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8 ILLUMINA, INC., and ILLUMINA CAMBRIDGE LTD.

9  
10 UNITED STATES DISTRICT COURT  
11 NORTHERN DISTRICT OF CALIFORNIA

12 ILLUMINA, INC., and  
13 ILLUMINA CAMBRIDGE LTD.,

14 Plaintiffs,

15 vs.

16 BGI GENOMICS CO., LTD.,  
17 BGI AMERICAS CORP.,  
18 MGI TECH CO., LTD.,  
19 MGI AMERICAS, INC., and  
20 COMPLETE GENOMICS INC.,

21 Defendants.

Case No. 3:19-CV-03770-WHO

FIRST AMENDED COMPLAINT FOR  
PATENT INFRINGEMENT

JURY TRIAL DEMANDED

1 Plaintiffs Illumina, Inc. and Illumina Cambridge Ltd. (collectively “Illumina” or  
2 “Plaintiffs”) for their Complaint against defendants BGI Genomics Co., Ltd. (“BGI Ltd.”), BGI  
3 Americas Corp. (“BGI Americas”), MGI Tech Co., Ltd. (“MGI Ltd.”), MGI Americas, Inc. (“MGI  
4 Americas”), and Complete Genomics Inc. (“CGI”) (collectively “BGI” or “Defendants”), allege as  
5 follows:

### 6 **INTRODUCTION**

7 1. This case is about the brazen infringement of Illumina’s patented DNA sequencing  
8 technology by BGI, which is headquartered in Shenzhen, China. Illumina is internationally  
9 recognized as the leading supplier of patented DNA sequencing equipment. Its sequencers have  
10 been widely recognized for their high quality and performance. Indeed, Illumina’s sequencers have  
11 been the engine for the biotech revolution, including major advances in healthcare for expectant  
12 mothers and cancer patients, among others. BGI has imitated Illumina’s sequencers. It markets  
13 copies of those sequencing systems without authorization from Illumina and in violation of its patent  
14 rights. BGI started its commercialization effort in China and other places outside the reach of  
15 United States patent law. It is now importing its infringing sequencers into the United States, using  
16 them in its San Jose, California facility, and threatening to sell them throughout the United States.

17 2. Specifically, Illumina brings this action to halt BGI’s infringement of U.S. Patent  
18 Nos. 7,566,537 (the “’537 Patent”) and 9,410,200 (the “’200 Patent”). Exs. 1 (’537 Patent) & 2  
19 (’200 Patent). This Court has enforced the ’537 Patent, issuing an injunction against earlier  
20 infringers in the face of a host of failed challenges. *Illumina, Inc. v. Qiagen, NV*, 207 F. Supp.3d  
21 1081 (N.D. Cal. 2016) (Judge William Alsup). The Patent Trial and Appeal Board (“PTAB”) and  
22 Federal Circuit have also upheld the validity of the ’537 Patent. *Intelligent Bio-Systems v. Illumina*  
23 *Cambridge*, 821 F.3d 1359 (Fed. Cir. 2016).

24 3. In view of their infringement of the ’537 Patent, BGI, through CGI, attempted to  
25 challenge the validity of Illumina’s patent, notwithstanding all the decisions upholding that patent.  
26 The PTAB flatly rejected CGI’s invalidity challenges. *Complete Genomics, Inc. v. Illumina*  
27 *Cambridge Ltd.*, IPR2017-02172, Paper 20 (PTAB Apr. 20, 2018) and IPR2017-02174, Paper 20  
28

1 (PTAB Apr. 20, 2018). CGI listed BGI Ltd. and BGI Americas as real parties in interest, evidencing  
2 their involvement with the infringing activities that are the subject of this suit. But CGI failed to  
3 identify MGI Ltd. and MGI Americas as real parties in interest despite their involvement with the  
4 infringing products.

5 4. Notwithstanding BGI's failed challenges to the '537 Patent, Defendants have  
6 imported their infringing DNA sequencing systems into the United States. They have installed and  
7 operated their infringing sequencers at their San Jose, California facility and are threatening to sell  
8 their MGISEQ and BGISEQ products in direct competition with Illumina in the United States.

9 5. In addition to the familiarity this District has with the '537 Patent from enforcing  
10 that patent against past infringers, Illumina brings this action in the Northern District of California  
11 because Defendants are heavily present in this District and are infringing the '537 and '200 Patents  
12 at their San Jose, California facility in this District.

13 6. As a result of BGI's infringement, and given the threat of its growing infringement,  
14 Illumina faces a substantial risk of irreparable harm if such infringement is not halted.

15 **PARTIES**

16 7. Plaintiff Illumina, Inc. is a Delaware corporation with its principal place of business  
17 at 5200 Illumina Way, San Diego, California 92122.

18 8. Plaintiff Illumina Cambridge Ltd. is a foreign corporation with its principal place of  
19 business at Chesterford Research Park, Little Chesterford, Saffron Walden, Essex CB10 1XL,  
20 United Kingdom.

21 9. Plaintiff Illumina Cambridge Ltd., a wholly-owned subsidiary of Illumina, Inc., is  
22 the owner by assignment of all right, title and interest in and to the '537 and '200 Patents. Illumina  
23 Inc. is the exclusive licensee of the '537 and '200 Patents with the right to sue to enforce their  
24 exclusive rights.

25 10. Defendant BGI Ltd. is a Chinese corporation that has its headquarters at Building  
26 No.7, BGI Park, No.21 Hongan 3rd Street, Yantian District, Shenzhen 518083, China. BGI Ltd.  
27 controls BGI Americas, MGI Ltd., MGI Americas, and CGI as though they were not separate legal  
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1 entities and represents publicly that it has facilities in San Francisco, San Jose, Los Angeles, and  
2 San Diego. Among other things, it directs, funds, and manages the infringing activity set forth in  
3 this Complaint.

4 11. Defendant BGI Americas has a principal place of business at 2904 Orchard Pkwy,  
5 San Jose, California 95134. BGI Americas is, among other things, a sales and marketing arm of  
6 BGI that is involved directly and indirectly with the infringing activity set forth in this Complaint.

7 12. Defendant MGI Ltd. is a Chinese corporation that has its headquarters at Building  
8 No.11, Beishan Industrial Zone, Yantian District, Shenzhen 518083, China. MGI Ltd. is, among  
9 other things, responsible for developing and distributing the infringing sequencing technology. It  
10 represents publicly that it has facilities in San Jose, California. With BGI Ltd., it directs, funds and  
11 manages the infringing activity set forth in this Complaint.

12 13. Defendant MGI Americas has a principal place of business at 2904 Orchard Pkwy,  
13 San Jose, California 95134. MGI Americas is, among other things, a sales and marketing arm of  
14 BGI that is involved directly and indirectly with the infringing activity set forth in this Complaint.

15 14. Defendant CGI has a principal place of business at 2904 Orchard Pkwy, San Jose,  
16 California 95134. CGI is, among other things, a research and development entity supporting the  
17 accused activity and is involved directly and indirectly with the infringing activity set forth in this  
18 Complaint.

19 15. Each and all of the Defendants had and have actual or constructive knowledge of the  
20 events, transactions, and occurrences alleged herein, and either knew or should have known of the  
21 conduct of their co-defendants and cooperated in, benefited from and/or ratified such conduct.

22 **JURISDICTION AND VENUE**

23 16. This action arises under the Patent Laws of the United States of America, 35 U.S.C.  
24 § *I et seq.* This Court has federal question jurisdiction under 28 U.S.C. §§ 1331 and 1338(a) because  
25 this is a civil action arising under the Patent Act.

26 17. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and 1400(b). Among  
27 other things, each of the Defendants maintains and/or is responsible for the use of regular and  
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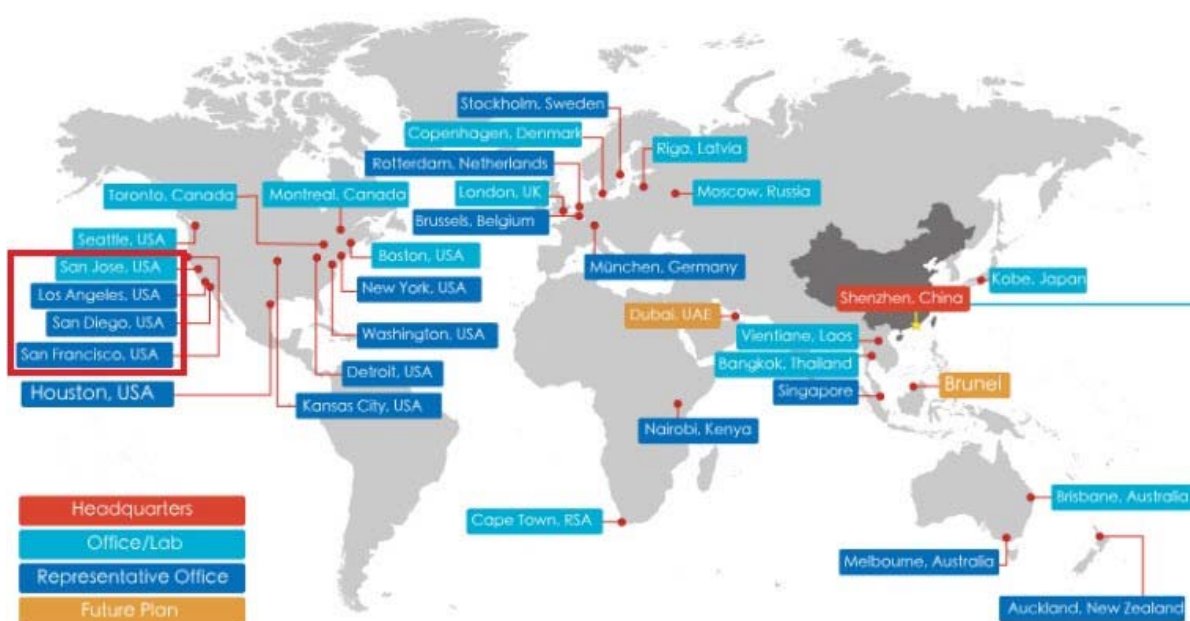
1 established physical places of business in this District. The facts establishing this are included  
2 throughout this Complaint. As examples, BGI Americas, MGI Americas and CGI all have principal  
3 places of business at the same address: 2904 Orchard Pkwy, San Jose, California 95134.

4 18. For the foreign Defendants, venue is proper under 28 U.S.C. § 1391(b) and (c), and  
5 1400(b), because as foreign defendants they may be sued in any judicial district, including in this  
6 District. This District is a convenient forum for resolution of the parties' disputes set forth herein  
7 and Judge Alsup of this District has experience with the patents-in-suit. This foreign defendant  
8 venue allegation applies to at least BGI Ltd. and MGI Ltd., whom both represent themselves as  
9 foreign corporations.

10 19. This Court has personal jurisdiction over each of the Defendants via general and/or  
11 specific jurisdiction. The Defendants have systematic and continuous contacts in California such  
12 that they are essentially at home in California, as set forth throughout this Complaint. They have  
13 minimum contacts in California sufficient to warrant the exercise of jurisdiction given their contacts  
14 in relation to the infringing activity and otherwise, as set forth throughout this Complaint. Insofar  
15 as the Defendants, including BGI Ltd. and MGI Ltd., deny that they are subject to personal  
16 jurisdiction in any individual jurisdiction, the aggregation of their contacts throughout the United  
17 States supports the exercise of personal jurisdiction over them.

18 20. BGI Ltd. manages the infringing activity in California by controlling the Defendants  
19 and, directly and indirectly, funding, developing, marketing, promoting and operating the infringing  
20 sequencing systems:

- 21 a. BGI Ltd.'s website represents that it has multiple locations in California, including  
22 San Francisco, San Jose, Los Angeles, and San Diego. Ex. 5 (available at:  
23 <http://en.genomics.cn/en-global.html> (last accessed: June 27, 2019) (*red box*  
24 *showing U.S. locations in San Francisco, San Jose, Los Angeles, and San Diego*  
25 *added*)). It touts that it has both "representative offices" and "laboratories" in  
26 California.



- 12 b. BGI Ltd. promotes the infringing MGISEQ and BGISEQ by directing its marketing  
13 efforts to California, including its press releases and other communications.
- 14 c. BGI Ltd.'s executives travel to California to manage and promote the infringing  
15 products. This includes BGI Ltd.'s presence at industry and trade shows, including  
16 SynBioBeta SF 2017 in San Francisco, California (Oct. 3-5, 2017); J.P. Morgan  
17 Healthcare Conference in San Francisco, California (Jan. 8-11, 2018); Plant &  
18 Animal Genome Conference ("PAG") XXVI in San Diego, California (Jan. 13-17,  
19 2018); American Society of Human Genetics 2018 in San Diego, California (Oct.  
20 16-20, 2018); and PAG XXVII in San Diego, California (Jan. 12-16, 2019).  
21 Exs. 6-10. For example, BGI Ltd.'s CEO, Ye Yin, traveled to the Northern District  
22 of California to promote the accused products at the J.P. Morgan Conference in  
23 January 2018. Ex. 7. Indeed, BGI Ltd.'s executives often travel to this District in  
24 connection with the infringing activity.
- 25 d. In March 2019, BGI Ltd. entered into a \$50 million partnership with Natera, Inc.  
26 ("Natera"), a company headquartered in San Carlos, CA, which permits Natera to  
27 use the infringing DNA sequencing products for commercial purposes. Ex. 11.  
28

1           21. Further, the following is an exemplary list of various employees associated with  
2 “BGI Group”—an amorphous label used by BGI—that are involved with development and/or  
3 marketing of the infringing technology:

4           a. Group VP and CEO of BGI Americas Region at BGI Group, Yongwei Zhang, resides  
5 in Sunnyvale, CA. Ex. 12.

6           b. Director of Product Management, Ke Zhan, identifies BGI Ltd. as being located in  
7 San Jose, California and that he works for this entity. Ex. 13.

8           c. BGI Group–Business Development Associate, Yuhan Zhang, resides in the San  
9 Francisco Bay Area and worked in San Jose, California. Ex. 14. In this role, Ms.  
10 Zhang “[i]dentified new business opportunities, reached out to potential partners and  
11 managed existed relationship through email campaign, framed contracts and MoU.”  
12 Further, she describes her responsibilities as having, “[o]rganized and supported  
13 marketing events in North and South America to promote the brand and publicity.”

