug;27(2):342-9.	<input type="checkbox"/>
	044	LI et al., Multiplexed detection of pathogen DNA with DNA-based fluorescence nanobarcodes. Nature Biotechnology, 23(7):885-889, 2005.	<input type="checkbox"/>
	045	LIEW, et al. Validating a custom multiplex ELISA against individual commercial immunoassays using clinical samples. Biotechniques. 2007 Mar;42(3):327-8, 330-3.	<input type="checkbox"/>
	046	LIN et al., Self-assembled combinatorial encoding nanoarrays for multiplexed biosensing. Nano Letters, 7(2):507-512, 2007.	<input type="checkbox"/>
	047	LIVAK, et al. Oligonucleotides with fluorescent dyes at opposite ends provide a quenched probe system useful for detecting PCR product and nucleic acid hybridization. PCR Methods Appl. 1995 Jun;4(6):357-62.	<input type="checkbox"/>
	048	LOFTIS et al., Principles of real-time PCR. Veterinary PCR Diagnostics pp.3-17 (2012).	<input type="checkbox"/>
	049	LOGAN, et al., An Overview of real-time PCR platforms. 2004, In Real-time PCR: An essential guide, pg. 13-30.	<input type="checkbox"/>

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	050	MORGAN et al., A commercial line probe assay for the rapid detection of rifampicin resistance in Mycobacterium tuberculosis: a systematic review and meta-analysis. BMC Infectious Diseases. 5:62 doi:10.1186/1471-2334-5-62 (2005).	<input type="checkbox"/>
	051	MORRISON, et al. Two-color ratio-coding of chromosome targets in fluorescence in situ hybridization: quantitative analysis and reproducibility. Cytometry. 1997 Apr 1;27(4):314-26.	<input type="checkbox"/>
	052	MYERS et al., A Handheld Point-of-Care Genomic Diagnostic System. PLoS One 8(8): e70266; pages 1-9 (2013).	<input type="checkbox"/>
	053	NAVARRO et al., Real-time PCR detection chemistry. Clin Chim Acta. 439:231-250 (2015).	<input type="checkbox"/>
	054	NOORDHOEK, et al. Sensitivity and specificity of PCR for detection of Mycobacterium tuberculosis: a blind comparison study among seven laboratories. J Clin Microbiol. 1994 Feb;32(2):277-84.	<input type="checkbox"/>
	055	OLIVEIRA, et al. Multiplex PCR strategy for rapid identification of structural types and variants of the mec element in methicillin-resistant Staphylococcus aureus. Antimicrob Agents Chemother. 2002 Jul;46(7):2155-61.	<input type="checkbox"/>
	056	OU, et al. DNA amplification for direct detection of HIV-1 in DNA of peripheral blood mononuclear cells. Science. 1988 Jan 15;239(4837):295-7.	<input type="checkbox"/>
	057	PATON, et al. Detection and characterization of Shiga toxigenic Escherichia coli by using multiplex PCR assays for stx1, stx2, eaeA, enterohemorrhagic E. coli hlyA, rfbO111, and rfbO157. J Clin Microbiol. 1998 Feb;36(2):598-602.	<input type="checkbox"/>
	058	PATTERSON, et al. Detection of HIV-1 DNA and messenger RNA in individual cells by PCR-driven in situ hybridization and flow cytometry. Science. 1993 May 14;260(5110):976-9.	<input type="checkbox"/>

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			Application Number		
			Filing Date	2023-07-13	
			First Named Inventor	KARTALOV EMIL; P.	
			Art Unit		
			Examiner Name	Not yet assigned	
Sheet	21	of	27	Attorney Docket Number	88DG-373535-US

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	059	PCT/US19/40392 International Search Report and Written Opinion dated November 06, 2019.	<input type="checkbox"/>
	060	PCT/US2013/024509 International search report and written opinion dated April 12, 2013 .	<input type="checkbox"/>
	061	PCT/US2013/053512 International Search Report and Written Opinion dated October 16, 2013.	<input type="checkbox"/>
	062	PCT/US2017/24933 International search report and written report dated June 22, 2017.	<input type="checkbox"/>
	063	PCT/US2017/37682 International Search Report and Written Opinion dated November 16, 2017.	<input type="checkbox"/>
	064	PCT/US2018/039846 International Preliminary Report on Patentability dated December 31, 2019.	<input type="checkbox"/>
	065	PCT/US2018/055927 International Preliminary Report on Patentability dated April 21, 2020.	<input type="checkbox"/>
	066	PCT/US2018/39846 International Search Report and Written Opinion Mailed September 14, 2018.	<input type="checkbox"/>
	067	PCT/US2019/019906 International Preliminary Report on Patentability September 01, 2020.	<input type="checkbox"/>
	068	PCT/US2019/019906 International Search Report and Written Opinion dated May 06, 2019.	<input type="checkbox"/>
	069	PCT/US2019/027751 International Preliminary Report on Patentability dated October 20, 2020.	<input type="checkbox"/>
	070	PCT/US2019/027751 International Search Report and Written Opinion dated June 26, 2019.	<input type="checkbox"/>
	071	PCT/US2019/035129 International Search Report and Written Opinion dated November 01, 2019.	<input type="checkbox"/>

