

# Illumina NovaSeq 6000 versus NextSeq 1000 & 2000



## NextSeq 1000 & 2000

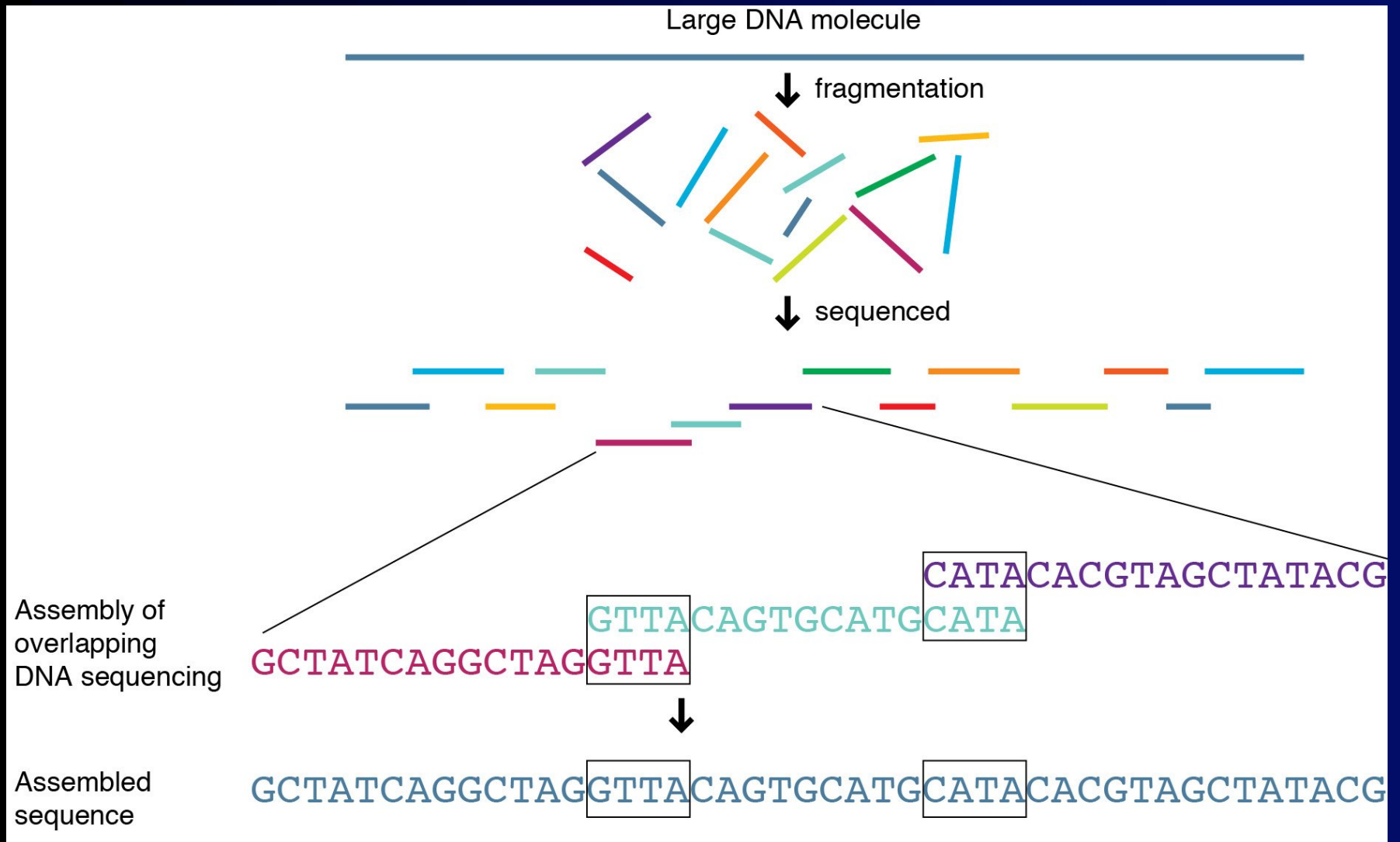
330 Gb output  
11-48 hours  
1.1 billion reads per run  
**2 x 150 bp**