14 *Id.*

15           22. At a minimum this Court has jurisdiction over BGI Ltd. because Plaintiffs’ claims  
16 arise under federal law, BGI Ltd. is not subject to general jurisdiction in any state’s courts of general  
17 jurisdiction, and this exercise of jurisdiction comports with due process. With regard to due process,  
18 BGI Ltd. has continuous and systematic contacts with California that gives rise to infringement,  
19 including targeting the California market for its products as a whole, through at least advertising,  
20 threatening to sell, providing service and support, and/or disseminating literature on the MGISEQ  
21 and BGISEQ systems, MGISEQ and BGISEQ reagent kits and/or MGISP-960 sample prep system  
22 on its website. Also, its contacts with this forum in connection with the infringing activity are  
23 sufficient to support the exercise of specific jurisdiction.

24           23. Defendant BGI Americas is present in California and commits acts of infringement  
25 in California:

- 1 a. BGI Americas is present in this District with its “West Coast Innovation Center” in  
2 San Jose, California where it conducts research. Ex. 15. It announced the expansion  
3 of that facility at the ASMS Conference in San Jose, California in May 2019. Ex.  
4 16. This is evidence that BGI Americas is physically located in this District.
- 5 b. BGI Americas is involved in the research and development of BGI’s NGS  
6 technologies at its San Jose, California facility. *Id.*
- 7 c. Several senior-level BGI Americas employees involved with product development,  
8 sales and marketing of the infringing technology state they live in this District. For  
9 example, BGI Americas’ Group VP, CEO of the Americas Region, Yongwei Zhang,  
10 BGI Americas’ Director of Marketing, Johan Christiaanse, and BGI America’s  
11 Regional Sales Manager, Rosanna Schroeder, reside in the San Francisco Bay Area.  
12 Exs. 12, 17-18. This is evidence that BGI Americas is physically located in this  
13 District and involved with the infringing technology in California.

14 24. At a minimum this Court has jurisdiction over BGI Americas because Plaintiffs’  
15 claims arise under federal law and this exercise of jurisdiction comports with due process. With  
16 regard to due process, BGI Americas has continuous and systematic contacts with California,  
17 including targeting the California market for its products, through at least advertising, threatening  
18 to sell, providing service and support, and/or disseminating literature on the MGISEQ and BGISEQ  
19 systems, MGISEQ and BGISEQ reagent kits and/or MGISP-960 sample prep system on its website.  
20 Also, its contacts with this forum in connection with the infringing activity are sufficient to support  
21 the exercise of specific jurisdiction.

22 25. Defendant MGI Ltd. is present in California and commits acts of infringement in  
23 California:

- 24 a. A map on MGI Tech’s website shows that it has a San Jose, California facility that  
25 is a “Research Center” and a “Commercial and After-Sales Service Center.” Ex. 19  
26 (available at: <https://en.mgitech.cn/page/gsjj.html> (last accessed: June 27, 2019) (*red*  
27 *box showing U.S. location in San Jose, California added*))





- b. MGI Ltd. and MGI Americas claim to be the “leading manufacturer and developer of BGI’s proprietary NGS instrumentation.” Ex. 20. NGS stands for “next generation sequencing.” MGI states on its website: “As the leading manufacturer and developer of BGI’s proprietary NGS instrumentation, the global MGI organization provides comprehensive products and services for fully-automated, real-time, whole picture and lifelong genetic analysis in life science research.” *Id.* This is evidence that MGI Ltd. and MGI Americas are responsible for infringement of the ’537 Patent.
- c. MGI Ltd. through its President, Duncan Yu, appeared at the J.P. Morgan Healthcare Conference in San Francisco, California on January 9, 2019 to promote its infringing sequencers by announcing its price and promoting its intent to sell them in the United States. Ex. 21. This is evidence that MGI Ltd. is responsible for the infringement of the ’537 Patent in this District.
- d. On March 4, 2019 in San Jose, California, MGI Ltd. announced claimed improvements to its sequencing technology and its plans to enter the United States market. Exs. 22-23.

1 e. MGI Ltd. is involved in the research, development and marketing of the infringing  
2 products. Exs. 20-23.

3 f. Senior-level MGI Ltd. employees involved with product development and marketing  
4 of the infringing products are located in this District. For example, MGI Ltd.'s Chief  
5 Science Officer, Rade Drmanac, Director of Business Development, Jia Sophie Liu,  
6 and VP of Engineering, Paul Lundquist, state they reside in the San Francisco Bay  
7 Area. Exs. 24-27.

8 26. At a minimum this Court has jurisdiction over MGI Ltd. because Plaintiffs' claims  
9 arise under federal law, MGI Ltd. is not subject to general jurisdiction in any state's courts of general  
10 jurisdiction, and this exercise of jurisdiction comports with due process. With regard to due process,  
11 MGI Ltd. has continuous and systematic contacts with California, including targeting the California  
12 market for its products as a whole, through at least advertising, threatening to sell, providing service  
13 and support, and/or disseminating literature on the MGISEQ and BGISEQ systems, MGISEQ and  
14 BGISEQ reagent kits and/or MGISP-960 sample prep system on its website. Also, its contacts with  
15 this forum in connection with the infringing activity are sufficient to support the exercise of specific  
16 jurisdiction.

17 27. Defendant MGI Americas is present in California and commits acts of infringement  
18 in California:

19 a. MGI Ltd. and MGI Americas claim to be the "leading manufacturer and developer  
20 of BGI's proprietary NGS instrumentation." Ex. 20. NGS stands for "next  
21 generation sequencing." MGI states on its website: "As the leading manufacturer  
22 and developer of BGI's proprietary NGS instrumentation, the global MGI  
23 organization provides comprehensive products and services for fully-automated,  
24 real-time, whole picture and lifelong genetic analysis in life science research." *Id.*  
25 This is evidence that MGI Americas and MGI Ltd. are responsible for the  
26 infringement of the '537 Patent.

1           b. MGI Americas is involved in the research, development and marketing of the  
2           infringing products. *Id.*

3           c. MGI Americas' field service engineer, Abigail Frank, states she "services NGS  
4           instruments and lab automated workstations at Complete Genomics in San Jose, as  
5           well as external customers throughout North and South America." Ex. 28.

6           28. At a minimum this Court has jurisdiction over MGI Americas because Plaintiffs'  
7           claims arise under federal law and this exercise of jurisdiction comports with due process. With  
8           regard to due process, MGI Americas has continuous and systematic contacts with California,  
9           including targeting the United States as a market for its products, through at least advertising,  
10          threatening to sell, providing service and support, and/or disseminating literature on the MGISEQ  
11          and BGISEQ systems, MGISEQ and BGISEQ reagent kits and/or MGISP-960 sample prep system  
12          on its website. Also, its contacts with this forum in connection with the infringing activity are  
13          sufficient to support the exercise of specific jurisdiction.

14          29. Defendant CGI is present in California and commits acts of infringement in  
15          California:

16          a. CGI is involved in the development, marketing and operation of the infringing  
17          products in its San Jose, California facility. Ex. 29.

18          b. Several senior-level CGI employees involved with product development and  
19          marketing state they live in this District. For example, CGI's Vice President of  
20          Marketing, Suzanne Yakota, CGI's Director, Shifeng Li, and CGI's Chief Scientific  
21          Officer, Rade Drmananc, state they reside in the San Francisco Bay Area. Exs. 24,  
22          30-31.

23          c. CGI Fluidics Systems Engineer, Wei Wang, states she "[e]nsures the proper  
24          installation qualification and operation qualification (IQ/OQ), and instrument  
25          performance verification (IPV) of NGS systems, such as the BGISEQ-500 in an ISO  
26          17025 accredited and customer-oriented environment." Ex. 32. Ms. Wang  
27          elaborates she is "[r]esponsible for creating and compiling comprehensive  
28

1 procedural documentation for NGS systems, for processes including IQ/OQ, IPV,  
2 troubleshooting, repairs, replacement parts, calibrations, and maintenance.” *Id.*

- 3 d. CGI further recently began seeking to hire at least a “Sr. Regional Sales  
4 Manager/Director” and “Strategic Accounts Specialist/Manager/Director” based in  
5 San Jose, California. Exs. 33-34. According to the job postings, the positions, *inter*  
6 *alia*, would: (i) “provide a one touch-point for the global customers with the full MGI  
7 product portfolio”; (ii) “[n]avigate orders through the customer purchasing process”;  
8 and (iii) be “responsible for leading regional sale activities for MGI’s NGS  
9 Sequencing instruments, reagents, software or solutions in the designated region.”  
10 *Id.*

11 30. At a minimum this Court has jurisdiction over CGI because Plaintiffs’ claims arise  
12 under federal law and this exercise of jurisdiction comports with due process. With regard to due  
13 process, CGI has continuous and systematic contacts with California, including targeting the  
14 California market for its products, through at least advertising, threatening to sell, providing service  
15 and support, and/or disseminating literature on the MGISEQ and BGISEQ systems, MGISEQ and  
16 BGISEQ reagent kits and/or MGISP-960 sample prep system on its website.

17 31. Alternatively, this Court has general and/or specific jurisdiction over all Defendants  
18 because they are alter-egos of one another and/or agents of each other because they have common  
19 directors, officers, and executives and do not respect corporate formalities. It would be unjust to  
20 treat them each as separate legal entities as they do not treat each other as such. This establishes  
21 personal jurisdiction and mutual liability because the activity of each Defendant is imputed to the  
22 other Defendants.

### 23 INTRA-DISTRICT ASSIGNMENT

24 32. Pursuant to Civil Local Rules 3-5(b) and 3-2(c), because this action is an intellectual  
25 property action, it is properly assigned to any of the divisions in this District. However, because  
26 Judge William Alsup has direct experience with the ‘537 and ‘200 Patent, and this technology, this  
27 case is properly assigned to his Court in the San Francisco Division.

**BACKGROUND****The MGISEQ and BGISEQ Systems Infringe the '537 and '200 Patents**

1  
2  
3 33. On July 28, 2009, the United States Patent and Trademark Office duly and legally  
4 issued the '537 Patent, entitled "Labelled Nucleotides." The named inventors of the '537 Patent  
5 are Shankar Balasubramanian, Colin Barnes, Xioahai Liu, John Milton, Harold Swerdlow, and  
6 Xioalin Wu. By operation of law and as a result of written assignment agreements, Illumina,  
7 specifically plaintiff Illumina Cambridge Ltd., obtained the entire right, title, and interest to and in  
8 the '537 Patent. The '537 Patent is attached hereto. Ex. 1.

9 34. On August 9, 2016, the United States Patent and Trademark Office duly and legally  
10 issues the '200 Patent, entitled "Labelled Nucleotides." The named inventors of the '200 Patent are  
11 Shankar Balasubramanian, Colin Barnes, Xiaohai Liu, and John Milton. By operation of law and  
12 as a result of written assignment agreements, Illumina, specifically plaintiff Illumina Cambridge  
13 Ltd., obtained the entire right, title, and interest to and in the '200 Patent. The '200 Patent is attached  
14 hereto. Ex. 2.

15 35. In or around October 2015, BGI Ltd. launched the BGISEQ-500, a desktop  
16 sequencing instrument. According to BGI Ltd., the BGISEQ-500 "was developed by it's [sic]  
17 Complete Genomics Subsidiary in Silicon Valley, California." Ex. 7 at 3. In or around November  
18 2016, BGI Ltd. launched the BGISEQ-50, a smaller version of the BGISEQ-500. In or around  
19 October 2017, BGI launched two genetic sequencing instruments, the MGISEQ-200 and the  
20 MGISEQ-2000, as upgrades to the BGISEQ-50 and BGISEQ-500. In or around October 2018,  
21 MGI announced a new model called the MGISEQ-T7. The BGISEQ and MGISEQ devices  
22 (referred to throughout this complaint as "BGISEQ" and "MGISEQ") are identified in MGI Ltd.'s  
23 product brochures, on the "Sequencer" section of MGI Ltd.'s website, and the product user manuals,  
24 which are all publically accessible on MGI Ltd.'s website. A copy of the MGISEQ-2000 product  
25 brochure, relevant pages of the website itself, and the user manual are attached. Exs. 35 (brochure),  
26 36 (website), 37 (user manual).

1           36. MGI, Ltd.'s Chief Scientific Officer, Rade Drmanac, stated that "the current  
2 sequencing chemistry relies on stepwise sequencing-by-synthesis (SBS) where 3'-blocked  
3 nucleotides are labeled with cleavable fluorescent dyes, which leave behind a molecular 'scar' after  
4 they are removed. This chemistry is similar to that used by Illumina and others." Ex. 22 at 3.

5           37. To demonstrate how Defendants infringe at least claim 1 of the '537 Patent with their  
6 MGISEQ and BGISEQ sequencers, attached is a preliminary and exemplary claim chart. Ex. 3.  
7 This chart is not intended to limit Plaintiffs' right to modify this chart or any other claim chart or  
8 allege that other activities of Defendants infringe the identified claims or any other claims of the  
9 '537 Patent or any other patents. This chart is hereby incorporated by reference in its entirety. Each  
10 claim element that is mapped to MGISEQ and BGISEQ products and related reagents shall be  
11 considered an allegation within the meaning of the Federal Rules of Civil Procedure and therefore  
12 a response to each allegation is required.

13           38. Defendants have and continue to directly infringe pursuant to 35 U.S.C. § 271(a),  
14 literally or under the doctrine of equivalents, at least claim 1 of the '537 Patent by using the  
15 MGISEQ and BGISEQ sequencers and related reagents within the United States. Defendants have  
16 used the MGISEQ and BGISEQ sequencers in the United States as part of their preparations to enter  
17 North American markets, specifically in connection with research, development, testing, and/or  
18 promotional activities related to the products. Defendants also use the MGISEQ and BGISEQ  
19 products and related reagents in the United States whenever they install these types of sequencers  
20 at a United States facility. This includes the BGI facilities in San Jose, California.

