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Single Molecule Electronics¹

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Just how single molecules transport electrons has become clearer over the last two decades, though mysteries remain, particularly for transport in proteins. Molecular electronics, once touted as the route to the ultimate density of computer components, is still a long way from displacing silicon. However, entirely new applications that interface chemistry and electronics may be possible. For example, we are developing a single molecule DNA sequencer based on measuring the fluctuations in the conductance of a polymerase molecule as it copies a template DNA.

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