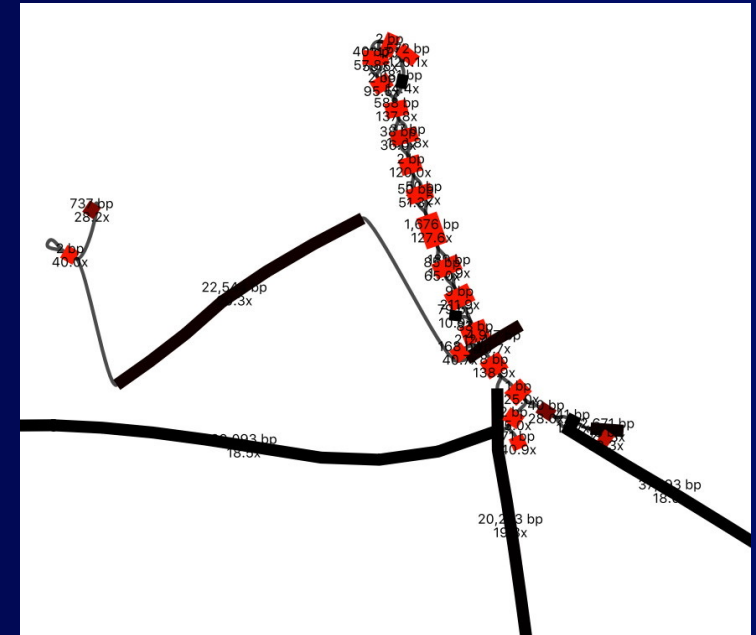
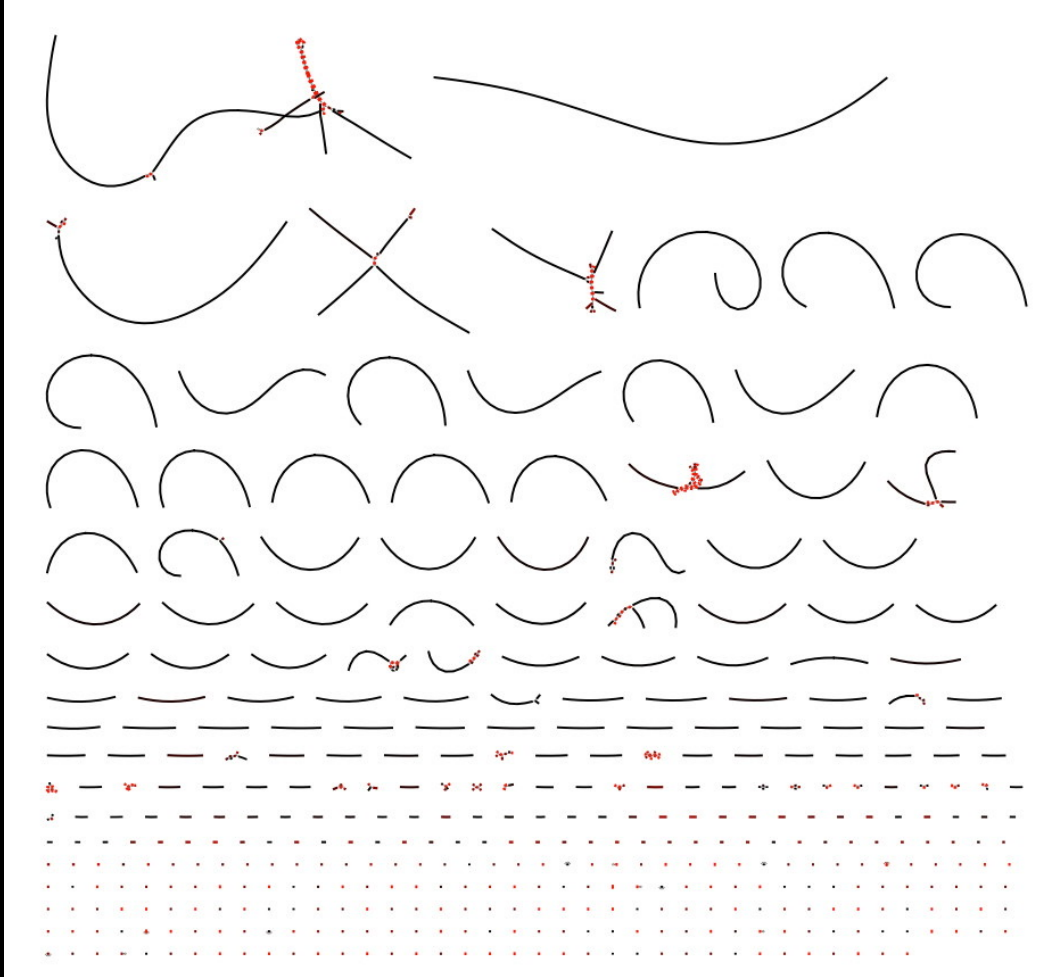
## NovaSeq 6000