21           39. Defendants are inducing infringement as prohibited by 35 U.S.C. § 271(b). The  
22 operation of Defendants' MGISEQ and BGISEQ sequencers directly infringe at least claim 1 of the  
23 '537 Patent. Defendants actively induce infringement by promoting the infringing products,  
24 encouraging their infringing use and threatening to sell them throughout the United States. For  
25 example, Defendants have recently began actively seeking to hire sales personnel, including at least  
26 a Senior Regional Sales Manager/Director and Strategic Accounts Specialist/Manger/Director, in  
27 the United States to promote and sell the infringing products domestically. As a further example,  
28

1 Defendants distribute MGISEQ and BGISEQ promotional and marketing materials and the  
2 MGISEQ and BGISEQ User Manuals in websites directed to the United States market.

3 40. Defendants are contributing to infringement pursuant to 35 U.S.C. § 271(c). Users  
4 of the MGISEQ and BGISEQ products directly infringe at least claim 1 of the '537 Patent when  
5 they use these systems. Defendants contribute to infringement by supplying in the United States  
6 products designed for use in practicing claim 1 of the '537 Patent, including for example the  
7 MGISEQ and BGISEQ systems themselves, MGISEQ and BGISEQ reagent kits, and the MGISP-  
8 960 sample prep system and by threatening to sell those systems throughout the United States.

9 41. To demonstrate how Defendants infringe at least claim 1 of the '200 Patent with their  
10 MGISEQ and BGISEQ sequencers, attached is a preliminary and exemplary claim chart. Ex. 4.  
11 This chart is not intended to limit Plaintiffs' right to modify this chart or any other claim chart or  
12 allege that other activities of Defendants infringe the identified claims or any other claims of the  
13 '200 Patent or any other patents. This chart is hereby incorporated by reference in its entirety. Each  
14 claim element that is mapped to MGISEQ and BGISEQ products and related reagents shall be  
15 considered an allegation within the meaning of the Federal Rules of Civil Procedure and therefore  
16 a response to each allegation is required.

17 42. Defendants have and continue to directly infringe pursuant to 35 U.S.C. § 271(a),  
18 literally or under the doctrine of equivalents, at least claim 1 of the '200 Patent by using the  
19 MGISEQ and BGISEQ sequencers and related reagents within the United States. Defendants have  
20 used the MGISEQ and BGISEQ sequencers in the United States as part of their preparations to enter  
21 North American markets, specifically in connection with research, development, testing, and/or  
22 promotional activities related to the products. Defendants also use the MGISEQ and BGISEQ  
23 products and related reagents in the United States whenever they install these types of sequencers  
24 at a United States facility. This includes the BGI facilities in San Jose, California.

25 43. Defendants are inducing infringement as prohibited by 35 U.S.C. § 271(b). The  
26 operation of Defendants' MGISEQ and BGISEQ sequencers directly infringe at least claim 1 of the  
27 '200 Patent. Defendants actively induce infringement by promoting the infringing products,  
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1 encouraging their infringing use and threatening to sell them throughout the United States. For  
2 example, Defendants have recently began actively seeking to hire sales personnel, including at least  
3 a Senior Regional Sales Manager/Director and Strategic Accounts Specialist/Manager/Director, in  
4 the United States to promote and sell the infringing products domestically. As a further example,  
5 Defendants distribute MGISEQ and BGISEQ promotional and marketing materials and the  
6 MGISEQ and BGISEQ User Manuals in websites directed to the United States market.

7 44. Defendants are contributing to infringement pursuant to 35 U.S.C. § 271(c). Users  
8 of the MGISEQ and BGISEQ products directly infringe at least claim 1 of the '200 Patent when  
9 they use these systems. Defendants contribute to infringement by supplying in the United States  
10 products designed for use in practicing claim 1 of the '200 Patent, including for example the  
11 MGISEQ and BGISEQ systems themselves, MGISEQ and BGISEQ reagent kits, and the MGISP-  
12 960 sample prep system and by threatening to sell those systems throughout the United States.

### 13 COUNT I

#### 14 **Infringement of U.S. Patent No. 7,566,537 (“’537 Patent”)**

15 45. Illumina re-alleges and incorporates by this reference the allegations contained  
16 throughout this Complaint into each allegation of infringement and request for remedies.

17 46. Defendants and users of Defendants’ infringing products have and continue to  
18 directly infringe, literally or by equivalence, claim 1 of the ’537 Patent by practicing one or more  
19 claims of the ’537 Patent by using the MGISEQ and BGISEQ products and other infringing  
20 products. The following allegations identify the acts of direct, induced and contributory  
21 infringement by each named defendant as supplemented by the allegations throughout this  
22 Complaint.



1                    **BGI Ltd.’s Infringement of the ’537 Patent**

2                    47.        Illumina’s patented sequencing technology is well-known and has been enforced  
3 very publicly against infringers. Together with the other Defendants, BGI Ltd. has copied that  
4 technology. BGI Ltd. has had knowledge of the ’537 Patent since at least before October 5, 2017,  
5 the date CGI filed two petitions for *inter partes* review in attempt to invalidate the ’537 Patent and  
6 failed.

7                    48.        BGI Ltd. has failed to resist the temptation of importing its infringing technology  
8 into the large United States market and has done so in the face of the ’537 Patent. BGI Ltd. knows  
9 that its activities in connection with the MGISEQ and BGISEQ products will infringe the ’537  
10 Patent.

11                    **Direct Infringement By BGI Ltd.**

12                    49.        BGI Ltd. has directly infringed and continues to directly infringe the ’537 Patent  
13 pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by importing the  
14 MGISEQ and BGISEQ products into the United States and using the MGISEQ and BGISEQ  
15 within the United States, among other infringing acts. Specifically, BGI Ltd. has used the  
16 MGISEQ and BGISEQ in the United States at its San Jose, California facility.

17                    50.        Alternatively, BGI Ltd. directly infringes because it directs and controls other BGI  
18 entities with respect to their use of MGISEQ and BGISEQ products in the United States. Upon  
19 information and belief, BGI Ltd. has directed, either directly or indirectly, its subsidiaries and  
20 affiliates, including the other Defendants, to develop, install, and use the MGISEQ-2000 and  
21 BGISEQ-500 in its San Jose, California facility. For example, BGI Ltd.’s own press release asserts  
22 that “the BGISEQ-500 NGS platform” was developed by it’s [sic] Complete Genomics Subsidiary  
23 in Silicon Valley, California.” Ex. 7 at 3. BGI Ltd.’s direction and control of this and the other  
24 infringing conduct of its subsidiaries set forth herein can be reasonably inferred from BGI’s public  
25 documents and activity.

26                    51.        For example, BGI Ltd.’s website represents that it has multiple locations in  
27 California, including San Francisco, San Jose, Los Angeles, and San Diego. Ex. 5 (available at:  
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1 <http://en.genomics.cn/en-global.html> (last accessed: September 13, 2019). It touts that it has both  
2 “representative offices” and “laboratories” in California, thus suggesting that it controls the  
3 activities in those offices notwithstanding that they may be formally associated with another BGI  
4 entity. In addition, CGI identified BGI Ltd. as a real-party-in-interest in CGI’s IPR directed to the  
5 ’537 Patent, thus indicating that BGI Ltd. ultimately directs and controls the BGI Group’s activity  
6 that infringes the ’537 Patent.

7 52. Further, BGI Ltd.’s executives travel to California to manage and promote the  
8 infringing products. This includes BGI Ltd.’s presence at industry and trade shows, including  
9 SynBioBeta SF 2017 in San Francisco, California (Oct. 3-5, 2017); J.P. Morgan Healthcare  
10 Conference in San Francisco, California (Jan. 8-11, 2018); Plant & Animal Genome Conference  
11 (“PAG”) XXVI in San Diego, California (Jan. 13-17, 2018); American Society of Human Genetics  
12 2018 in San Diego, California (Oct. 16-20, 2018); and PAG XXVII in San Diego, California (Jan.  
13 12-16, 2019). Exs. 6-10. For example, BGI Ltd.’s CEO, Ye Yin, traveled to the Northern District  
14 of California to promote the accused products at the J.P. Morgan Conference in January 2018. Ex.  
15 7. Indeed, BGI Ltd.’s executives often travel to this District in order to manage and direct the  
16 infringing activity.

17 **Induced Infringement by BGI Ltd.**

18 53. BGI Ltd. is liable for the induced infringement of the ’537 Patent pursuant to 35  
19 U.S.C. § 271(b). Specifically, BGI Ltd. has and is actively, knowingly, and intentionally inducing  
20 infringement of at least claim 1 of the ’537 Patent through a range of activities related to the  
21 BGISEQ and MGISEQ Systems. BGI Ltd. is responsible for substantial marketing of BGI products,  
22 including the MGISEQ and BGISEQ, and is threatening to encourage and support the sale of those  
23 products in the United States.

24 54. BGI Ltd. has induced infringement by controlling, alone or in concert with other  
25 Defendants, the design, manufacture, and supply of the BGISEQ and MGISEQ systems with the  
26 knowledge and specific intent that users, including other Defendants, will use the BGISEQ and  
27 MGISEQ systems to infringe by performing the patented methods of the ’537 Patent. For example,  
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1 BGI has controlled, alone or in concert with the other Defendants, the design, manufacture, and  
2 supply of the BGISEQ and MGISEQ systems such that the BGISEQ and MGISEQ systems have  
3 with pre-programmed software protocols that control operation of the BGISEQ and MGISEQ  
4 systems so that users are given the sole option of operating the BGISEQ and MGISEQ systems in  
5 a manner that infringes.

6 55. BGI Ltd. has induced infringement by controlling, alone or in concert with the other  
7 Defendants, the design, manufacture, and supply of materials or apparatuses to be used with the  
8 BGISEQ and MGISEQ systems, including for example the MGISP-960, with the knowledge and  
9 specific intent that users, including the other Defendants, will use these products to infringe by  
10 performing the patented methods of the '537 Patent.

11 56. BGI Ltd. has induced infringement by controlling, alone or in concert with the other  
12 Defendants, the design, manufacture, and supply of various reagent kits (which use specialized  
13 labeled nucleotides), including for example the BGISEQ-500 paired-end 100 kit contains all  
14 reagents (including dNTPs that are needed to perform DNA sequencing on the BGISEQ-500), with  
15 the knowledge and specific intent that users, including the other Defendants, will use these products  
16 to infringe by performing the patented methods of the '537 Patent.

17 57. BGI Ltd. has induced infringement by disseminating promotional and marketing  
18 materials relating to the BGISEQ and MGISEQ systems with the knowledge and specific intent that  
19 users, including the other Defendants, will use these sequencing instruments to infringe by  
20 performing the patented methods of the '537 Patent. For example, BGI Ltd. CEO, Ye Yin,  
21 promoted the BGISEQ-500 at the J.P. Morgan Conference in 2018.

22 58. BGI Ltd. has induced infringement by distributing other instructional materials,  
23 product manuals, technical materials, and bioinformatics software platforms with the knowledge  
24 and the specific intent to encourage and facilitate the infringing use of their MGISEQ and BGISEQ  
25 products by others, including the other Defendants. For example, BGI Ltd. is responsible for the  
26 MGISEQ and BGISEQ User Manuals, the various reagent kit manuals, technical handbooks,  
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1 product detail sheets, and technical specification sheets. These materials direct users to use the  
2 MGISEQ and BGISEQ and related products in an infringing manner.

3 59. Further, BGI Ltd. induces the infringement of the other Defendants by directing,  
4 participating in, supporting, and encouraging their use of the BGISEQ and MGISEQ products at the  
5 San Jose facility and elsewhere in the United States

6 60. BGI Ltd. performed all these acts with knowledge that the induced acts constitute  
7 infringement. At a minimum, BGI Ltd. acted with knowledge of or willful blindness with regards  
8 to users' underlying infringement.

9 **Contributory Infringement By BGI Ltd.**

10 61. BGI Ltd. is liable for contributory infringement of the '537 Patent pursuant to 35  
11 U.S.C. § 271(c). Specifically, BGI Ltd. has and is contributing to the infringement of the '537  
12 Patent by, without authority, supplying within the United States, materials and apparatuses for  
13 practicing the claimed invention of the '537 Patent, including at least the MGISEQ and BGISEQ,  
14 the MGISP-960, and the MGISEQ and BGISEQ reagent kits (which use specialized labeled  
15 nucleotides). These products constitute a material part of the claimed invention of the '537 Patent.

16 62. BGI Ltd. knows that the BGISEQ and MGISEQ, materials and apparatuses designed  
17 for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ reagent kits, constitute  
18 material parts of the inventions of the '537 Patent and that they are not a staple article or commodity  
19 of commerce suitable for substantial non-infringing use. As documented above, the BGISEQ and  
20 MGISEQ is a specialized sequencing instrument that carries out a specific method for sequencing  
21 DNA using specific labeled nucleotides. As such, neither the BGISEQ and MGISEQ, the materials  
22 or apparatuses specifically designed for use with the BGISEQ and MGISEQ, nor the BGISEQ and  
23 MGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
24 BGI Ltd. knows that the BGISEQ and MGISEQ, the materials or apparatuses specifically designed  
25 for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ reagents kits are not staple  
26 articles or commodities of commerce suitable for substantial non-infringing use because these  
27 products have no use apart from infringing the '537 Patent. BGI Ltd. knows that the use of its  
28

1 products by the other Defendants and third parties infringes the '537 Patent and it supplies them  
2 anyway.

3 **Willful Infringement By BGI Ltd.**

4 63. As set forth throughout this Complaint, BGI Ltd. has acted willfully and egregiously  
5 in performing the acts of infringement and threatening to perform the acts of infringement identified  
6 in this Complaint. BGI Ltd.'s infringement of the '537 Patent has been and is deliberate and willful  
7 and constitutes egregious misconduct. Despite actual knowledge of the '537 Patent since at least  
8 before October 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to  
9 invalidate the '537 Patent and failed, and at least as far back as May 24, 2016, when Plaintiffs filed  
10 suit on the '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ. A. No. 16-cv-02788-WHA),  
11 of which BGI Ltd. should have been aware, BGI Ltd. continues to perform the acts of infringement  
12 and threatens to perform the acts of infringement identified in this Complaint. In performing the  
13 acts of infringement and threatening to perform the acts of infringement identified in this Complaint,  
14 BGI Ltd. has been willfully blind to its ongoing infringement.

