

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

*Plaintiff,*

vs.

OXFORD NANOPORE TECHNOLOGIES, INC.

*Defendant.*

Civil Action No. \_\_\_\_\_

JURY TRIAL DEMANDED

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Pacific Biosciences of California, Inc. (“Plaintiff” or “PacBio”) for its complaint against Defendant Oxford Nanopore Technologies, Inc. (“Oxford”) alleges and states the following:

**NATURE OF THE ACTION**

1. This is an action for patent infringement arising under the United States Patent Act, 35 U.S.C. §§1, *et seq.*, including 35 U.S.C. § 271.
2. PacBio brings this action to halt Oxford’s infringement of PacBio’s rights under the Patent Laws of the United States 35 U.S.C. § 1, *et seq.*, which arise under U.S. Patent Nos. 9,678,056 (the “’056 patent,” attached as Exhibit 1) and 9,738,929 (the “’929 patent,” attached as Exhibit 2).

**THE PARTIES**

3. PacBio is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 1305 O’Brien Drive, Menlo Park, California 94025.

4. PacBio was founded in the year 2000. PacBio develops, manufactures, and sells a novel DNA sequencing platform that helps researchers resolve genetically complex problems. PacBio's DNA sequencing technology is based on real-time detection of the incorporation of nucleotides into a single strand of DNA. That technology goes by the name "SMRT®" sequencing, which is short for "Single Molecule, Real-Time" sequencing. PacBio's SMRT® sequencing platform encompasses not just DNA sequencing instruments but also novel sequencing chips and chemical reagents for use with PacBio's DNA sequencing instrument and sophisticated software for analyzing the data that emerges from PacBio's sequencing instruments.

5. PacBio's SMRT® Sequencing Platform and technology allows researchers to carry out numerous applications, including at least: (1) de novo genome assembly to finish genomes in order to more fully identify, annotate, and decipher genomic structures; (2) targeted sequencing to more comprehensively characterize genetic variations; and (3) identification of DNA base modifications to help characterize epigenetic regulation and DNA damage. PacBio's SMRT® Sequencing Platform and technology provides high-accuracy, ultra-long reads and uniform coverage, and is believed to be the only DNA sequencing technology that provides the ability to simultaneously detect epigenetic changes.

6. In addition to the commercialization of its flagship SMRT® sequencing platform, PacBio has broad expertise in single-molecule sequencing and is engaged in exploratory work related to single-molecule sequencing, including techniques related to single-molecule sequencing based on detection platforms such as nanopores. Collectively, PacBio's research and development efforts have resulted in a patent portfolio that includes over 330 issued U.S. patents and pending applications related to single-molecule sequencing techniques.

7. Defendant Oxford is a corporation organized under the laws of Delaware with its principal place of business at 1 Kendall Square, Bldg. 200, Cambridge, Massachusetts 02139. On information and belief, Oxford is engaged in the commercialization throughout the United States of nanopore-based single-molecule sequencing products, including at least the MinION, GridION X5, PromethION, and SmidgION sequencing instruments, reagents and kits for use with these instruments, and the 2D and 1D Squared products.

### **JURISDICTION AND VENUE**

8. This action arises under the Patent Laws of the United States, Title 35, United States Code, §§ 1 *et seq.*, including 35 U.S.C. §§ 271 and 281.

9. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

10. This Court has personal jurisdiction over defendant Oxford. Oxford has substantial contacts with the forum as a consequence of conducting business in Delaware, and has purposefully availed itself of the benefits and protections of Delaware state law by incorporating under Delaware law.

11. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and (c), and 1400(b) because Oxford is a Delaware corporation and Delaware is a convenient forum for resolution of the parties' disputes set forth herein.

### **BACKGROUND**

12. On information and belief, in the 2015 timeframe, Oxford began commercializing single-molecule sequencing products based on the use of protein nanopores. Oxford purports to offer a single-molecule sequencing product that, like PacBio's products, is capable of determining the sequence of long stretches of DNA in a single pass. The ability to generate such

“long reads” is an area where PacBio has and continues to be widely recognized as the technical and commercial leader. PacBio and Oxford compete in the single-molecule sequencing market.

13. Oxford’s single-molecule sequencing products include at least the MinION, GridION X5, PromethION, and SmidgION sequencing instruments and reagents, consumables, and software for use with same, including without limitation reagents and kits used to generate “2D reads” and “1D squared reads” using Oxford’s sequencing instruments (collectively, the “Accused Products”). For example, two views of a representative MinION device are shown below:



Figure 4. (A) MinION Mk1 (B) flow cell (C) nanopore array (Individual nanopore cells reproduced, modified, with permission from Oxford Nanopore).

Exhibit 5; Exhibit 6 at 292. The top image shows a working MinION device, and the bottom view shows the interior of the device. The portion labeled “C” in the above photograph depicts a flow cell with an array of individual nanopores. Nanopores are tiny holes embedded into a membrane and are formed by inserting proteins that have a hollow tube through their center into a polymer membrane, as shown in the image below:

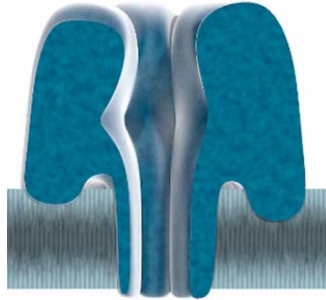


Exhibit 7. The Accused Products each include one or more flow cells that include a “nanopore array.”

14. While the MinION instrument includes a single flow cell, the PromethION instrument includes 48 flow cells and has been described as a “whole box of MinION sequencers.” Exhibit 8. A representative PromethION instrument with its 48 flow cells is shown below:



*Id.*

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