#### 10/15/2020 506305671

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6352420

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
SANTE GNERRE	07/14/2018
BYOUNGSOK JUNG	06/03/2018
EMRAH KOSTEM	05/15/2018
ALEX ARAVANIS	10/10/2020
ALEX S. SO	06/06/2018
XUYU CAI	05/21/2018
ZHIHONG ZHANG	05/15/2018

#### RECEIVING PARTY DATA

Name:	ILLUMINA, INC.
Street Address:	5200 ILLUMINA WAY
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92122

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15130668

#### **CORRESPONDENCE DATA**

Fax Number: (858)202-4545

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.

Phone: 8582024500

Email: illuminadocket@illumina.foundationip.com,

akopels@illumina.foundationip.com,

**Correspondent Name:** MICHAEL P. REED Address Line 1: 5200 ILLUMINA WAY

Address Line 4: SAN DIEGO, CALIFORNIA 92122

ATTORNEY DOCKET NUMBER:	IP-1360-US
NAME OF SUBMITTER:	ANN KOPELS
SIGNATURE:	/Ann Kopels/
DATE SIGNED:	10/15/2020

### **Total Attachments: 29** source=IP-1360-US ASSIGNMENT\_all\_inventors#page1.tif source=IP-1360-US ASSIGNMENT all inventors#page2.tif source=IP-1360-US ASSIGNMENT all inventors#page3.tif source=IP-1360-US ASSIGNMENT all inventors#page4.tif source=IP-1360-US ASSIGNMENT all inventors#page5.tif source=IP-1360-US ASSIGNMENT all inventors#page6.tif source=IP-1360-US ASSIGNMENT all inventors#page7.tif source=IP-1360-US ASSIGNMENT\_all\_inventors#page8.tif source=IP-1360-US ASSIGNMENT all inventors#page9.tif source=IP-1360-US ASSIGNMENT all inventors#page10.tif source=IP-1360-US ASSIGNMENT all inventors#page11.tif source=IP-1360-US ASSIGNMENT\_all\_inventors#page12.tif source=IP-1360-US ASSIGNMENT all inventors#page13.tif source=IP-1360-US ASSIGNMENT all inventors#page14.tif source=IP-1360-US ASSIGNMENT\_all\_inventors#page15.tif source=IP-1360-US ASSIGNMENT\_all\_inventors#page16.tif source=IP-1360-US ASSIGNMENT all inventors#page17.tif source=IP-1360-US ASSIGNMENT all inventors#page18.tif source=IP-1360-US ASSIGNMENT all inventors#page19.tif source=IP-1360-US ASSIGNMENT all inventors#page20.tif source=IP-1360-US ASSIGNMENT all inventors#page21.tif source=IP-1360-US ASSIGNMENT all inventors#page22.tif source=IP-1360-US ASSIGNMENT all inventors#page23.tif source=IP-1360-US ASSIGNMENT all inventors#page24.tif source=IP-1360-US ASSIGNMENT\_all\_inventors#page25.tif source=IP-1360-US ASSIGNMENT all inventors#page26.tif source=IP-1360-US ASSIGNMENT\_all\_inventors#page27.tif source=IP-1360-US ASSIGNMENT all inventors#page28.tif source=IP-1360-US ASSIGNMENT all inventors#page29.tif

Docket No.: IP-1360-US Page **1** of **5** 

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016

Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai,

**Zhihong Zhang** 

WHEREAS, above-identified inventors (collectively "the Assignors") have made certain new and useful inventions, discoveries, and improvements (the "Inventions"), for which the Assignors filed the application listed above and now desire to convey all right, title, and interest in:

- the Inventions,
- the application listed above, and any other applications for patent, design, utility model, certificate of invention, trademark, or trade dress, in any country or under any international or regional authority (e.g. WIPO/PCT, EPO, ARIPO, EAPO, OAPI), to the extent some or all of its subject matter is disclosed and entitled to the benefit of priority in the application listed above, including provisional, continuation, divisional, continuation-in-part, reissue, and reexamination applications (collectively "the Applications"),
- the benefit of earlier filing date and right to claim priority to the Inventions and Applications under applicable law and treaties, including the Paris Convention for the Protection of Industrial Property as revised and amended and 35 U.S.C. §§ 119, 120,
- any rights accrued by the publication of the Applications, such as 35 U.S.C. § 154(d), Art.
   67(1) EPC,
- any Letters Patents or Certificates of Invention that may be issued or granted from the Applications, including reissued patents, reexamination certificates, renewals, and any rights resulting from an extension or adjustment of patent term, and
- any rights arising from the Invention under laws and conventions protecting copyright, trademark, trade dress, or other industrial property,

(collectively, "the IP Rights"), and

WHEREAS, ILLUMINA, INC., a Delaware corporation having a place of business at 5200 Illumina Way, San Diego, California 92122 USA, is desirous of acquiring the entire right, title, and interest for itself, its successors, and its assigns (collectively "the Assignee") in the IP Rights by an instrument in writing, 35 U.S.C. § 261;

NOW, THEREFORE, to all whom it may concern, be it known that, for good and valuable consideration, the receipt and sufficiency of which hereby acknowledge and hereby waive the right to any additional compensation concerning the IP Rights:

Docket No.: IP-1360-US Page 2 of 5

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U.S. Application No.: 15/130,668
Filing Date: April 15, 2016

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**Zhihong Zhang** 

I warrant and represent to the Assignee that have the full right to convey my right, title, and interest in the IP Rights without encumbrance, and that have not made any earlier assignment, license, grant, or mortgage to another, or made any agreement with another, that would affect my right, title, and interest in the IP Rights;

By this Assignment and by virtue of any earlier agreements to assign, hereby assign, transfer, convey, and sell my entire right, title, and interest in the IP Rights to the Assignee, including any claims or causes of action for damages or other remedies arising out of any earlier violation of the IP Rights, for and to inure to the Assignee's full benefit of the IP Rights as fully as they would have been held by me if this Assignment had not been made;

I authorize the Assignee and its legal representatives to:

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- (c) request that Letters Patents and Certificates of Invention be issued and granted to and in the name of the Assignee by the issuing or granting authority, such as the U.S. Commissioner for Patents, 37 C.F.R. § 3.81; and

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ASSIGNMENT FROM INVENTORS
Docket No.: IP-1360-US Page 3 of 5 Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Samte Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang
(c) assisting and cooperating in administrative and legal proceedings, including giving written and oral testimony,
so that these will be performed without further consideration, except for reasonable actual expenses to be reimbursed by the Assignee.
I further agree with the Assignee that will not perform any future act, execute any subsequent document, or make any subsequent agreement with another person or party that conflicts with this Assignment, that purports to transfer any right, title, or interest in the IP Rights that are the subject of this Assignment, unless agreed to in writing by the Assignee or that prevents the Assignee from receiving the full benefit of the bargain under this Assignment.
If any provision of this Assignment is held invalid or unenforceable, that provision shall be enforced to the maximum extent permissible in order to put into effect the intent of the Assignors and the Assignee, and the remainder of this Assignment shall not be affected, but continue in full force and effect.
This document shall be executable by each Assignor in parts, and the Assignment will be effective and recordable for each Assignor as of the date of that Assignor's signature.
Legal Name of Inventor: Sante Gnerre IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 4 day of July 2018  Signature: Signature:
Legal Name of Inventor: <b>Byoungsok Jung</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of 20
Signature:
Legal Name of Inventor: Emrah Kostem IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20, 20

Signature:

Docket No.: IP-1360-US Page **4** of **5** Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang Legal Name of Inventor: Alex Aravanis IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_\_\_. Signature: \_\_\_\_\_ Legal Name of Inventor: Alex S. So IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_\_\_. Legal Name of Inventor: Xuyu Cai IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_\_, 20\_\_\_\_\_. Signature: Legal Name of Inventor: Zhihong Zhang IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_\_, 20\_\_\_\_\_. Signature:

Docket No.: IP-1360-US Page **1** of **5** 

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Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai,

Zhihong Zhang

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By this Assignment and by virtue of any earlier agreements to assign, hereby assign, transfer, convey, and sell my entire right, title, and interest in the IP Rights to the Assignee, including any claims or causes of action for damages or other remedies arising out of any earlier violation of the IP Rights, for and to inure to the Assignee's full benefit of the IP Rights as fully as they would have been held by me if this Assignment had not been made;

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Legal Name o	f Inventor: Sante Gnerre Y WHEREOF, I hereunto set my hand and seal this day of, 2	0
	Signature:	<u></u>
Legal Name of IN TESTIMON	f Inventor: <b>Byoungsok Jung</b> Y WHEREOF, I hereunto set my hand and seal this <u>3</u> day of <u>プロロー</u> 2	0 <u>18</u> .
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Docket No.: IP-1360-US  Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT  MOLECULAR INDICES (UMIS)  U.S. Application No.: 15/130,668  Filing Date: April 15, 2016  Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. 5  Zhihong Zhang	
Legal Name of Inventor: Alex Aravanis IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	, 20
Signature:	
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Legal Name of Inventor: Xu <b>yu Ca</b> i IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	, 20
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_	Finventor: <b>Sante Gnerre</b> / WHEREOF, I hereunto set my hand and seal this day of	, 20
	Signature:	
_	Inventor: <b>Byoungsok Jung</b> / WHEREOF, I hereunto set my hand and seal this day of	, 20
	Signature:	
Legal Name of IN TESTIMONY	Finventor: Emrah Kostem  WHEREOF, I hereunto set my hand and seal this 15 day of MAY	_, 20_18
	Signature:	

PATENT REEL: 054383 FRAME: 0342

Page **3** of **5** 

Docket No.: IP-1360-US Page **4** of **5** Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang Legal Name of Inventor: Alex Aravanis IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_\_\_. Signature: \_\_\_\_\_ Legal Name of Inventor: Alex S. So IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_\_\_. Legal Name of Inventor: Xuyu Cai IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_\_, 20\_\_\_\_\_. Signature: Legal Name of Inventor: Zhihong Zhang IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_\_\_. Signature:

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I warrant and represent to the Assignee that have the full right to convey my right, title, and interest in the IP Rights without encumbrance, and that have not made any earlier assignment, license, grant, or mortgage to another, or made any agreement with another, that would affect my right, title, and interest in the IP Rights;

By this Assignment and by virtue of any earlier agreements to assign, hereby assign, transfer, convey, and sell my entire right, title, and interest in the IP Rights to the Assignee, including any claims or causes of action for damages or other remedies arising out of any earlier violation of the IP Rights, for and to inure to the Assignee's full benefit of the IP Rights as fully as they would have been held by me if this Assignment had not been made;

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I agree with the Assignee that and my legal representatives, heirs, and executors will perform all acts deemed necessary or desirable by the Assignee to permit and assist it to secure the entire right, title, and interest in the IP Rights so that the Assignee may benefit from this Assignment, including:

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ASSIGNMENT FROM INVENTORS
Docket No.: IP-1360-US  Page 3 of 5 Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang
<ul> <li>(c) assisting and cooperating in administrative and legal proceedings, including giving written and oral testimony,</li> </ul>
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Legal Name of Inventor: <b>Sante Gnerre</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal thisday of, 20
Signature:
Legal Name of Inventor: <b>Byoungsok Jung</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20
Signature:

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_\_\_, 20\_\_\_\_\_.