6000 Gb output  
13-44 hours  
20 billion reads per run  
**2 x 250 bp**

# Illumina NovaSeq 6000 versus NextSeq 1000 & 2000



# Illumina NovaSeq 6000 versus NextSeq 1000 & 2000



# What's Next – Nanopore MinION

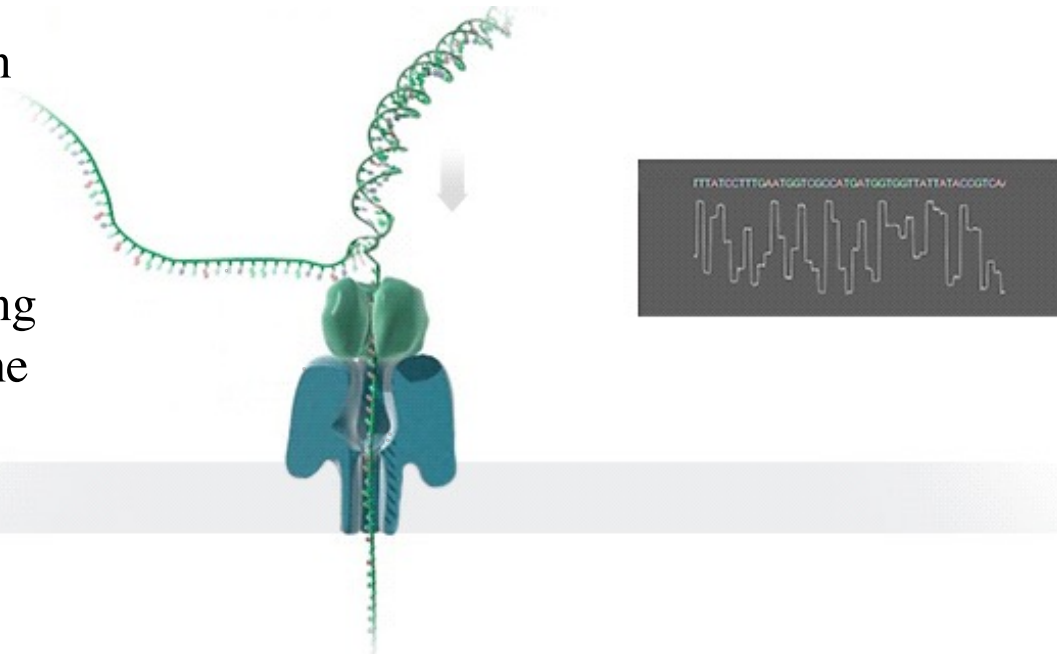
## MinION

Portable, real-time biological analyses

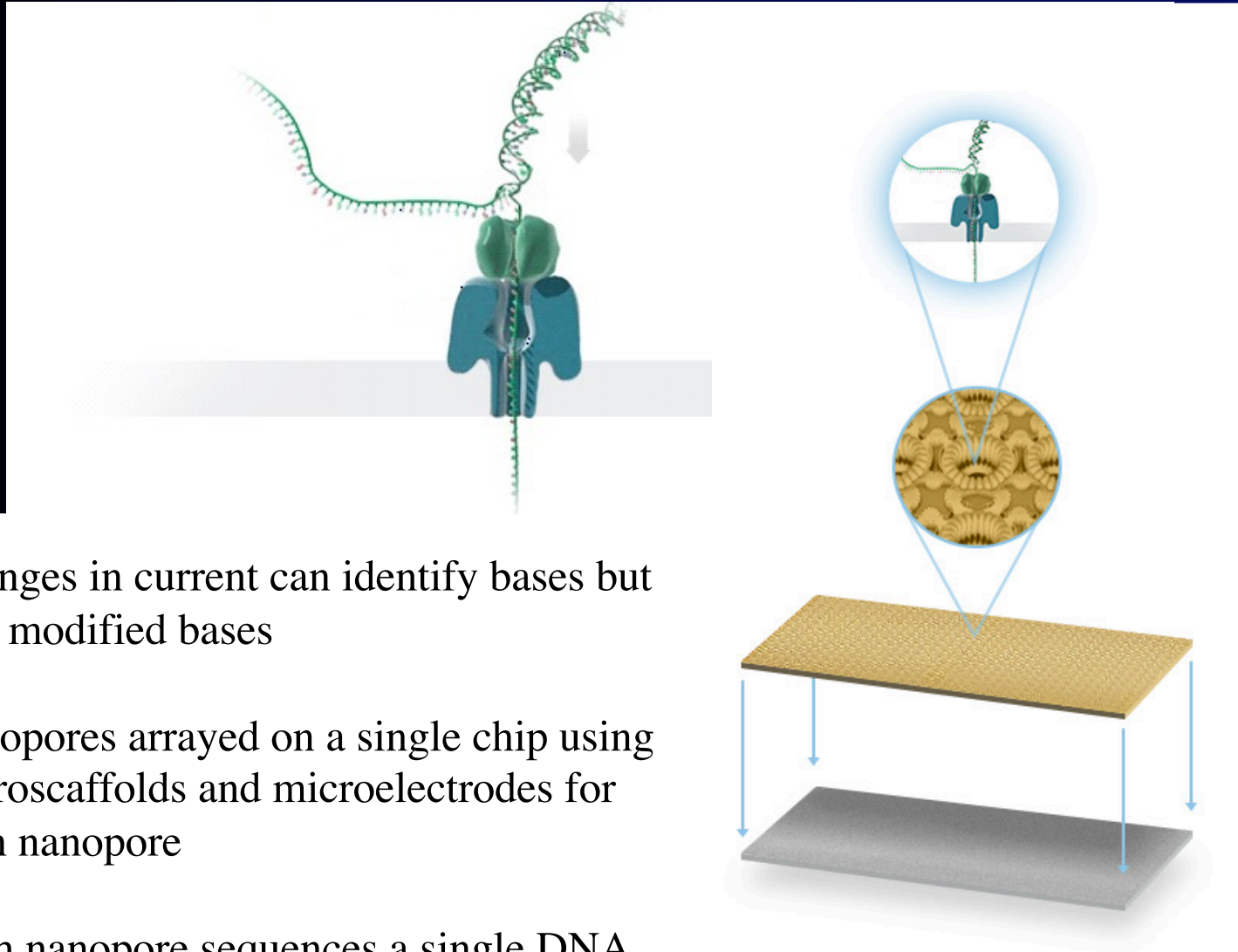


MinION is a portable device for molecular analyses that is driven by nanopore technology. It is adaptable for the analysis of DNA, RNA, proteins or small molecules with a straightforward workflow. The MinION product specification is available [here](#).

- A protein nanopore is set in an electrically resistant polymer membrane
- An ionic current is passed through the nanopore by setting a voltage across this membrane
- Change in current used to identify the molecule passing through



## What's Next – Nanopore MinION



- Changes in current can identify bases but also modified bases
- Nanopores arrayed on a single chip using micro scaffolds and microelectrodes for each nanopore
- Each nanopore sequences a single DNA molecule from start to finish – no fixed read length! (longest reported is 200 kb)

## What's Next – Nanopore MinION



- Flowcell and overall device very small and portable
- Easy to use – no PCR step involved, submit simple DNA extracts
- DNA strand moves rapidly at the rate of 1-5  $\mu$ s per base through the nanopore
- Processing of fast signal not yet mature – higher DNA sequencing error rate than other technologies - per base accuracy of the MinION has been reported as 65 - 80%
- Long MinION reads combined with higher quality Illumina read coverage a boon for genome assembly
- May be the first technology for clinical virus sequencing and outbreak management

# Nanopore Sequence Quality

