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FORM PTO-1595 (Substitute)			U.S. DEPA	RTMENT OF COMMER	CE
(Rev. 8-96)			Pa	tent and Trademark Off	fice
To the Honorable Commissioner of	1035668	832 a ori	iginal documents or copy the	ereof.	
Name of conveying party(ies):		2. Name and addre	ess of receiving party(ies):		
Jingyue Ju, Dae Hyun Kim, Qinglin Meng, and Xiaoxu Additional name(s) of conveying party(is	Li	ſ	rustees of Colum rsity in the City		
Yes No		Internal Address:			
3. Nature of Conveyance:		Street Address:	West 116th Stre	et and	
Assignment Security Assignment Other	Merger Change of Name	City/State/Zip:	New York, NY 10	027	
Execution Date(s): 2009; Jun	2009; June 9, le 18, 2009; June and June 12, 2009		& address(es) attached?	7.v	
4. Application number(s) or patent number	per(s): If this document is				
application is (are):	carto). It this document is	worky mod together with a	now approacion, the execut	aon date(a) or the	a, may year, at 1970
A. Patent Application No.(s) 12/3	12,903	B. Patent No.(s)		·	
Filed: as §371 national International Application PCT/US2007/024646, filed 2007	on No.			<u> </u>	
	Additional number	rs attached? Yes	⊠ No		ļ
5. Name and address of party to whom document should be mailed:		aa 1 <u> </u>	of applications and patents in	nvolved: 1	
Name: John P. Whi	te, Esq.	7. Total fee (37 C	FR §3.41):	40.00	
Internal Address: Cooper & Du	nham LLP	Encid	osed		
Street Address: 30 Rockefel 20th Floor	ler Plaza,	Auth	orized to be charged to dep	osit account	
	ew York 10112				_
		8. Deposit account	nt number.		
	DO NO	T USE THIS SPACE			
Statement and signature. To the best of my knowledge original document.	and belief, the foregoing in	pfermation is true and corre			
John P. White		Signature	July 6	Date	
Name of Person Signing Reg. No. 28, 678		{ }			
I hereby certify that this corresponder this date with the U.S. Postal Service as first class mail in an envelope address Mail Stop Assignment Recordation Se Director of the United States Patent at P.O. Rox 1450	with sufficient postage essed to:	√ Total Number of pa 7 document:	ages including cover sheet, a		
Alexandria, VA 22313-1450			07/09/2009 DBYRNE	000000 52 0 33125	12312903
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John P. White Reg No. 28,678	Date				
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Ma	Mail Stop Assi Director of the United	States Patent and Trader P.O. Box 1450			
	Aleva	ndria VA 22313-1450			

Assignment of Non-Provisional Application

In consideration of One Dollar (\$1.00), and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned, Jingyue Ju, residing at 267 Marietta Street, Englewood Cliffs, NJ 07632, U.S.; Dae Hyun Kim, residing at 100 Morningside Drive, Apt. 5H, New York, NY 10027, U.S.; Lanrong Bi, residing at 610 West 115th Street, Apt. 63A, New York, NY 10025, U.S.; Qinglin Meng, residing at 529 West 111th Street, Apt. 22A, New York, NY 10025, U.S.; and Xiaoxu Li, residing at 403 W. 115th Street, Apt. #22, New York, NY 10027, U.S.

Hereby sell, assign and transfer to The Trustees of Columbia University in the City of New York, a corporation of the State of New York, having a place of business at West 116th Street and Broadway, New York, NY 10027, in the County of New York and State of New York, its successors, assigns and legal representatives, the entire right, title and interest for all countries, in and to any and all inventions which are disclosed and claimed, and any and all inventions which are disclosed but not claimed, in the application for United States Patent, which has been executed by the undersigned on June 11, 2009; June 9, 2009; June 18, 2009; June 9, 2009; and June 12, 2009 and is entitled FOUR-COLOR DNA SEQUENCING BY SYNTHESIS USING **CLEAVABLE** FLUORESCENT NUCLEOTIDE REVERSIBLE TERMINATORS (U.S. Serial No. 12/312, 903, §371 national stage of PCT International Application No. PCT/US2007/024646, filed November 30, 2007, claiming the benefit of U.S. Provisional Application No. 60/872,240, filed December 1, 2006)

and in and to said application and all divisional, continuing, substitute, renewal, reissue, and all other applications for U.S. Letters Patent or other related property rights in any and all foreign countries which have been or shall be filed on any of said inventions disclosed in said application; and in and to all original and reissued patents or related foreign documents which have been or shall be issued on said inventions:

Authorize and request the Commissioner for Patents of the United States to issue to said Assignee, the corporation above named, its successors, assigns and legal representatives, in accordance with this assignment, any and all United States Letters Patent on said inventions or any of them disclosed in said application;

JPW Rev. April 19, 2007

Agree that said Assignee may apply for and receive foreign Letters Patent or rights of any other kind for said inventions, or any of them; and may claim, in applications for said foreign Letters Patent or other rights, the priority of the aforesaid United States patent application under the provisions of the International Convention of 1883 and later modifications thereof, under the Patent Cooperation Treaty, under the European Patent Convention or under any other available international agreement; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned or the undersigned's executors or administrators will, for the United States and all foreign countries, execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications or other documents on any and all said inventions; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns and representatives, all facts known and documents available to the undersigned relating to said inventions and the history thereof; testify in all legal proceedings; and generally do everything possible which said Assignee, its successors, assigns or representatives shall consider desirable for aiding in securing, maintaining and enforcing proper patent protection for said inventions and for vesting title to said inventions and all applications for patents or related foreign rights and all patents on said inventions, in said Assignee, its successors, assigns and legal representatives; and

Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Date:

Witness 12 Y

Hansha Robinson

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Branch | laddress|

JPW Rev. April 19, 2007

ILS.

Date: 6/9/2009 Williess: ARAM Kim 179 Sherman Rd Boston MA 02467		Dae Hyun Kim	R.SJ
Date:		Laurong Bi	[I.S]
Date:	signature printed name	Qinglin Meng	ILS)
Date:Witness:		Xiaoxu Li	[L.S]

Date:		Dae Hyun Kim	ILS)
Date: 6 (68/09 Witness: Chruse & Faux Dentse I Laux Michigan Tech (Iniversity Dich & Chemistry 1400 Townsaith 17 Houghton, MI 49431	inignature) (signature) (pristed name) (address)	Laurong Bi	
Date: Witness:		Qinglin Meng	
Date:	[signature][priving nanc]	Xiaoxu Li	TS)

PATENT

REEL: 022944 FRAME: 0132

Date:		Dae Hyun Kim	
	signature) _ printed name _ address	Lanrong Bi	
Date: 06/09/2009 Witness: flexible fue Haitza Gue 925 S Wolfe Road, #49 Sunnyvale, CA-94086		Qinglin Meng Qinglin Meng	[LS]
Date:		Xiaoxu Li	LSI

Date:		Dae Hyun Kim	
Date:	_ inignature _ iprinted name	Laurong Bi	(LS)
Date:	_ signature , [primod name]	Qinglin Meng	LSI
Unite: 96-12-09 Witness: Zengemin L. Gud West 119th Str. Nest York NY 10527	(vignaturo) (printed name) Laddress	Stacker Li Xinoxu Li	(LS)

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RECORDED: 07/09/2009