15 64. BGI Ltd.'s infringement of the '537 Patent has injured Illumina in its business and  
16 property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant to  
17 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and the  
18 reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

19 65. BGI Ltd.'s infringement of the '537 Patent has caused irreparable harm to Illumina  
20 and will continue to cause such harm unless and until their infringing activities are enjoined by this  
21 Court.

22 **BGI Americas' Infringement of the '537 Patent**

23 66. Illumina's patented sequencing technology is well-known and has been enforced  
24 very publicly against infringers. Together with the other Defendants, BGI Americas has copied that  
25 technology. BGI Americas has had knowledge of the '537 Patent since at least before October 5,  
26 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the '537 Patent  
27 and failed.

1                   **Direct Infringement By BGI Americas**

2           67.     BGI Americas has and is directly infringing the '537 Patent pursuant to 35 U.S.C. §  
3 271(a), literally or under the doctrine of equivalents, by using the MGISEQ and BGISEQ within  
4 the United States, among other infringing acts. Specifically, BGI Americas has used the MGISEQ  
5 and BGISEQ in the United States at its San Jose, California facility.

6                   **Induced Infringement By BGI Americas**

7           68.     BGI Americas is liable for their induced infringement of the '537 Patent pursuant to  
8 35 U.S.C. § 271(b). Specifically, BGI Americas has and is actively, knowingly, and intentionally  
9 inducing infringement of at least claim 1 of the '537 Patent through a range of activities related to  
10 the MGISEQ and BGISEQ, among other things.

11           69.     BGI Americas is inducing infringement by promoting the use of the MGISEQ and  
12 BGISEQ with the knowledge and specific intent that users, including other Defendants, will use the  
13 MGISEQ and BGISEQ to infringe by performing the patented methods of the '537 Patent. BGI  
14 Americas is responsible for substantial marketing of BGI products, including the MGISEQ and  
15 BGISEQ, and is threatening to encourage and support the sale of those products in the United States.

16           70.     BGI Americas is inducing infringement by disseminating promotional and marketing  
17 materials relating to the BGISEQ and MGISEQ with the knowledge and specific intent that users,  
18 including other Defendants, will use the BGISEQ and MGISEQ to infringe by performing the  
19 patented methods of the '537 Patent.

20           71.     BGI Americas is inducing infringement by distributing other instructional materials,  
21 product manuals, technical materials, and bioinformatics software platforms with the knowledge  
22 and the specific intent to encourage and facilitate the infringing use of their BGISEQ and MGISEQ  
23 products. These materials direct users, including other Defendants, to use the BGISEQ and  
24 MGISEQ and related products in an infringing manner. By providing reagent kits for use on the  
25 BGISEQ and MGISEQ, BGI Americas induces infringement.

1           72. Further, BGI Americas induces the infringement of other Defendants by participating  
2 in, supporting, and encouraging their use of the BGISEQ and MGISEQ products at the San Jose  
3 facility and elsewhere in the United States.

4           73. BGI Americas acted with knowledge that the induced acts constitute infringement.  
5 BGI Americas acted with knowledge of or willful blindness with regards to users' underlying  
6 infringement.

7           **Contributory Infringement by BGI Americas**

8           74. BGI Americas is liable for contributory infringement of the '537 Patent pursuant to  
9 35 U.S.C. § 271(c). Specifically, BGI Americas contributes to the infringement of the '537 Patent  
10 by, without authority, supplying within the United States materials and apparatuses for practicing  
11 the claimed invention of the '537 Patent, including at least the BGISEQ and MGISEQ, the MGISP-  
12 960, and the associated reagent kits (which use specialized labeled nucleotides). These products  
13 constitute a material part of the claimed inventions of the '537 Patent.

14           75. BGI Americas knows that the BGISEQ and MGISEQ, materials and apparatuses  
15 designed for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ reagent kits,  
16 constitute material parts of the inventions of the '537 Patent and that they are not a staple article or  
17 commodity of commerce suitable for substantial non-infringing use. As documented above, the  
18 BGISEQ and MGISEQ are specialized sequencing instruments that carry out a specific method for  
19 sequencing DNA using specific labeled nucleotides. As such, neither the BGISEQ and MGISEQ,  
20 the materials or apparatuses specifically designed for use with the BGISEQ and MGISEQ, nor the  
21 BGISEQ and MGISEQ reagent kits are a staple article of commerce suitable for substantial non-  
22 infringing use. BGI Americas knows that the BGISEQ and MGISEQ, the materials or apparatuses  
23 specifically designed for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ  
24 reagents kits are not staple articles or commodities of commerce suitable for substantial non-  
25 infringing use because these products have no use apart from infringing the '537 Patent. BGI  
26 Americas knows that the use of its products by other Defendants and third parties infringes the '537  
27 Patent and supplies them anyway.

28

1                   **Willful Infringement By BGI Americas**

2           76.     As set forth throughout this Complaint, BGI Americas has acted willfully and  
3 egregiously in performing the acts of infringement and threatening to perform the acts of  
4 infringement identified in this Complaint. BGI Americas' infringement of the '537 Patent has been  
5 and is deliberate and willful and constitutes egregious misconduct. Despite actual knowledge of  
6 the '537 Patent since at least before October 5, 2017, the date CGI filed two petitions for *inter partes*  
7 review in attempt to invalidate the '537 Patent and failed, and at least as far back as May 24, 2016,  
8 when Plaintiffs filed suit on the '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ. A. No.  
9 16-cv-02788-WHA), of which BGI Americas should have been aware, BGI Americas continues to  
10 perform the acts of infringement and threatens to perform the acts of infringement identified in this  
11 Complaint. In performing the acts of infringement and threatening to perform the acts of  
12 infringement identified in this Complaint, BGI Americas has been willfully blind to its ongoing  
13 infringement.

14           77.     BGI Americas' infringement of the '537 Patent has injured Illumina in its business  
15 and property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant  
16 to 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and  
17 the reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

18           78.     BGI Americas' infringement of the '537 Patent has caused irreparable harm to  
19 Illumina and will continue to cause such harm unless and until their infringing activities are enjoined  
20 by this Court.

21                   **MGI Ltd.'s Infringement of the '537 Patent**

22           79.     Illumina's patented sequencing technology is well-known and has been enforced  
23 very publicly against infringers. Together with the other Defendants, MGI Ltd. has copied that  
24 technology. MGI Ltd. has had knowledge of the '537 Patent since at least before October 5, 2017,  
25 the date CGI filed two petitions for *inter partes* review in attempt to invalidate the '537 Patent and  
26 failed.



1                   **Direct Infringement By MGI Ltd.**

2           80.     MGI Ltd. directly infringes the '537 Patent pursuant to 35 U.S.C. § 271(a), literally  
3 or under the doctrine of equivalents, because it is responsible for the use of MGISEQ and BGISEQ  
4 products in the United States. Specifically, because MGI Ltd. claims to be the “leading  
5 manufacturer and developer of BGI’s proprietary NGS instrumentation,” MGI Ltd. has used the  
6 MGISEQ and BGISEQ in the United States. MGI Ltd.’s website states that its San Jose, California  
7 facility has a “Research Center” and a “Commercial and After-Sales Service Center.”

8                   **Induced Infringement By MGI Ltd.**

9           81.     MGI Ltd. is liable for the induced infringement of the '537 Patent pursuant to 35  
10 U.S.C. § 271(b). Specifically, MGI Ltd. is actively, knowingly, and intentionally inducing  
11 infringement of at least claims 1 of the '537 Patent through a range of activities related to the  
12 MGISEQ and BGISEQ, among other infringing acts. MGI Ltd. is responsible for substantial  
13 marketing of BGI products, including the MGISEQ and BGISEQ, and is threatening to encourage  
14 and support the sale of those products in the United States.

15           82.     MGI Ltd. has induced infringement by controlling, alone or in concert with other  
16 Defendants, the design, manufacture, and supply of the MGISEQ and BGISEQ with the knowledge  
17 and specific intent that users, including other Defendants, will use the MGISEQ and BGISEQ to  
18 infringe by performing the patented methods of the '537 Patent. For example, MGI Ltd. is the  
19 “legal manufacturer” of the MGISEQ and BGISEQ. MGI Ltd. controls the website on which  
20 MGISEQ and BGISEQ is marketed and sold. MGI Ltd. controls the website that hosts *inter alia* the  
21 MGISEQ and BGISEQ User Manual(s), the various reagent kit manuals, technical handbooks,  
22 product detail sheets, and technical specification sheets. These materials direct users, including  
23 other Defendants, to use the MGISEQ and BGISEQ and MGISEQ and BGISEQ reagent kits in an  
24 infringing manner. By providing reagent kits and directing users, including other Defendants, to  
25 purchase these reagent kits for use on the MGISEQ and MGISEQ, MGI Ltd. induces infringement.

26           83.     MGI Ltd. has induced infringement by controlling, alone or in concert with the other  
27 Defendants, the design, manufacture, and supply of materials or apparatuses to be used with the  
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1 MGISEQ and BGISEQ Systems, including for example the MGISP-960, with the knowledge and  
2 specific intent that users, including other Defendants, will use these products to infringe by  
3 performing the patented methods of the '537 Patent.

4 MGI Ltd. has induced infringement by controlling, alone or in concert with the other  
5 Defendants, the design, manufacture, and supply of various MGISEQ and BGISEQ reagent kits  
6 (which use specialized labeled nucleotides), with the knowledge and specific intent that users,  
7 including other Defendants, will use these products to infringe by performing the patented methods  
8 of the claimed inventions. For example, Ms. Abigail Frank, Field Service Engineer at MGI  
9 represents that her job entails “servic[ing] NGS instruments and lab automated work stations at  
10 Complete Genomics in San Jose, as well as external customers throughout North and South  
11 America.” Ex. 28.

12 84. MGI Ltd. has induced infringement by users of its products, including the other  
13 Defendants, by disseminating promotional and marketing materials relating to the MGISEQ and  
14 BGISEQ with the knowledge and specific intent that users will use the MGISEQ or BGISEQ to  
15 infringe by performing the patented methods of the '537 Patent. MGI Ltd. controls the website that  
16 hosts promotional and marketing materials.

17 85. MGI Ltd. has induced infringement by distributing other instructional materials,  
18 product manuals, technical materials, and bioinformatics software platforms with the knowledge  
19 and the specific intent to encourage and facilitate the infringing use of their MGISEQ and BGISEQ  
20 products. For example, MGI Ltd. is responsible for the MGISEQ and BGISEQ User Manuals, the  
21 various reagent kit manuals, technical handbooks, product detail sheets, and technical specification  
22 sheets, all of which are available on the MGI Ltd.'s website. These materials direct users, including  
23 other Defendants, to use the MGISEQ and BGISEQ and related products in an infringing manner.  
24 For example, the MGISEQ and BGISEQ reagent kit handbooks state that the kits are for preparation  
25 of DNA sequencing using the MGISEQ and BGISEQ, which are sold with pre-programmed  
26 software protocols that control operation of the MGISEQ and BGISEQ so that each use of the  
27 MGISEQ and BGISEQ infringes. By providing reagent kits and directing users, including other  
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1 Defendants, to purchase these reagent kits for use on the MGISEQ and BGISEQ, MGI Ltd. induces  
2 infringement.

3 86. Further, MGI Ltd. induces the infringement of other Defendants by participating in,  
4 supporting, and encouraging their use of the BGISEQ and MGISEQ products at the San Jose facility  
5 and elsewhere in the United States.

6 87. MGI Ltd. acted with knowledge that the induced acts constitute infringement. MGI  
7 Ltd. acted with knowledge of or willful blindness with regards to users' underlying infringement.

8 Contributory Infringement By MGI Ltd.

9 88. MGI Ltd. is liable for contributory infringement of the '537 Patent pursuant to 35  
10 U.S.C. § 271(c). Specifically, MGI Ltd. contributes to the infringement of the '537 Patent by,  
11 without authority, supplying within the United States, materials and apparatuses for practicing the  
12 claimed invention of the '537 Patent, including at least the MGISEQ and BGISEQ, the MGISP-  
13 960, and the associated reagent kits (which use specialized labeled nucleotides). These products  
14 constitute a material part of the claimed invention of the '537 Patent.

15 89. MGI Ltd. knows that the MGISEQ and BGISEQ, materials and apparatuses designed  
16 for use with the MGISEQ and BGISEQ, and the associated reagent kits, constitute material parts of  
17 the inventions of the '537 Patent and that they are not a staple article or commodity of commerce  
18 suitable for substantial non-infringing use. As documented above, the MGISEQ and BGISEQ are  
19 specialized sequencing instruments that carry out a specific method for sequencing DNA using  
20 specific labeled nucleotides. As such, neither the MGISEQ and BGISEQ, the materials or  
21 apparatuses specifically designed for use with the MGISEQ and BGISEQ, nor the MGISEQ and  
22 BGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
23 MGI Ltd. knows that the MGISEQ and BGISEQ, the materials or apparatuses specifically designed  
24 for use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagents kits are not staple  
25 articles or commodities of commerce suitable for substantial non-infringing use because these  
26 products have no use apart from infringing the '537 Patent. MGI Ltd. knows that the use of its  
27 products by other Defendants and third parties infringes the '537 Patent and supplies them anyway.

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1                   **Willful Infringement By MGI Ltd.**

2           90.     As set forth throughout this Complaint, MGI Ltd. has acted willfully and egregiously  
3 in performing the acts of infringement and threatening to perform the acts of infringement identified  
4 in this Complaint. MGI Ltd.'s infringement of the '537 Patent has been and is deliberate and willful  
5 and constitutes egregious misconduct. Despite actual knowledge of the '537 Patent since at least  
6 before October 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to  
7 invalidate the '537 Patent and failed, and at least as far back as May 24, 2016, when Plaintiffs filed  
8 suit on the '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ. A. No. 16-cv-02788-WHA),  
9 of which MGI Ltd. should have been aware, MGI Ltd. continues to perform the acts of infringement  
10 and threatens to perform the acts of infringement identified in this Complaint. In performing the  
11 acts of infringement and threatening to perform the acts of infringement identified in this Complaint,  
12 MGI Ltd. has been willfully blind to its ongoing infringement.

