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On behalf of **Illumina, Inc.**

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**ILLUMINA, INC.**

Petitioner,

v.

**TRUSTEES OF COLUMBIA UNIVERSITY  
IN THE CITY OF NEW YORK**

Patent Owner.

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IPR2020-01177  
Patent 10,435,742

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**ILLUMINA UPDATED EXHIBIT LIST**

Pursuant to 37 C.F.R. § 42.63(e), Petitioner Illumina, Inc. (“Illumina”) hereby provides an updated list of its exhibits in this proceeding.

### EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 10,407,458 (“Ju”) – (guanine with allyl proviso)
1002	U.S. Patent No. 10,407,459 (“Ju”) – (adenine with allyl proviso)
1003	U.S. Patent No. 10,457,984 (“Ju”) – (cytosine with allyl proviso)
1004	U.S. Patent No. 10,435,742 (“Ju”) – (thymine with allyl proviso)
<i>Exhibit numbers 1005-1012 not used.</i>	
1013	U.S. Patent No. 7,790,869 (“Ju”)
1014	U.S. Patent No. 7,713,698 (“Ju”)
1015	U.S. Patent No. 8,088,575 (“Ju”)
1016	U.S. Patent No. 9,718,852 (“Ju”) – (adenine)
1017	U.S. Patent No. 9,719,139 (“Ju”) – (thymine)
1018	U.S. Patent No. 9,708,358 (“Ju”) – (cytosine)
1019	U.S. Patent No. 9,725,480 (“Ju”) – (guanine)
1020	U.S. Patent No. 9,868,985 (“Ju”) – (method)
1021	2014-03-06 IPR2012-00007, Paper 140, Final Written Decision
1022	2014-03-06 IPR2012-00006, Paper 128, Final Written Decision
1023	2014-03-06 IPR2013-00011, Paper 130, Final Written Decision
1024	2019-06-21 IPR2018-00291, -00318, -00322, -00385, Final Written Decisions

<b>Exhibit No.</b>	<b>Description</b>
<i>Exhibit numbers 1025-1027 not used.</i>	
1028	2019-09-09 IPR2018-00797, Final Written Decision
1029	2015-07-17 Federal Circuit Opinion Affirming IPR2012-00006, IPR2012-00007 and IPR2013-00011
1030	U.S. Patent No. 5,547,839 (“Dower”)
1031	WO 91/06678 (“Tsien”)
1032	<i>Exhibit number not used</i>
1033	Welch et al., “Syntheses of Nucleosides Designed for Combinatorial DNA Sequencing,” Chem. Eur. J., 5:951-960 (1999) (“Welch”)
<i>Exhibit numbers 1034-1036 not used.</i>	
1037	Alberts et al., “Molecular Biology of the Cell,” Third Edition, Garland Publishing Inc., New York (1994)
1038	<i>Exhibit number not used</i>
1039	Metzker et al., “Termination of DNA synthesis by novel 3’-modified-deoxyribonucleoside 5’-triphosphates,” Nucleic Acids Research, 22:4259-67 (1994) (“Metzker”)
1040	Sanger et al., “DNA sequencing with chain-terminating inhibitors,” Proc. Nat’l Acad. Sci. USA, 74:5463-5467 (1977) (“Sanger”)
1041	Prober et al., “A System for Rapid DNA Sequencing with Fluorescent Chain-Terminating Dideoxynucleotides,” Science, 238:336-341 (1987) (“Prober”)
1042	U.S. Patent No. 5,302,509 (“Cheeseman”)
1043	U.S. Patent No. 5,763,594 (“Hiatt”)

<b>Exhibit No.</b>	<b>Description</b>
1044	Pelletier et al., “Structures of Ternary Complexes of Rat DNA Polymerase $\beta$ , a DNA Template-Primer, and ddCTP,” <i>Science</i> , 264:1891-1903 (1994) (“Pelletier”)
1045	<i>Exhibit number not used</i>
1046	Rosenblum et al., “New dye-labeled terminators for improved DNA sequencing patterns,” <i>Nucleic Acid Research</i> , 25:4500-4504 (1997) (“Rosenblum”)
1047	<i>Exhibit number not used</i>
1048	Excerpts from 2019-01-14 Deposition Transcript of Dr. Menchen in IPR2018-00291, -00318, -00322, and -00797
1049	2018-05-04 IPR2018-00385, Paper 13, Patent Owner Preliminary Response
1050	Canard et al., “Catalytic editing properties of DNA polymerases,” <i>Proc. Nat’l Acad. Sci. USA</i> , 92:10859-10863 (1995) (“Canard”)
1051	<i>Exhibit number not used</i>
1052	Yu et al., “Cyanine dye dUTP analogs for enzymatic labeling of DNA probes,” <i>Nucleic Acids Research</i> , 22:3226-3232 (1994) (“Yu”)
1053	Livak et al., “Detection of single base differences using biotinylated nucleotides with very long linker arms,” <i>Nucleic Acids Research</i> , 20:4831-4837 (1992) (“Livak”)
1054	Stryer, “ <i>Biochemistry</i> ,” Fourth Edition, W.H. Freeman and Co., New York (1995) (“Stryer”)
1055	Watson & Crick, “Genetical Implication of the Structure of Deoxyribonucleic Acid,” <i>Nature</i> , 171:964-967 (1953) (“Watson & Crick”)
1056	U.S. Patent No. 5,151,507 (“Hobbs”)

<b>Exhibit No.</b>	<b>Description</b>
1057	<i>Exhibit number not used</i>
1058	Excerpts from Sept. 4-5, 2013 Deposition Transcript of Dr. George L. Trainor in IPR2012-00007
1059	<i>Exhibit number not used</i>
1060	Hovinen et al., “Synthesis of 3’-O-( $\omega$ -Aminoalkoxymethyl)thymidine 5’-Triphosphates, Terminators of DNA Synthesis that Enable 3’-Labeling,” J. Chem. Soc. Perkin Trans. 1, 211-217 (1994) (“Hovinen”)
1061	<i>Exhibit number not used</i>
1062	Excerpt from Prosecution History of U.S. Patent No. 9,725,480
1063	Ireland et al., “Approach to the Total Synthesis of Chlorothricolide: Synthesis of ( $\pm$ )-19,20-Dihydro-24- <i>O</i> -methylchlorothricolide, Methyl Ester, Ethyl Carbonate,” J. Org. Chem. 51:635-648 (1986) (“Ireland”)
1064	<i>Exhibit number not used</i>
1065	Excerpt from Prosecution History of U.S. Patent No. 10,428,380 [U.S. Appl. No. 16/150,191] (2019-03-12 Pre-interview first office action)
1066	Ruparel et al., “Design and synthesis of a 3’- <i>O</i> -allyl photocleavable fluorescent nucleotide as a reversible terminator for DNA sequencing by synthesis,” PNAS, Vol. 102, No. 17, 5932-37 (2005) (“Ruparel”)
1067	Ju et al., “Four-color DNA sequencing by synthesis using cleavable fluorescent nucleotide reversible terminators,” PNAS, Vol. 103, No. 52, 19635-40 (2006) (“Ju”)
1068	2015-02-11 IPR2013-00517, Paper 87, Final Written Decision
1069	2016-05-09 Federal Circuit Opinion Affirming IPR2013-00517
1070	U.S. Patent No. 5,449,767 (“Ward”)
1071	<i>Exhibit number not used</i>

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