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Sheet 22 of 27	

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	072	PCT/US2019/035129 Invitation to Pay Additional Fees dated August 19, 2019.	<input type="checkbox"/>
	073	PCT/US2019/040392 International Preliminary Report on Patentability dated January 05, 2021.	<input type="checkbox"/>
	074	PCT/US2019/041239 International Preliminary Report on Patentability dated January 21, 2021.	<input type="checkbox"/>
	075	PCT/US2019/041239 International Search Report and Written Opinion dated September 30, 2019.	<input type="checkbox"/>
	076	PETERSEN, et al. Short PNA molecular beacons for real-time PCR allelic discrimination of single nucleotide polymorphisms. Mol Cell Probes. 2004 Apr;18(2):117-22.	<input type="checkbox"/>
	077	PIERCE, et al. Linear-After-The-Exponential (LATE)-PCR: primer design criteria for high yields of specific single-stranded DNA and improved real-time detection. Proc Natl Acad Sci U S A. 2005 Jun 14;102(24):8609-14. Epub 2005 Jun 3.	<input type="checkbox"/>
	078	Plasmodium falciparum (Plasmodium falciparum) Genome Browser Gateway. http://microbes.ucsc.edu/cgi-bin/hgGateway?hgsid=612764&clade=eukaryota-protista&org=0&db=0 . Accessed February 2012.	<input type="checkbox"/>
	079	PTAK, et al. Inhibition of human immunodeficiency virus type 1 replication in human cells by Debio-025, a novel cyclophilin binding agent. Antimicrob Agents Chemother. 2008 Apr;52(4):1302-17. Epub 2008 Jan 22.	<input type="checkbox"/>
	080	RAJAGOPAL et al. Supercolor Coding Methods for Large-Scale Multiplexing of Biochemical Assays. Analytical Chemistry 85:7629-7636 (2013).	<input type="checkbox"/>
	081	RAJAGOPAL et al., Significant Expansion of Real-Time PCR Multiplexing with Traditional Chemistries using Amplitude Modulation. Scientific Reports. 9(1): 1053 (2019).	<input type="checkbox"/>

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	082	Rickert et al., "Multiplexed Real-Time PCR Using Universal Reporters," Clin. Chem., 50(9):1680- 1683, 2004.	<input type="checkbox"/>
	083	ROSENSTRAUS, et al. An internal control for routine diagnostic PCR: design, properties, and effect on clinical performance. J Clin Microbiol. 1998 Jan;36(1):191-7.	<input type="checkbox"/>
	084	ROTH, et al. Feasibility and efficacy of routine PCR screening of blood donations for hepatitis C virus, hepatitis B virus, and HIV-1 in a blood-bank setting. Lancet. 1999 Jan 30;353(9150):359-63.	<input type="checkbox"/>
	085	SAIKI, et al. Primer-directed enzymatic amplification of DNA with a thermostable DNA polymerase. Science, 239(4839):487-491 (January 29, 1988).	<input type="checkbox"/>
	086	SAMBROOK, et al. Molecular Cloning: A Laboratory Manual. 2nd Edition, 1989.	<input type="checkbox"/>
	087	SANGER et al. DNA sequencing with chain-terminating inhibitors. PNAS USA 1977 Dec;74(12):5463-7 (1977).	<input type="checkbox"/>
	088	Second Office Action for Chinese Patent Application No. 201380049844.9 dated September 19, 2016 (w/translation).	<input checked="" type="checkbox"/>
	089	SPEICHER, et al. Karyotyping human chromosomes by combinatorial multi-fluor FISH. Nat Genet. 1996 Apr;12(4):368-75.	<input type="checkbox"/>
	090	ThermoFisher Scientific Fluorescence SpectraViewer. Retrieved from http://www.thermofisher.com/us/en/home/life-science/cell-analysis/labeling-chemistry/fluorescence-spectraviewer.html on September 25, 2015.	<input type="checkbox"/>
	091	TIRASOPHON, et al. A novel detection of a single Plasmodium falciparum in infected blood. Biochem Biophys Res Commun. 1991 Feb 28;175(1):179-84.	<input type="checkbox"/>