13           91.     MGI Ltd's infringement of the '537 Patent has injured Illumina in its business and  
14 property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant to  
15 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and the  
16 reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

17           92.     MGI Ltd.'s infringement of the '537 Patent has caused irreparable harm to Illumina  
18 and will continue to cause such harm unless and until their infringing activities are enjoined by this  
19 Court.

20                   **MGI Americas' Infringement of the '537 Patent**

21           93.     Illumina's patented sequencing technology is well-known and has been enforced  
22 very publicly against infringers. Together with the other Defendants, MGI Americas has copied  
23 that technology. MGI Americas has had knowledge of the '537 Patent since at least before October  
24 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the '537  
25 Patent and failed.

1                    **Direct Infringement By MGI Americas**

2            94.        MGI Americas has and is directly infringing the '537 Patent pursuant to 35 U.S.C. §  
3 271(a), literally or under the doctrine of equivalents, by using the MGISEQ and BGISEQ within  
4 the United States. Specifically, because MGI Americas claims to be the “leading manufacturer and  
5 developer of BGI’s proprietary NGS instrumentation,” MGI Americas has used the MGISEQ and  
6 BGISEQ in the United States. MGI Americas’ San Jose, California facility has a “Research Center”  
7 and a “Commercial and After-Sales Service Center.”

8                    **Induced Infringement By MGI Americas**

9            95.        MGI Americas is liable for their induced infringement of the '537 Patent pursuant to  
10 35 U.S.C. § 271(b). Specifically, MGI Americas has and is actively, knowingly, and intentionally  
11 inducing of at least claims 1 of the '537 Patent through a range of activities related to the MGISEQ  
12 and BGISEQ, among other infringing acts. MGI Americas is responsible for substantial marketing  
13 of BGI products, including the MGISEQ and BGISEQ, and is threatening to encourage and support  
14 the sale of those products in the United States.

15            96.        MGI Americas has induced infringement by controlling, alone or in concert with the  
16 other Defendants, the design, manufacture and supply of the MGISEQ and BGISEQ with the  
17 knowledge and specific intent that users, including other Defendants, will use the MGISEQ and  
18 BGISEQ to infringe by performing the patented methods of the '537 Patent. MGI Americas  
19 distributes, *inter alia*, the MGISEQ and BGISEQ User Manual(s), the various reagent kit manuals,  
20 technical handbooks, product detail sheets, and technical specification sheets. These materials  
21 direct users, including other Defendants, to use the MGISEQ and BGISEQ and MGISEQ and  
22 BGISEQ reagent kits in an infringing manner. By providing reagent kits and directing users to  
23 purchase these reagent kits for use on the MGISEQ and MGISEQ, BGI Americas induces  
24 infringement.

25            97.        MGI Americas has induced infringement by distributing materials or apparatuses to  
26 be used with the MGISEQ and BGISEQ Systems, including for example the MGISP-960, with the  
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1 knowledge and specific intent that users, including the other Defendants, will use these products to  
2 infringe by performing the patented methods of the '537 Patent.

3 98. MGI Americas has induced infringement by distributing MGISEQ and BGISEQ  
4 reagent kits (which use specialized labeled nucleotides) with the knowledge and specific intent that  
5 users, including other Defendants, will use these products to infringe by performing the patented  
6 methods of the '537 Patent. For example, Ms. Abigail Frank, Field Service Engineer at MGI  
7 represents that her job entails “servic[ing] NGS instruments and lab automated work stations at  
8 Complete Genomics in San Jose, as well as external customers throughout North and South  
9 America.” Ex. 28.

10 99. MGI Americas has induced infringement by users of its products, including other  
11 Defendants, by disseminating promotional and marketing materials relating to the MGISEQ and  
12 BGISEQ with the knowledge and specific intent that users will use the MGISEQ or BGISEQ to  
13 infringe by performing the patented methods of the '537 Patent.

14 100. MGI Americas has induced infringement by distributing other instructional  
15 materials, product manuals, technical materials, and bioinformatics software platforms with the  
16 knowledge and the specific intent to encourage and facilitate the infringing use of their MGISEQ  
17 and BGISEQ products. For example, MGI Americas is responsible for the MGISEQ and BGISEQ  
18 User Manuals, the various reagent kit manuals, technical handbooks, product detail sheets, and  
19 technical specification sheets. These materials direct users, including other Defendants, to use the  
20 MGISEQ and BGISEQ and related products in an infringing manner. For example, the MGISEQ  
21 and BGISEQ reagent kit handbooks state that the kits are for preparation of DNA sequencing using  
22 the MGISEQ and BGISEQ, which are sold with pre-programmed software protocols that control  
23 operation of the MGISEQ and BGISEQ so that each use of the MGISEQ and BGISEQ infringes.  
24 By providing reagent kits and directing users, including other Defendants, to purchase these reagent  
25 kits for use on the MGISEQ and BGISEQ, MGI Americas induces infringement.

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1           101. Further, MGI Americas induces the infringement of other Defendants by  
2 participating in, supporting, and encouraging their use of the BGISEQ and MGISEQ products at the  
3 San Jose facility and elsewhere in the United States.

4           102. MGI Americas acted with knowledge that the induced acts constitute infringement.  
5 MGI Americas acted with knowledge of or willful blindness with regards to users' underlying  
6 infringement.

7           **Contributory Infringement By MGI Americas**

8           103. MGI Americas is liable for contributory infringement of the '537 Patent pursuant to  
9 35 U.S.C. § 271(c). Specifically, MGI Americas has and is contributing to the infringement of the  
10 '537 Patent by, without authority, distributing within the United States, materials and apparatuses  
11 for practicing the claimed invention of the '537 Patent, including at least the MGISEQ and BGISEQ,  
12 the MGISP-960, and the associated reagent kits (which use specialized labeled nucleotides). These  
13 products constitute a material part of the claimed invention of the '537 Patent.

14           104. MGI Americas knows that the MGISEQ and BGISEQ, materials and apparatuses  
15 designed for use with the MGISEQ and BGISEQ, and the associated reagent kits, constitute material  
16 parts of the inventions of the '537 Patent and that they are not a staple article or commodity of  
17 commerce suitable for substantial non-infringing use. As documented above, the MGISEQ and  
18 BGISEQ are specialized sequencing instruments that carry out a specific method for sequencing  
19 DNA using specific labeled nucleotides. As such, neither the MGISEQ and BGISEQ, the materials  
20 or apparatuses specifically designed for use with the MGISEQ and BGISEQ, nor the MGISEQ and  
21 BGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
22 MGI Americas knows that the MGISEQ and BGISEQ, the materials or apparatuses specifically  
23 designed for use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagents kits are  
24 not staple articles or commodities of commerce suitable for substantial non-infringing use because  
25 these products have no use apart from infringing the '537 Patent. MGI Americas knows that the  
26 use of its products by other Defendants and third parties infringes the '537 Patent and supplies them  
27 anyway.

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1                    **Willful Infringement By MGI Americas**

2            105. As set forth throughout this Complaint, MGI Americas has acted willfully and  
3 egregiously in performing the acts of infringement and threatening to perform the acts of  
4 infringement identified in this Complaint. MGI Americas' infringement of the '537 Patent has  
5 been and is deliberate and willful and constitutes egregious misconduct. Despite actual knowledge  
6 of the '537 Patent since at least before October 5, 2017, the date CGI filed two petitions for *inter*  
7 *partes* review in attempt to invalidate the '537 Patent and failed, and at least as far back as May 24,  
8 2016, when Plaintiffs filed suit on the '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ.  
9 A. No. 16-cv-02788-WHA), of which MGI Americas should have been aware, MGI Americas  
10 continues to perform the acts of infringement and threatens to perform the acts of infringement  
11 identified in this Complaint. In performing the acts of infringement and threatening to perform the  
12 acts of infringement identified in this Complaint, MGI Americas has been willfully blind to its  
13 ongoing infringement.

14            106. MGI Americas' infringement of the '537 Patent has injured Illumina in its business  
15 and property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant  
16 to 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and  
17 the reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

18            107. MGI Americas' infringement of the '537 Patent has caused irreparable harm to  
19 Illumina and will continue to cause such harm unless and until their infringing activities are enjoined  
20 by this Court.

21                    **CGI's Infringement of the '537 Patent**

22            108. Illumina's patented sequencing technology is well-known and has been enforced  
23 very publicly against infringers. Together with the other Defendants, CGI has copied that  
24 technology. CGI has had knowledge of the '537 Patent since at least before October 5, 2017, the  
25 date it filed two petitions for *inter partes* review in attempt to invalidate the '537 Patent and failed.  
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1                   **Direct Infringement By CGI**

2           109. CGI has and is directly infringing the '537 Patent pursuant to 35 U.S.C. § 271(a),  
3 literally or under the doctrine of equivalents, by using the MGISEQ and BGISEQ within the United  
4 States, among other infringing acts. CGI has installed MGISEQ and BGISEQ systems at CGI  
5 locations in the United States, including its San Jose, California facility. CGI has used the MGISEQ  
6 and BGISEQ in the United States.

7                   **Induced Infringement by CGI**

8           110. CGI is liable for their induced infringement of the '537 Patent pursuant to 35 U.S.C.  
9 § 271(b). Specifically, CGI has and is actively, knowingly, and intentionally inducing infringement  
10 of at least claim 1 of the '537 Patent through a range of activities related to the MGISEQ and  
11 BGISEQ, among other infringing acts. CGI is responsible for substantial marketing of BGI  
12 products, including the MGISEQ and BGISEQ, and is threatening to encourage and support the sale  
13 of those products in the United States.

14           111. CGI has induced infringement by controlling, alone or in concert with the other  
15 Defendants, the design, manufacture, and supply of materials or apparatuses to be used with the  
16 MGISEQ and BGISEQ Systems, including for example the MGISP-960, with the knowledge and  
17 specific intent that users, including other Defendants, will use these products to infringe by  
18 performing the patented methods of the '537 Patent.

19           112. CGI has induced infringement by controlling, with the other Defendants, the design,  
20 manufacture, and supply of various MGISEQ and BGISEQ reagent kits (which use specialized  
21 labeled nucleotides), with the knowledge and specific intent that users, including other Defendants,  
22 will use these products to infringe by performing the patented methods of the '537 Patent.

23           113. CGI has induced infringement by disseminating promotional and marketing  
24 materials relating to the MGISEQ and BGISEQ with the knowledge and specific intent that users,  
25 including other Defendants, will use the MGISEQ and BGISEQ to infringe by performing the  
26 patented methods of the '537 Patent.

1 114. CGI has induced infringement by creating distribution channels for the  
2 aforementioned MGISEQ and BGISEQ, materials and apparatuses for use with the MGISEQ and  
3 BGISEQ Systems, and the associated reagent kits, with the knowledge and specific intent that users,  
4 including other Defendants, will use these products to infringe by performing the patented methods  
5 of the '537 Patent.

6 115. CGI has induced infringement by distributing other instructional materials, product  
7 manuals, technical materials, and bioinformatics software platforms with the knowledge and the  
8 specific intent to encourage and facilitate the infringing use of their MGISEQ and BGISEQ  
9 products. These materials direct users, including other Defendants, to use the MGISEQ and  
10 BGISEQ and related products in an infringing manner. For example, the MGISEQ and BGISEQ  
11 reagent kit manuals state that the kits are for preparation of DNA sequencing using the MGISEQ  
12 and BGISEQ, which are sold with pre-programmed software protocols that control operation of the  
13 MGISEQ and BGISEQ so that each use of the MGISEQ and BGISEQ infringes. By providing  
14 reagent kits and directing users to purchase these reagent kits for use on the MGISEQ and BGISEQ,  
15 CGI induces infringement.

16 116. Further, CGI induces the infringement of other Defendants by participating in,  
17 supporting, and encouraging their use of the BGISEQ and MGISEQ products at the San Jose facility  
18 and elsewhere in the United States.

19 117. CGI acted with knowledge that the induced acts constitute infringement. CGI acted  
20 with knowledge of or willful blindness with regards to users' underlying infringement.

21 **Contributory Infringement by CGI**

22 118. CGI is liable for contributory infringement of the '537 Patent pursuant to 35 U.S.C.  
23 § 271(c). Specifically, CGI has and is contributing to infringement of the '537 Patent by, without  
24 authority, supplying within the United States, materials and apparatuses for practicing the claimed  
25 invention of the '537 Patent, including at least the MGISEQ and BGISEQ, the MGISP-960, and the  
26 associated reagent kits (which use specialized labeled nucleotides). These products constitute a  
27 material part of the claimed invention of the '537 Patent.

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1           119. CGI knows that the MGISEQ and BGISEQ, materials and apparatuses designed for  
2 use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagent kits, constitute material  
3 parts of the inventions of the '537 Patent and that they are not a staple article or commodity of  
4 commerce suitable for substantial non-infringing use. As documented above, the MGISEQ and  
5 BGISEQ are specialized sequencing instruments that carry out a specific method for sequencing  
6 DNA using specific labeled nucleotides. As such, neither the MGISEQ and BGISEQ, the materials  
7 or apparatuses specifically designed for use with the MGISEQ and BGISEQ, nor the MGISEQ and  
8 BGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
9 CGI knows that the MGISEQ and BGISEQ, the materials or apparatuses specifically designed for  
10 use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagents kits are not staple  
11 articles or commodities of commerce suitable for substantial non-infringing use because these  
12 products have no use apart from infringing the '537 Patent. CGI knows that the use of its products  
13 by other Defendants and third parties infringes the '537 Patent and it supplies them anyway.

#### 14           **Willful Infringement By CGI**

15           120. As set forth throughout this Complaint, CGI has acted willfully and egregiously in  
16 performing the acts of infringement and threatening to perform the acts of infringement identified  
17 in this Complaint. CGI's infringement of the '537 Patent has been and is deliberate and willful and  
18 constitutes egregious misconduct. Despite actual knowledge of the '537 Patent since at least before  
19 October 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the  
20 '537 Patent and failed, and at least as far back as May 24, 2016, when Plaintiffs filed suit on the  
21 '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ. A. No. 16-cv-02788-WHA), of which  
22 CGI should have been aware, CGI continues to perform the acts of infringement and threatens to  
23 perform the acts of infringement identified in this Complaint. In performing the acts of infringement  
24 and threatening to perform the acts of infringement identified in this Complaint, CGI has been  
25 willfully blind to its ongoing infringement.