Legal Name of Inventor: Emrah Kostem

PATENT REEL: 054383 FRAME: 0346

Signature:

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Docket No.: IP-1360-US Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang	
Legal Name of Inventor: <b>Alex Aravanis</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this <u></u> day of <u></u> のいる	, 20 <u>22</u> .
Signature:	<u> </u>
Legal Name of Inventor: <b>Alex S. So</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	, 20
Signature:	<del></del>
Legal Name of Inventor: <b>Xuyu Cai</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	, 20
Signature:	
Legal Name of Inventor: <b>Zhihong Zhang</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	, 20
Signature	

Docket No.: IP-1360-US Page **1** of **5** 

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016

Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai,

Zhihong Zhang

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- the Inventions,
- the application listed above, and any other applications for patent, design, utility model, certificate of invention, trademark, or trade dress, in any country or under any international or regional authority (e.g. WIPO/PCT, EPO, ARIPO, EAPO, OAPI), to the extent some or all of its subject matter is disclosed and entitled to the benefit of priority in the application listed above, including provisional, continuation, divisional, continuation-in-part, reissue, and reexamination applications (collectively "the Applications"),
- the benefit of earlier filing date and right to claim priority to the Inventions and Applications under applicable law and treaties, including the Paris Convention for the Protection of Industrial Property as revised and amended and 35 U.S.C. §§ 119, 120,
- any rights accrued by the publication of the Applications, such as 35 U.S.C. § 154(d), Art.
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- any rights arising from the Invention under laws and conventions protecting copyright, trademark, trade dress, or other industrial property,

(collectively, "the IP Rights"), and

WHEREAS, ILLUMINA, INC., a Delaware corporation having a place of business at 5200 Illumina Way, San Diego, California 92122 USA, is desirous of acquiring the entire right, title, and interest for itself, its successors, and its assigns (collectively "the Assignee") in the IP Rights by an instrument in writing, 35 U.S.C. § 261;

NOW, THEREFORE, to all whom it may concern, be it known that, for good and valuable consideration, the receipt and sufficiency of which hereby acknowledge and hereby waive the right to any additional compensation concerning the IP Rights:

Docket No.: IP-1360-US Page 2 of 5

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS)
U.S. Application No.: 15/130,668
Filing Date: April 15, 2016

Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai,

Zhihong Zhang

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By this Assignment and by virtue of any earlier agreements to assign, hereby assign, transfer, convey, and sell my entire right, title, and interest in the IP Rights to the Assignee, including any claims or causes of action for damages or other remedies arising out of any earlier violation of the IP Rights, for and to inure to the Assignee's full benefit of the IP Rights as fully as they would have been held by me if this Assignment had not been made;

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MOLECULAR I U.S. Application Filing Date: Ap	UPPRESSION IN SEQUENCED DNA FRAGMENTS USIN NDICES (UMIS) on No.: 15/130,668 oril 15, 2016 ote Gnerre, Byoungsok Jung, Emrah Kostem, Alex Ar		
(c)	assisting and cooperating in administrative and le written and oral testimony,	gal proceedings, including g	iving
	will be performed without further consideration, exold by the Assignee.	cept for reasonable actual e	xpenses to
document, or Assignment, tl this Assignme	e with the Assignee that will not perform any future make any subsequent agreement with another pershat purports to transfer any right, title, or interest in nt, unless agreed to in writing by the Assignee or that full benefit of the bargain under this Assignment.	on or party that conflicts wi the IP Rights that are the s	ith this ubject of
the maximum	n of this Assignment is held invalid or unenforceable extent permissible in order to put into effect the into der of this Assignment shall not be affected, but co	tent of the Assignors and th	e Assignee,
	t shall be executable by each Assignor in parts, and reach Assignor as of the date of that Assignor's sign	_	ctive and
_	f Inventor: <b>Sante Gnerre</b> / WHEREOF, I hereunto set my hand and seal this	day of	_, 20
	Signature:		
	f Inventor: <b>Byoungsok Jung</b> / WHEREOF, I hereunto set my hand and seal this	day of	_, 20
	Signature:		
_	f Inventor: <b>Emrah Kostem</b> / WHEREOF, I hereunto set my hand and seal this	day of	_, 20
	Company		

Page 4 of .  Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang		
Legal Name of Inventor: <b>Alex Aravanis</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	20	
Signature:		
Legal Name of Inventor: <b>Alex S. So</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this <u>6 th</u> day of <u>final</u>	, 20 <u>_/ }</u> .	
Signature: <u>(() &amp; ()</u>		
Legal Name of Inventor: <b>Xuyu Cai</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	, 20	
Signature:	······································	
Legal Name of Inventor: <b>Zhihong Zhang</b> N TESTIMONY WHEREOF, I hereunto set my hand and seal this day of	. 20	
Signature:	·	

