

A Natural Route to Nanowires and Energy Storage

Organic electronics is a burgeoning area, with a growing range of applications. This new research – in which nanowires are *grown* naturally rather than synthesized chemically – may provide new methods for biologically-produced or biologically-inspired materials for sustainable nanomanufacturing. Pilin nanofilaments (pili) — known now as “microbial nanowires” — are a class of fibrous proteins found in the sediment bacteria *Geobacter*. Temperature studies find metallic characteristics. The conductivity can be modulated by doping or by using an applied voltage in an electrochemical transistor configuration, showing the potential for device applications, including supercapacitors for energy storage.

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