26           121. CGI's infringement of the '537 Patent has injured Illumina in its business and  
27 property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant to  
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1 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and the  
2 reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

3 122. CGI's infringement of the '537 Patent has caused irreparable harm to Illumina and  
4 will continue to cause such harm unless and until their infringing activities are enjoined by this  
5 Court.

6 **COUNT II**

7 **Infringement of U.S. Patent No. 9,410,200 ("200 Patent")**

8 123. Illumina re-alleges and incorporates by this reference the allegations contained  
9 throughout this Complaint into each allegation of infringement and request for remedies.

10 124. Defendants and users of Defendants' infringing products have and continue to  
11 directly infringe, literally or by equivalence, claim 1 of the '200 Patent by practicing one or more  
12 claims of the '200 Patent by using the MGISEQ and BGISEQ products and other infringing  
13 products. The following allegations identify the acts of direct, induced and contributory  
14 infringement by each named defendant as supplemented by the allegations throughout this  
15 Complaint.

16 **BGI Ltd.'s Infringement of the '200 Patent**

17 125. Illumina's patented sequencing technology is well-known and has been enforced  
18 very publicly against infringers. Together with the other Defendants, BGI Ltd. has copied that  
19 technology. BGI Ltd. has had knowledge of the '200 Patent since at least before October 5, 2017,  
20 the date CGI filed two petitions for *inter partes* review in attempt to invalidate the '537 Patent, a  
21 patent related to the '200 Patent, and failed.

22 126. BGI Ltd. has failed to resist the temptation of importing its infringing technology  
23 into the large United States market and has done so in the face of the '200 Patent. BGI Ltd. knows  
24 that its activities in connection with the MGISEQ and BGISEQ products will infringe the '200  
25 Patent.

1                   **Direct Infringement By BGI Ltd.**

2           127. BGI Ltd. has directly infringed and continues to directly infringe the '200 Patent  
3 pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by importing the  
4 MGISEQ and BGISEQ into the United States and using the MGISEQ and BGISEQ within the  
5 United States, among other infringing acts. Specifically, BGI Ltd. has used the MGISEQ and  
6 BGISEQ in the United States at its San Jose, California facility.

7           128. Alternatively, BGI Ltd. directly infringes because it directs and controls other BGI  
8 entities with respect to their use of the MGISEQ and BGISEQ products in the United States. Upon  
9 information and belief, BGI Ltd. has directed, either directly or indirectly, its subsidiaries and  
10 affiliates, including the other Defendants, to develop, install, and use the MGISEQ-2000 and  
11 BGISEQ-500 in its San Jose, California facility. For example, BGI Ltd.'s own press release asserts  
12 that "the BGISEQ-500 NGS platform" was developed by it's [sic] Complete Genomics Subsidiary  
13 in Silicon Valley, California." Ex. 7 at 3. BGI Ltd.'s direction and control of this and the other  
14 infringing conduct of its subsidiaries set forth herein can be reasonably inferred from BGI's public  
15 documents and activity.

16           129. For example, BGI Ltd.'s website represents that it has multiple locations in  
17 California, including San Francisco, San Jose, Los Angeles, and San Diego. Ex. 5 (available at:  
18 <http://en.genomics.cn/en-global.html> (last accessed: September 13, 2019). It touts that it has both  
19 "representative offices" and "laboratories" in California, thus suggesting that it controls those  
20 activities in those offices notwithstanding that they may be formally associated with another BGI  
21 entity. In addition, CGI identified BGI Ltd. as a real-party-in-interest in CGI's IPR directed to the  
22 '537 Patent, thus indicating that BGI ultimately directs and controls the BGI Group's activity that  
23 infringes both the '537 and '200 Patents.

24           130. Further, BGI Ltd.'s executives travel to California to manage and promote the  
25 infringing products. This includes BGI Ltd.'s presence at industry and trade shows, including  
26 SynBioBeta SF 2017 in San Francisco, California (Oct. 3-5, 2017); J.P. Morgan Healthcare  
27 Conference in San Francisco, California (Jan. 8-11, 2018); Plant & Animal Genome Conference  
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1 (“PAG”) XXVI in San Diego, California (Jan. 13-17, 2018); American Society of Human Genetics  
2 2018 in San Diego, California (Oct. 16-20, 2018); and PAG XXVII in San Diego, California (Jan.  
3 12-16, 2019). Exs. 6-10. For example, BGI Ltd.’s CEO, Ye Yin, traveled to the Northern District  
4 of California to promote the accused products at the J.P. Morgan Conference in January 2018. Ex.  
5 7. Indeed, BGI Ltd.’s executives often travel to this District in order to manage and direct the  
6 infringing activity.

7 **Induced Infringement by BGI Ltd.**

8 131. BGI Ltd. is liable for the induced infringement of the ’200 Patent pursuant to 35  
9 U.S.C. § 271(b). Specifically, BGI Ltd. has and is actively, knowingly, and intentionally inducing  
10 infringement of at least claim 1 of the ’200 Patent through a range of activities related to the  
11 BGISEQ and MGISEQ Systems. BGI Ltd. is responsible for substantial marketing of BGI products,  
12 including the MGISEQ and BGISEQ, and is threatening to encourage and support the sale of those  
13 products in the United States.

14 132. BGI Ltd. has induced infringement by controlling, alone or in concert with other  
15 Defendants, the design, manufacture, and supply of the BGISEQ and MGISEQ systems with the  
16 knowledge and specific intent that users, including other Defendants, will use the BGISEQ and  
17 MGISEQ systems to infringe by performing the patented methods of the ’200 Patent. For example,  
18 BGI has controlled, alone or in concert with the other Defendants, the design, manufacture, and  
19 supply of the BGISEQ and MGISEQ systems such that the BGISEQ and MGISEQ systems have  
20 pre-programmed software protocols that control operation of the BGISEQ and MGISEQ systems  
21 so that users, including other Defendants, are given the sole option of operating the BGISEQ and  
22 MGISEQ systems in a manner that infringes.

23 133. BGI has induced infringement by controlling, alone or in concert with the other  
24 Defendants, the design, manufacture, and supply of materials or apparatuses to be used with the  
25 BGISEQ and MGISEQ systems, including for example the MGISP-960, with the knowledge and  
26 specific intent that users, including other Defendants, will use these products to infringe by  
27 performing the patented methods of the ’200 Patent.

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1           134. BGI Ltd. has induced infringement by controlling, alone or in concert with other  
2 Defendants, the design, manufacture, and supply of various reagent kits (which use specialized  
3 labeled nucleotides), including for example the BGISEQ-500 paired-end 100 kit contains all  
4 reagents (including dNTPs that are needed to perform DNA sequencing on the BGISEQ-500), with  
5 the knowledge and specific intent that users, including other Defendants, will use these products to  
6 infringe by performing the patented methods of the '200 Patent.

7           135. BGI Ltd. has induced infringement by disseminating promotional and marketing  
8 materials relating to the BGISEQ and MGISEQ systems with the knowledge and specific intent that  
9 users, including other Defendants, will use these sequencing instruments to infringe by performing  
10 the patented methods of the '200 Patent. For example, BGI Ltd. CEO, Ye Yin, promoted the  
11 BGISEQ-500 at the J.P. Morgan Conference in 2018.

12           136. BGI Ltd. has induced infringement by distributing other instructional materials,  
13 product manuals, technical materials, and bioinformatics software platforms with the knowledge  
14 and the specific intent to encourage and facilitate the infringing use of their MGISEQ and BGISEQ  
15 products. For example, BGI Ltd. is responsible for the MGISEQ and BGISEQ User Manuals, the  
16 various reagent kit manuals, technical handbooks, product detail sheets, and technical specification  
17 sheets. These materials direct users, including other Defendants, to use the MGISEQ and BGISEQ  
18 and related products in an infringing manner.

19           137. Further, BGI Ltd. induces the infringement of other Defendants by directing,  
20 participating in, supporting, and encouraging their use of the BGISEQ and MGISEQ products at the  
21 San Jose facility and elsewhere in the United States.

22           138. BGI Ltd. performed all these acts with knowledge that the induced acts constitute  
23 infringement. At a minimum, BGI Ltd. acted with knowledge of or willful blindness with regards  
24 to users' underlying infringement.

25           **Contributory Infringement By BGI Ltd.**

26           139. BGI Ltd. is liable for contributory infringement of the '200 Patent pursuant to 35  
27 U.S.C. § 271(c). Specifically, BGI Ltd. has and is contributing to the infringement of the '200  
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1 Patent by, without authority, supplying within the United States, materials and apparatuses for  
2 practicing the claimed invention of the '200 Patent, including at least the MGISEQ and BGISEQ,  
3 the MGISP-960, and the MGISEQ and BGISEQ reagent kits (which use specialized labeled  
4 nucleotides). These products constitute a material part of the claimed invention of the '200 Patent.

5 140. BGI Ltd. knows that the BGISEQ and MGISEQ, materials and apparatuses designed  
6 for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ reagent kits, constitute  
7 material parts of the inventions of the '200 Patent and that they are not a staple article or commodity  
8 of commerce suitable for substantial non-infringing use. As documented above, the BGISEQ and  
9 MGISEQ is a specialized sequencing instrument that carries out a specific method for sequencing  
10 DNA using specific labeled nucleotides. As such, neither the BGISEQ and MGISEQ, the materials  
11 or apparatuses specifically designed for use with the BGISEQ and MGISEQ, nor the BGISEQ and  
12 MGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
13 BGI Ltd. knows that the BGISEQ and MGISEQ, the materials or apparatuses specifically designed  
14 for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ reagents kits are not staple  
15 articles or commodities of commerce suitable for substantial non-infringing use because these  
16 products have no use apart from infringing the '200 Patent. BGI Ltd. knows that the use of its  
17 products by other Defendants and third parties infringes the '200 Patent and it supplies them  
18 anyway.

19 **Willful Infringement By BGI Ltd.**

20 141. As set forth throughout this Complaint, BGI Ltd. has acted willfully and egregiously  
21 in performing the acts of infringement and threatening to perform the acts of infringement identified  
22 in this Complaint. BGI Ltd.'s infringement of the '200 Patent has been and is deliberate and willful  
23 and constitutes egregious misconduct. Despite knowledge of the '200 Patent since at least before  
24 October 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the  
25 '537 Patent, a patent related to the '200 Patent, and failed, and at least as far back as May 24, 2016,  
26 when Plaintiffs filed suit on the '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ. A. No.  
27 16-cv-02788-WHA), of which BGI Ltd. should have been aware, BGI Ltd. continues to perform  
28



1 the acts of infringement and threatens to perform the acts of infringement identified in this  
2 Complaint. In performing the acts of infringement and threatening to perform the acts of  
3 infringement identified in this Complaint, BGI Ltd. has been willfully blind to its ongoing  
4 infringement.

5 142. BGI Ltd.'s infringement of the '200 Patent has injured Illumina in its business and  
6 property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant to  
7 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and the  
8 reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

9 143. BGI Ltd.'s infringement of the '200 Patent has caused irreparable harm to Illumina  
10 and will continue to cause such harm unless and until their infringing activities are enjoined by this  
11 Court.

#### 12 **BGI Americas' Infringement of the '200 Patent**

13 144. Illumina's patented sequencing technology is well-known and has been enforced  
14 very publicly against infringers. Together with the other Defendants, BGI Americas has copied that  
15 technology. BGI Americas has had knowledge of the '200 Patent since at least before October 5,  
16 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the '537 Patent,  
17 a patent related to the '200 Patent, and failed.

#### 18 **Direct Infringement By BGI Americas**

19 145. BGI Americas has and is directly infringing the '200 Patent pursuant to 35 U.S.C. §  
20 271(a), literally or under the doctrine of equivalents, by using the MGISEQ and BGISEQ within  
21 the United States, among other infringing acts. Specifically, BGI Americas has used the MGISEQ  
22 and BGISEQ in the United States at its San Jose, California facility.

#### 23 **Induced Infringement By BGI Americas**

24 146. BGI Americas is liable for their induced infringement of the '200 Patent pursuant to  
25 35 U.S.C. § 271(b). Specifically, BGI Americas has and is actively, knowingly, and intentionally  
26 inducing infringement of at least claim 1 of the '200 Patent through a range of activities related to  
27 the MGISEQ and BGISEQ, among other things.

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1 147. BGI Americas is inducing infringement by promoting the use of the MGISEQ and  
2 BGISEQ with the knowledge and specific intent that users, including other Defendants, will use the  
3 MGISEQ and BGISEQ to infringe by performing the patented methods of the '200 Patent. BGI  
4 Americas is responsible for substantial marketing of BGI products, including the MGISEQ and  
5 BGISEQ, and is threatening to encourage and support the sale of those products in the United States.

6 148. BGI Americas is inducing infringement by disseminating promotional and marketing  
7 materials relating to the BGISEQ and MGISEQ with the knowledge and specific intent that users,  
8 including other Defendants, will use the BGISEQ and MGISEQ to infringe by performing the  
9 patented methods of the '200 Patent.

10 149. BGI Americas is inducing infringement by distributing other instructional materials,  
11 product manuals, technical materials, and bioinformatics software platforms with the knowledge  
12 and the specific intent to encourage and facilitate the infringing use of their BGISEQ and MGISEQ  
13 products. These materials direct users, including other Defendants, to use the BGISEQ and  
14 MGISEQ and related products in an infringing manner. By providing reagent kits for use on the  
15 BGISEQ and MGISEQ, BGI Americas induces infringement.

16 150. Further, BGI Americas induces the infringement of other Defendants by participating  
17 in, supporting, and encouraging their use of the BGISEQ and MGISEQ products at the San Jose  
18 facility and elsewhere in the United States.