Docket No.: IP-1360-US Page 1 of 5

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016

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Docket No.: IP-1360-US Page 2 of 5

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016

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	ASSIGNMENT FROM INVENTORS	
Docket No.: IP-1360-US Page 3 of Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang		
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	f Inventor: Sante Gnerre Y WHEREOF, I hereunto set my hand and seal this day of	. 20
	Signature:	
Legal Name o IN TESTIMON	f Inventor: <b>Byoungsok Jung</b> Y WHEREOF, I hereunto set my hand and seal this day of	,20
	Signature:	

Signature:

Legal Name of Inventor: Emrah Kostem
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_

ASSIGNMENT FROM INVENTORS			
Docket No.: IP-1360-U5 Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USIN MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016 Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Ara Zhihong Zhang			
Legal Name of Inventor: Alex Aravanis IN TESTIMONY WHEREOF, I hereunto set my hand and seal this	day of	, 20	
Signature:			
Legal Name of Inventor: <b>Alex S. So</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this	_day of	20	
Signature:			
Legal Name of Inventor: <b>Xuyu Cai</b> N TESTIMONY WHEREOF, I hereunto set my hand and seal this 2  Signature:	L day of May	20 <u>_18</u> .	
egal Name of Inventor: <b>Zhihong Zhang</b> N TESTIMONY WHEREOF, I hereunto set my hand and seal this	_day of	,20	
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Docket No.: IP-1360-US Page **1** of **5** 

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016

Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai,

**Zhihong Zhang** 

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Docket No.: IP-1360-US Page 2 of 5

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS) U.S. Application No.: 15/130,668 Filing Date: April 15, 2016

Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai,

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Docket No.: IP-1360-US  Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNION MOLECULAR INDICES (UMIS)  U.S. Application No.: 15/130,668  Filing Date: April 15, 2016  Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang	
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Legal Name of Inventor: <b>Sante Gnerre</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20	
Signature:	
Legal Name of Inventor: <b>Byoungsok Jung</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20	·
Signature:	
Legal Name of Inventor: <b>Emrah Kostem</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20	

PATENT REEL: 054383 FRAME: 0358

Signature:

ASSIGNMENT FROM INVENTORS		
Docket No.: IP-1360-US  Page 4  Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNK MOLECULAR INDICES (UMIS)  U.S. Application No.: 15/130,668  Filing Date: April 15, 2015  Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai, Zhihong Zhang		
Legal Name of Inventor: <b>Alex Aravanis</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20	,	
Signature:		
Legal Name of Inventor: <b>Alex S. So</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20		
Signature:		
Legal Name of Inventor: <b>Xuyu Cai</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this day of, 20	·································	
Signature:	<del></del>	
Legal Name of Inventor: <b>Zhihong Zhang</b> IN TESTIMONY WHEREOF, I hereunto set my hand and seal this <u>Ush</u> day of <u>Mag</u> , 20 <u>J</u>	18	
Cimpatura		

Docket No.: IP-1360-US Page **5** of **5** 

Title: ERROR SUPPRESSION IN SEQUENCED DNA FRAGMENTS USING REDUNDANT READS WITH UNIQUE

MOLECULAR INDICES (UMIS)
U.S. Application No.: 15/130,668

Filing Date: April 15, 2016

Inventors: Sante Gnerre, Byoungsok Jung, Emrah Kostem, Alex Aravanis, Alex S. So, Xuyu Cai,

**Zhihong Zhang** 

RECEIVED AND HEREBY ACCEPTED BY ILLUMINA, INC., a Delaware Corporation

Date: October 15, 2020 R. Schwillinski

Name: Roland Schwillinski

Title: Vice President, Global IP and Litigation

PATENT REEL: 054383 FRAME: 0360

**RECORDED: 10/15/2020**