

Abstract Submitted  
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**Electrical Characterization of Organic Conducting Polymers**

LINDSAY WINDSOR, Cornell University — As Moore's Law drives the silicon semiconductor industry to its limits, organic conducting polymers have been explored on a small scale as a possible solution to the breakdown of silicon. Here, the electrical properties of two organic polymers were measured using nanopore and micron-sized devices. In this electrical characterization, polypyrrole was found to exhibit hopping conduction, and both polypyrrole and polyaniline yield nonlinear I-V curves and degradation after sweeps of high voltage. Consequently, these organic polymers and possibly others may have only limited applications in the future semiconductor industry.

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