19 151. BGI Americas acted with knowledge that the induced acts constitute infringement.  
20 BGI Americas acted with knowledge of or willful blindness with regards to users' underlying  
21 infringement.

### 22 **Contributory Infringement by BGI Americas**

23 152. BGI Americas is liable for contributory infringement of the '200 Patent pursuant to  
24 35 U.S.C. § 271(c). Specifically, BGI Americas contributes to the infringement of the '200 Patent  
25 by, without authority, supplying within the United States materials and apparatuses for practicing  
26 the claimed invention of the '200 Patent, including at least the BGISEQ and MGISEQ, the MGISP-

1 960, and the associated reagent kits (which use specialized labeled nucleotides). These products  
2 constitute a material part of the claimed inventions of the '200 Patent.

3 153. BGI Americas knows that the BGISEQ and MGISEQ, materials and apparatuses  
4 designed for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ reagent kits,  
5 constitute material parts of the inventions of the '200 Patent and that they are not a staple article or  
6 commodity of commerce suitable for substantial non-infringing use. As documented above, the  
7 BGISEQ and MGISEQ are specialized sequencing instruments that carry out a specific method for  
8 sequencing DNA using specific labeled nucleotides. As such, neither the BGISEQ and MGISEQ,  
9 the materials or apparatuses specifically designed for use with the BGISEQ and MGISEQ, nor the  
10 BGISEQ and MGISEQ reagent kits are a staple article of commerce suitable for substantial non-  
11 infringing use. BGI Americas knows that the BGISEQ and MGISEQ, the materials or apparatuses  
12 specifically designed for use with the BGISEQ and MGISEQ, and the BGISEQ and MGISEQ  
13 reagents kits are not staple articles or commodities of commerce suitable for substantial non-  
14 infringing use because these products have no use apart from infringing the '200 Patent. BGI  
15 Americas knows that the use of its products by other Defendants and third parties infringes the '200  
16 Patent and supplies them anyway.

#### 17 **Willful Infringement By BGI Americas**

18 154. As set forth throughout this Complaint, BGI Americas has acted willfully and  
19 egregiously in performing the acts of infringement and threatening to perform the acts of  
20 infringement identified in this Complaint. BGI Americas' infringement of the '200 Patent has been  
21 and is deliberate and willful and constitutes egregious misconduct. Despite knowledge of the '200  
22 Patent since at least before October 5, 2017, the date CGI filed two petitions for *inter partes* review  
23 in attempt to invalidate the '537 Patent, a patent related to the '200 Patent, and failed, and at least  
24 as far back as May 24, 2016, when Plaintiffs filed suit on the '537 Patent in *Illumina, Inc. et al. v.*  
25 *Qiagen N.V. et al.* (Civ. A. No. 16-cv-02788-WHA), of which BGI Americas should have been  
26 aware, BGI Americas continues to perform the acts of infringement and threatens to perform the  
27 acts of infringement identified in this Complaint. In performing the acts of infringement and  
28

1 threatening to perform the acts of infringement identified in this Complaint, BGI Americas. has  
2 been willfully blind to its ongoing infringement.

3 155. BGI Americas' infringement of the '200 Patent has injured Illumina in its business  
4 and property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant  
5 to 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and  
6 the reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

7 156. BGI Americas' infringement of the '200 Patent has caused irreparable harm to  
8 Illumina and will continue to cause such harm unless and until their infringing activities are enjoined  
9 by this Court.

#### 10 **MGI Ltd.'s Infringement of the '200 Patent**

11 157. Illumina's patented sequencing technology is well-known and has been enforced  
12 very publicly against infringers. Together with the other Defendants, MGI Ltd. has copied that  
13 technology. MGI Ltd. has had knowledge of the '200 Patent since at least before October 5, 2017,  
14 the date CGI filed two petitions for *inter partes* review in attempt to invalidate the '537 Patent, a  
15 patent related to the '200 Patent, and failed.

#### 16 **Direct Infringement By MGI Ltd.**

17 158. MGI Ltd. directly infringes the '200 Patent pursuant to 35 U.S.C. § 271(a), literally  
18 or under the doctrine of equivalents, because it is responsible for the use of MGISEQ and BGISEQ  
19 products in the United States. Specifically, because MGI Ltd. claims to be the "leading  
20 manufacturer and developer of BGI's proprietary NGS instrumentation," MGI Ltd. has used the  
21 MGISEQ and BGISEQ in the United States. MGI Ltd.'s website clearly states that its San Jose,  
22 California facility has a "Research Center" and a "Commercial and After-Sales Service Center."

#### 23 **Induced Infringement By MGI Ltd.**

24 159. MGI Ltd. is liable for the induced infringement of the '200 Patent pursuant to 35  
25 U.S.C. § 271(b). Specifically, MGI Ltd. is actively, knowingly, and intentionally inducing  
26 infringement of at least claims 1 of the '200 Patent through a range of activities related to the  
27 MGISEQ and BGISEQ, among other infringing acts. MGI Ltd. is responsible for substantial  
28

1 marketing of BGI products, including the MGISEQ and BGISEQ, and is threatening to encourage  
2 and support the sale of those products in the United States.

3 160. MGI Ltd. has induced infringement by controlling, alone or in concert with the other  
4 Defendants, the design, manufacture, and supply of the MGISEQ and BGISEQ with the knowledge  
5 and specific intent that users, including other Defendants, will use the MGISEQ and BGISEQ to  
6 infringe by performing the patented methods of the '200 Patent. For example, MGI Ltd. is the  
7 "legal manufacturer" of the MGISEQ and BGISEQ. MGI Ltd. controls the website on which  
8 MGISEQ and BGISEQ is marketed and sold. MGI Ltd. controls the website that hosts *inter alia* the  
9 MGISEQ and BGISEQ User Manual(s), the various reagent kit manuals, technical handbooks,  
10 product detail sheets, and technical specification sheets. These materials direct users, including  
11 other Defendants, to use the MGISEQ and BGISEQ and MGISEQ and BGISEQ reagent kits in an  
12 infringing manner. By providing reagent kits and directing users, including other Defendants, to  
13 purchase these reagent kits for use on the MGISEQ and MGISEQ, MGI Ltd. induces infringement.

14 161. MGI Ltd. has induced infringement by controlling, alone or in concert with the other  
15 Defendants, the design, manufacture, and supply of materials or apparatuses to be used with the  
16 MGISEQ and BGISEQ Systems, including for example the MGISP-960, with the knowledge and  
17 specific intent that users, including other Defendants, will use these products to infringe by  
18 performing the patented methods of the '200 Patent.

19 162. MGI Ltd. has induced infringement by controlling, alone or in concert with the other  
20 Defendants, the design, manufacture, and supply of various MGISEQ and BGISEQ reagent kits  
21 (which use specialized labeled nucleotides), with the knowledge and specific intent that users,  
22 including other Defendants, will use these products to infringe by performing the patented methods  
23 of the claimed inventions. For example, Ms. Abigail Frank, Field Service Engineer at MGI  
24 represents that her job entails "servic[ing] NGS instruments and lab automated work stations at  
25 Complete Genomics in San Jose, as well as external customers throughout North and South  
26 America." Ex. 28.

1           163. MGI Ltd. has induced infringement by users of its products, including other  
2 Defendants, by disseminating promotional and marketing materials relating to the MGISEQ and  
3 BGISEQ with the knowledge and specific intent that users, including other Defendants, will use the  
4 MGISEQ or BGISEQ to infringe by performing the patented methods of the '200 Patent. MGI Ltd.  
5 controls the website that hosts promotional and marketing materials.

6           164. MGI Ltd. has induced infringement by distributing other instructional materials,  
7 product manuals, technical materials, and bioinformatics software platforms with the knowledge  
8 and the specific intent to encourage and facilitate the infringing use of their MGISEQ and BGISEQ  
9 products. For example, MGI Ltd. is responsible for the MGISEQ and BGISEQ User Manuals, the  
10 various reagent kit manuals, technical handbooks, product detail sheets, and technical specification  
11 sheets, all of which are available on the MGI Ltd.'s website. These materials direct users to use the  
12 MGISEQ and BGISEQ and related products in an infringing manner. For example, the MGISEQ  
13 and BGISEQ reagent kit handbooks state that the kits are for preparation of DNA sequencing using  
14 the MGISEQ and BGISEQ, which are sold with pre-programmed software protocols that control  
15 operation of the MGISEQ and BGISEQ so that each use of the MGISEQ and BGISEQ infringes.  
16 By providing reagent kits and directing users including other Defendants, to purchase these reagent  
17 kits for use on the MGISEQ and BGISEQ, MGI Ltd. induces infringement.

18           165. Further, MGI Ltd. induces the infringement of other Defendants by participating in,  
19 supporting, and encouraging their use of the BGISEQ and MGISEQ products at the San Jose facility  
20 and elsewhere in the United States.

21           166. MGI Ltd. acted with knowledge that the induced acts constitute infringement. MGI  
22 Ltd. acted with knowledge of or willful blindness with regards to users' underlying infringement.

23           **Contributory Infringement By MGI Ltd.**

24           167. MGI Ltd. is liable for contributory infringement of the '200 Patent pursuant to 35  
25 U.S.C. § 271(c). Specifically, MGI Ltd. contributes to the infringement of the '200 Patent by,  
26 without authority, supplying within the United States, materials and apparatuses for practicing the  
27 claimed invention of the '200 Patent, including at least the MGISEQ and BGISEQ, the MGISP-

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1 960, and the associated reagent kits (which use specialized labeled nucleotides). These products  
2 constitute a material part of the claimed invention of the '200 Patent.

3 168. MGI Ltd. knows that the MGISEQ and BGISEQ, materials and apparatuses designed  
4 for use with the MGISEQ and BGISEQ, and the associated reagent kits, constitute material parts of  
5 the inventions of the '200 Patent and that they are not a staple article or commodity of commerce  
6 suitable for substantial non-infringing use. As documented above, the MGISEQ and BGISEQ are  
7 specialized sequencing instruments that carry out a specific method for sequencing DNA using  
8 specific labeled nucleotides. As such, neither the MGISEQ and BGISEQ, the materials or  
9 apparatuses specifically designed for use with the MGISEQ and BGISEQ, nor the MGISEQ and  
10 BGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
11 MGI Ltd. knows that the MGISEQ and BGISEQ, the materials or apparatuses specifically designed  
12 for use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagents kits are not staple  
13 articles or commodities of commerce suitable for substantial non-infringing use because these  
14 products have no use apart from infringing the '200 Patent. MGI Ltd. knows that the use of its  
15 products by other Defendants and third parties infringes the '200 Patent and it supplies them  
16 anyway.

17 **Willful Infringement By MGI Ltd.**

18 169. As set forth throughout this Complaint, MGI Ltd. has acted willfully and egregiously  
19 in performing the acts of infringement and threatening to perform the acts of infringement identified  
20 in this Complaint. MGI Ltd.'s infringement of the '200 Patent has been and is deliberate and willful  
21 and constitutes egregious misconduct. Despite knowledge of the '200 Patent since at least before  
22 October 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the  
23 '537 Patent, a patent related to the '200 Patent, and failed, and at least as far back as May 24, 2016,  
24 when Plaintiffs filed suit on the '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ. A. No.  
25 16-cv-02788-WHA), of which MGI Ltd. should have been aware, MGI Ltd. continues to perform  
26 the acts of infringement and threatens to perform the acts of infringement identified in this  
27 Complaint. In performing the acts of infringement and threatening to perform the acts of  
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1 infringement identified in this Complaint, MGI Ltd. has been willfully blind to its ongoing  
2 infringement.

3 170. MGI Ltd's infringement of the '200 Patent has injured Illumina in its business and  
4 property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant to  
5 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and the  
6 reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

7 171. MGI Ltd.'s infringement of the '200 Patent has caused irreparable harm to Illumina  
8 and will continue to cause such harm unless and until their infringing activities are enjoined by this  
9 Court.

#### 10 **MGI Americas' Infringement of the '200 Patent**

11 172. Illumina's patented sequencing technology is well-known and has been enforced  
12 very publicly against infringers. Together with the other Defendants, MGI Americas has copied  
13 that technology. MGI Americas has had knowledge of the '200 Patent since at least before October  
14 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the '537  
15 Patent, a patent related to the '200 Patent, and failed.

#### 16 **Direct Infringement By MGI Americas**

17 173. MGI Americas has and is directly infringing the '200 Patent pursuant to 35 U.S.C. §  
18 271(a), literally or under the doctrine of equivalents, by using the MGISEQ and BGISEQ within  
19 the United States. Specifically, because MGI Americas claims to be the "leading manufacturer and  
20 developer of BGI's proprietary NGS instrumentation," MGI Americas has used the MGISEQ and  
21 BGISEQ in the United States. MGI Americas' San Jose, California facility that has a "Research  
22 Center" and a "Commercial and After-Sales Service Center."

#### 23 **Induced Infringement By MGI Americas**

24 174. MGI Americas is liable for their induced infringement of the '200 Patent pursuant to  
25 35 U.S.C. § 271(b). Specifically, MGI Americas has and is actively, knowingly, and intentionally  
26 inducing of at least claims 1 of the '200 Patent through a range of activities related to the MGISEQ  
27 and BGISEQ, among other infringing acts. MGI Americas is responsible for substantial marketing  
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1 of BGI products, including the MGISEQ and BGISEQ, and is threatening to encourage and support  
2 the sale of those products in the United States.

3 175. MGI Americas has induced infringement by controlling, alone or in concert with the  
4 other Defendants, the design, manufacture and supply of the MGISEQ and BGISEQ with the  
5 knowledge and specific intent that users, including other Defendants, will use the MGISEQ and  
6 BGISEQ to infringe by performing the patented methods of the '200 Patent. MGI Americas  
7 distributes, *inter alia*, the MGISEQ and BGISEQ User Manual(s), the various reagent kit manuals,  
8 technical handbooks, product detail sheets, and technical specification sheets. These materials  
9 direct users, including other Defendants, to use the MGISEQ and BGISEQ and MGISEQ and  
10 BGISEQ reagent kits in an infringing manner. By providing reagent kits and directing users to  
11 purchase these reagent kits for use on the MGISEQ and MGISEQ, BGI Americas induces  
12 infringement.

