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Is there a future for Single Molecule Electronics?

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Molecular electronics is often thought of in terms of ultra small (molecular-scale) transistors driving super-powerful computers. This view is unrealistic, both on grounds of power dissipation, and because fluctuations play a bigger role in molecular charge transfer than in silicon electronics. Nonetheless, recent years have seen spectacular successes in measuring the electronic properties of single molecules, and in gating them to make switches. There is probably a bright future for single molecules as interfaces between CMOS and the world of chemistry, in making sensors, diagnostic devices and in DNA sequencing.