The DNA to be sequenced is prepared as a single strand. This template DNA is supplied with
- a mixture of all four **normal** (deoxy) nucleotides in ample quantities
  - dATP
  - dGTP
  - dCTP
  - dTTP
- a mixture of all four **dideoxy** nucleotides, each present in limiting quantities and each labeled with a "tag" that fluoresces a different color:
  - ddATP
  - ddGTP
  - ddCTP
  - ddTTP
- DNA polymerase I

![Figure 5.8.3 example of a DNA sequence (455 nucleotides of the lysU gene of E. coli) courtesy of Pharmacia Biotech Inc., Piscataway, NJ](image_url)

**Contributor**

- [John W. Kimball](https://bio.libretexts.org/Bookshelves/Introductory_and_General_Biology/Book%3A_Biology_(Kimball)/05%3A_DNA/5.08%3A...). This content is distributed under a Creative Commons Attribution 3.0 Unported (CC BY 3.0) license and made possible by funding from [The Saylor Foundation](https://www.saylor.org).