13 176. MGI Americas has induced infringement by distributing materials or apparatuses to  
14 be used with the MGISEQ and BGISEQ Systems, including for example the MGISP-960, with the  
15 knowledge and specific intent that users, including other Defendants, will use these products to  
16 infringe by performing the patented methods of the '200 Patent.

17 177. MGI Americas has induced infringement by distributing MGISEQ and BGISEQ  
18 reagent kits (which use specialized labeled nucleotides) with the knowledge and specific intent that  
19 users, including other Defendants, will use these products to infringe by performing the patented  
20 methods of the '200 Patent. For example, Ms. Abigail Frank, Field Service Engineer at MGI  
21 represents that her job entails “servic[ing] NGS instruments and lab automated work stations at  
22 Complete Genomics in San Jose, as well as external customers throughout North and South  
23 America.” Ex. 28.

24 178. MGI Americas has induced infringement by users of its products by disseminating  
25 promotional and marketing materials relating to the MGISEQ and BGISEQ with the knowledge and  
26 specific intent that users, including other Defendants, will use the MGISEQ or BGISEQ to infringe  
27 by performing the patented methods of the '200 Patent.

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1 179. MGI Americas has induced infringement by distributing other instructional  
2 materials, product manuals, technical materials, and bioinformatics software platforms with the  
3 knowledge and the specific intent to encourage and facilitate the infringing use of their MGISEQ  
4 and BGISEQ products. For example, MGI Americas is responsible for the MGISEQ and BGISEQ  
5 User Manuals, the various reagent kit manuals, technical handbooks, product detail sheets, and  
6 technical specification sheets. These materials direct users to use the MGISEQ and BGISEQ and  
7 related products in an infringing manner. For example, the MGISEQ and BGISEQ reagent kit  
8 handbooks state that the kits are for preparation of DNA sequencing using the MGISEQ and  
9 BGISEQ, which are sold with pre-programmed software protocols that control operation of the  
10 MGISEQ and BGISEQ so that each use of the MGISEQ and BGISEQ infringes. By providing  
11 reagent kits and directing users, including other Defendants, to purchase these reagent kits for use  
12 on the MGISEQ and BGISEQ, MGI Americas induces infringement.

13 180. Further, MGI Americas induces the infringement of other Defendants by  
14 participating in, supporting, and encouraging their use of the BGISEQ and MGISEQ products at the  
15 San Jose facility and elsewhere in the United States.

16 181. MGI Americas acted with knowledge that the induced acts constitute infringement.  
17 MGI Americas acted with knowledge of or willful blindness with regards to users' underlying  
18 infringement.

19 **Contributory Infringement By MGI Americas**

20 182. MGI Americas is liable for contributory infringement of the '200 Patent pursuant to  
21 35 U.S.C. § 271(c). Specifically, MGI Americas has and is contributing to the infringement of the  
22 '200 Patent by, without authority, distributing within the United States, materials and apparatuses  
23 for practicing the claimed invention of the '200 Patent, including at least the MGISEQ and BGISEQ,  
24 the MGISP-960, and the associated reagent kits (which use specialized labeled nucleotides). These  
25 products constitute a material part of the claimed invention of the '200 Patent.

26 183. MGI Americas knows that the MGISEQ and BGISEQ, materials and apparatuses  
27 designed for use with the MGISEQ and BGISEQ, and the associated reagent kits, constitute material  
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1 parts of the inventions of the '200 Patent and that they are not a staple article or commodity of  
2 commerce suitable for substantial non-infringing use. As documented above, the MGISEQ and  
3 BGISEQ are specialized sequencing instruments that carry out a specific method for sequencing  
4 DNA using specific labeled nucleotides. As such, neither the MGISEQ and BGISEQ, the materials  
5 or apparatuses specifically designed for use with the MGISEQ and BGISEQ, nor the MGISEQ and  
6 BGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
7 MGI Americas knows that the MGISEQ and BGISEQ, the materials or apparatuses specifically  
8 designed for use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagents kits are  
9 not staple articles or commodities of commerce suitable for substantial non-infringing use because  
10 these products have no use apart from infringing the '200 Patent. MGI Americas knows that the  
11 use of its products by other Defendants and third parties infringes the '200 Patent and it supplies  
12 them anyway.

#### 13 **Willful Infringement By MGI Americas**

14 184. As set forth throughout this Complaint, MGI Americas has acted willfully and  
15 egregiously in performing the acts of infringement and threatening to perform the acts of  
16 infringement identified in this Complaint. MGI Americas' infringement of the '200 Patent has  
17 been and is deliberate and willful and constitutes egregious misconduct. Despite knowledge of the  
18 '200 Patent since at least before October 5, 2017, the date CGI filed two petitions for *inter partes*  
19 review in attempt to invalidate the '537 Patent, a patent related to the '200 Patent, and failed, and  
20 at least as far back as May 24, 2016, when Plaintiffs filed suit on the '537 Patent in *Illumina, Inc.*  
21 *et al. v. Qiagen N.V. et al.* (Civ. A. No. 16-cv-02788-WHA), of which MGI Americas should have  
22 been aware, MGI Americas continues to perform the acts of infringement and threatens to perform  
23 the acts of infringement identified in this Complaint. In performing the acts of infringement and  
24 threatening to perform the acts of infringement identified in this Complaint, MGI Americas has  
25 been willfully blind to its ongoing infringement.

26 185. MGI Americas' infringement of the '200 Patent has injured Illumina in its business  
27 and property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant  
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1 to 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and  
2 the reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

3 186. MGI Americas' infringement of the '200 Patent has caused irreparable harm to  
4 Illumina and will continue to cause such harm unless and until their infringing activities are enjoined  
5 by this Court.

6 **CGI's Infringement of the '200 Patent**

7 187. Illumina's patented sequencing technology is well-known and has been enforced  
8 very publicly against infringers. Together with the other Defendants, CGI has copied that  
9 technology. CGI has had knowledge of the '200 Patent since at least before October 5, 2017, the  
10 date it filed two petitions for *inter partes* review in attempt to invalidate the '537 Patent, a patent  
11 related to the '200 Patent, and failed.

12 **Direct Infringement By CGI**

13 188. CGI has and is directly infringing the '200 Patent pursuant to 35 U.S.C. § 271(a),  
14 literally or under the doctrine of equivalents, by using the MGISEQ and BGISEQ within the United  
15 States, among other infringing acts. CGI has installed MGISEQ and BGISEQ systems at CGI  
16 locations in the United States, including its San Jose, California facility. CGI has used the MGISEQ  
17 and BGISEQ in the United States.

18 **Induced Infringement by CGI**

19 189. CGI is liable for their induced infringement of the '200 Patent pursuant to 35 U.S.C.  
20 § 271(b). Specifically, CGI has and is actively, knowingly, and intentionally inducing infringement  
21 of at least claim 1 of the '200 Patent through a range of activities related to the MGISEQ and  
22 BGISEQ, among other infringing acts. CGI is responsible for substantial marketing of BGI  
23 products, including the MGISEQ and BGISEQ, and is threatening to encourage and support the sale  
24 of those products in the United States.

25 190. CGI has induced infringement by controlling, alone or in concert with the other  
26 Defendants, the design, manufacture, and supply of materials or apparatuses to be used with the  
27 MGISEQ and BGISEQ Systems, including for example the MGISP-960, with the knowledge and  
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1 specific intent that users, including other Defendants, will use these products to infringe by  
2 performing the patented methods of the '200 Patent.

3 191. CGI has induced infringement by controlling, alone or in concert with the other  
4 Defendants, the design, manufacture, and supply of various MGISEQ and BGISEQ reagent kits  
5 (which use specialized labeled nucleotides), with the knowledge and specific intent that users,  
6 including other Defendants, will use these products to infringe by performing the patented methods  
7 of the '200 Patent.

8 192. CGI has induced infringement by disseminating promotional and marketing  
9 materials relating to the MGISEQ and BGISEQ with the knowledge and specific intent that users,  
10 including other Defendants, will use the MGISEQ and BGISEQ to infringe by performing the  
11 patented methods of the '200 Patent.

12 193. CGI has induced infringement by creating distribution channels for the  
13 aforementioned MGISEQ and BGISEQ, materials and apparatuses for use with the MGISEQ and  
14 BGISEQ Systems, and the associated reagent kits, with the knowledge and specific intent that users,  
15 including other Defendants, will use these products to infringe by performing the patented methods  
16 of the '200 Patent.

17 194. CGI has induced infringement by distributing other instructional materials, product  
18 manuals, technical materials, and bioinformatics software platforms with the knowledge and the  
19 specific intent to encourage and facilitate the infringing use of their MGISEQ and BGISEQ  
20 products. These materials direct users to use the MGISEQ and BGISEQ and related products in an  
21 infringing manner. For example, the MGISEQ and BGISEQ reagent kit manuals state that the kits  
22 are for preparation of DNA sequencing using the MGISEQ and BGISEQ, which are sold with pre-  
23 programmed software protocols that control operation of the MGISEQ and BGISEQ so that each  
24 use of the MGISEQ and BGISEQ infringes. By providing reagent kits and directing users, including  
25 other Defendants, to purchase these reagent kits for use on the MGISEQ and BGISEQ, CGI induces  
26 infringement.

1           195. Further, CGI induces the infringement of other Defendants by participating in,  
2 supporting, and encouraging their use of the BGISEQ and MGISEQ products at the San Jose facility  
3 and elsewhere in the United States.

4           196. CGI acted with knowledge that the induced acts constitute infringement. CGI acted  
5 with knowledge of or willful blindness with regards to users' underlying infringement.

6           **Contributory Infringement by CGI**

7           197. CGI is liable for contributory infringement of the '200 Patent pursuant to 35 U.S.C.  
8 § 271(c). Specifically, CGI has and is contributing to infringement of the '200 Patent by, without  
9 authority, supplying within the United States, materials and apparatuses for practicing the claimed  
10 invention of the '200 Patent, including at least the MGISEQ and BGISEQ, the MGISP-960, and the  
11 associated reagent kits (which use specialized labeled nucleotides). These products constitute a  
12 material part of the claimed invention of the '200 Patent.

13           198. CGI knows that the MGISEQ and BGISEQ, materials and apparatuses designed for  
14 use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagent kits, constitute material  
15 parts of the inventions of the '200 Patent and that they are not a staple article or commodity of  
16 commerce suitable for substantial non-infringing use. As documented above, the MGISEQ and  
17 BGISEQ are specialized sequencing instruments that carry out a specific method for sequencing  
18 DNA using specific labeled nucleotides. As such, neither the MGISEQ and BGISEQ, the materials  
19 or apparatuses specifically designed for use with the MGISEQ and BGISEQ, nor the MGISEQ and  
20 BGISEQ reagent kits are a staple article of commerce suitable for substantial non-infringing use.  
21 CGI knows that the MGISEQ and BGISEQ, the materials or apparatuses specifically designed for  
22 use with the MGISEQ and BGISEQ, and the MGISEQ and BGISEQ reagents kits are not staple  
23 articles or commodities of commerce suitable for substantial non-infringing use because these  
24 products have no use apart from infringing the '200 Patent. CGI knows that the use of its products  
25 by other Defendants and third parties infringes the '200 Patent and supplies them anyway.

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1                    **Willful Infringement By CGI**

2                    199. As set forth throughout this Complaint, CGI has acted willfully and egregiously in  
3 performing the acts of infringement and threatening to perform the acts of infringement identified  
4 in this Complaint. CGI's infringement of the '200 Patent has been and is deliberate and willful and  
5 constitutes egregious misconduct. Despite knowledge of the '200 Patent since at least before  
6 October 5, 2017, the date CGI filed two petitions for *inter partes* review in attempt to invalidate the  
7 '537 Patent, a patent related to the '200 Patent, and failed, and at least as far back as May 24, 2016,  
8 when Plaintiffs filed suit on the '537 Patent in *Illumina, Inc. et al. v. Qiagen N.V. et al.* (Civ. A. No.  
9 16-cv-02788-WHA), of which CGI should have been aware, CGI continues to perform the acts of  
10 infringement and threatens to perform the acts of infringement identified in this Complaint. In  
11 performing the acts of infringement and threatening to perform the acts of infringement identified  
12 in this Complaint, CGI has been willfully blind to its ongoing infringement.

13                    200. CGI's infringement of the '200 Patent has injured Illumina in its business and  
14 property rights. Illumina is entitled to recovery of monetary damages for such injuries pursuant to  
15 35 U.S.C. § 284 in an amount to be determined at trial. Illumina deserves treble damages and the  
16 reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

17                    201. CGI's infringement of the '200 Patent has caused irreparable harm to Illumina and  
18 will continue to cause such harm unless and until their infringing activities are enjoined by this  
19 Court.

**PRAYER FOR RELIEF**

WHEREFORE, Illumina prays for relief as follows:

A. Judgment that Defendants have infringed one or more claims of the '537 and '200 Patents;

C. An order preliminarily and permanently enjoining Defendants and their officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert therewith from further infringement of the '537 and '200 Patents;

E. An award of damages pursuant to 35 U.S.C. § 284;

F. A declaration that Defendants' infringement of the patents in-suit has been willful and deliberate, and an increase to the award of damages of three times the amount found or assessed by the Court, in accordance with 35 U.S.C. § 284;

G. An order for an accounting of damages from Defendants' infringement;

H. An award to Illumina of their costs and reasonable expenses to the fullest extent permitted by law;

I. A declaration that this case is exceptional pursuant to 35 U.S.C. § 285, and an award of attorneys' fees and costs; and

J. An award of such other and further relief as the Court may deem just and proper.

**DEMAND FOR JURY TRIAL**

Pursuant to Federal Rule of Civil Procedure 38(b) and Civil Local Rule 3-6(a), Illumina hereby demands a trial by jury on all issues so triable.



1 Dated: September 18, 2019

Respectfully Submitted,

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WEIL, GOTSHAL & MANGES LLP  
Edward R. Reines  
Derek C. Walter

By:                     /s/ Edward R. Reines                      
Edward R. Reines  
Attorneys for Plaintiffs  
ILLUMINA, INC.,  
ILLUMINA CAMBRIDGE LTD.