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	092	TYAGI, et al. Multicolor molecular beacons for allele discrimination. Nat Biotechnol. 1998 Jan;16(1):49-53.	<input type="checkbox"/>
	093	TYAGI, et al. Wavelength-shifting molecular beacons. Nat Biotechnol. 2000 Nov;18(11):1191-6.	<input type="checkbox"/>
	094	United States Application No. 16/128,343 Final Office Action dated March 16, 2021.	<input type="checkbox"/>
	095	URDEA, et al. Requirements for high impact diagnostics in the developing world. Nature. 2006 Nov 23;444 Suppl 1:73-9.	<input type="checkbox"/>
	096	U.S. Application No. 13/756,760 Notice of allowance dated June 2, 2014.	<input type="checkbox"/>
	097	U.S. Application No. 13/756,760 Office action dated January 24, 2014 .	<input type="checkbox"/>
	098	U.S. Application No. 13/958,479 Office Action dated March 1, 2016.	<input type="checkbox"/>
	099	U.S. Application No. 14/451,876 Office action dated June 6, 2017.	<input type="checkbox"/>
	100	U.S. Application No. 14/451,876 Office action dated November 23, 2016.	<input type="checkbox"/>
	101	U.S. Application No. 15/623,974 Notice of Allowance dated July 3, 2018.	<input type="checkbox"/>
	102	U.S. Application No. 15/623,974 Office Action dated February 22, 2018.	<input type="checkbox"/>
	103	U.S. Application No. 15/677,772 Final Office Action Mailed June 7, 2018.	<input type="checkbox"/>
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	114	U.S. Patent Application No. 16/128,343 Office Action dated October 15, 2019.	<input type="checkbox"/>
	115	U.S. Serial No. 15/701,014 Office Action dated January 24, 2020.	<input type="checkbox"/>
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	118	U.S. Serial No. 16/051,736 Office Action dated August 21, 2020.	<input type="checkbox"/>
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	121	VOGELSTEIN, et al., Digital PCR, PNAS August 3, 1999 96 (16) 9236-9241; https://doi.org/10.1073/pnas.96.16.9236 .	<input type="checkbox"/>
	122	WANG, et al. Locked nucleic acid molecular beacons. J Am Chem Soc. 2005 Nov 16;127(45):15664-5.	<input type="checkbox"/>
	123	WATERS, et al. Microchip device for cell lysis, multiplex PCR amplification, and electrophoretic sizing. Anal Chem. 1998 Jan 1;70(1):158-62.	<input type="checkbox"/>
	124	WEIDMANN, et al. Rapid detection of herpes simplex virus and varicella-zoster virus infections by real-time PCR. J Clin Microbiol. 2003 Apr;41(4):1565-8.	<input type="checkbox"/>
	125	WIESE, et al. Simultaneous multianalyte ELISA performed on a microarray platform. Clin Chem. 2001 Aug;47(8):1451-7.	<input type="checkbox"/>
	126	XU et al., Multiplexed SNP genotyping using the Qbead system: a quantum dot-encoded microspere-based assay. Nucleic Acids Research, 31(8):e43, 2003.	<input type="checkbox"/>
	127	YANG, L. et al. A novel universal real-time PCR system using the attached universal duplex probes for quantitative analysis of nucleic acids. BMC Molecular Biology, 9:54 (1-13) June 4, 2008.	<input type="checkbox"/>
	128	ZHANG, et al. A novel real-time quantitative PCR method using attached universal template probe. Nucleic Acids Res. 2003 Oct 15;31(20):e123(pp. 1-8).	<input type="checkbox"/>

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)			Complete if Known	
			Application Number	
			Filing Date	2023-07-13
			First Named Inventor	KARTALOV EMIL; P.
			Art Unit	
			Examiner Name	Not yet assigned
			Attorney Docket Number	88DG-373535-US
Sheet	27	of	27	

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	129	ZHANG, et al. Novel Multiplex PCR Assay for Characterization and Concomitant Subtyping of Staphylococcal Cassette Chromosome mec Types I to V in Methicillin-Resistant Staphylococcus aureus. J Clin Microbiol. 2005 Oct;43(10):5026-33.	<input type="checkbox"/>
	130	ZHAO et al. Comprehensive Algorithm for Quantitative Real-Time Polymerase Chain Reaction. Journal of Computational Biology 12(8):1047-1064 (2005).	<input type="checkbox"/>

Examiner Signature		Date Considered	
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number			
Filing Date		2023-07-13	
First Named Inventor	Emil P. KARTALOV		
Art Unit			
Examiner Name	Not yet assigned		
Attorney Docket Number	88DG-373535-US		

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jesse A. Salen/	Date (YYYY-MM-DD)	2023-07-13
Name/Print	Jesse A. Salen	Registration Number	72209

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**