

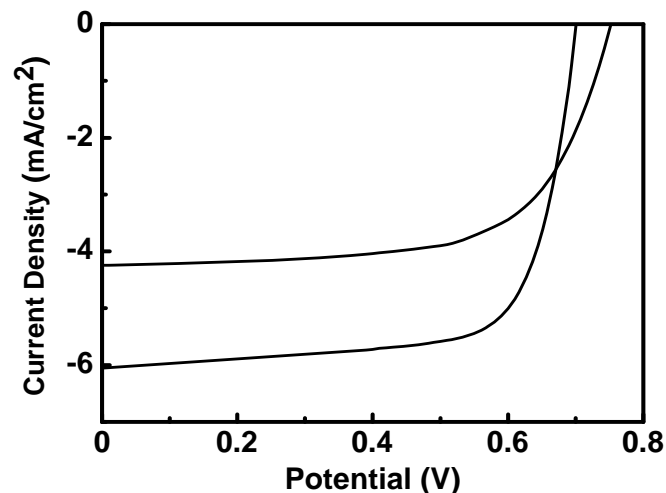
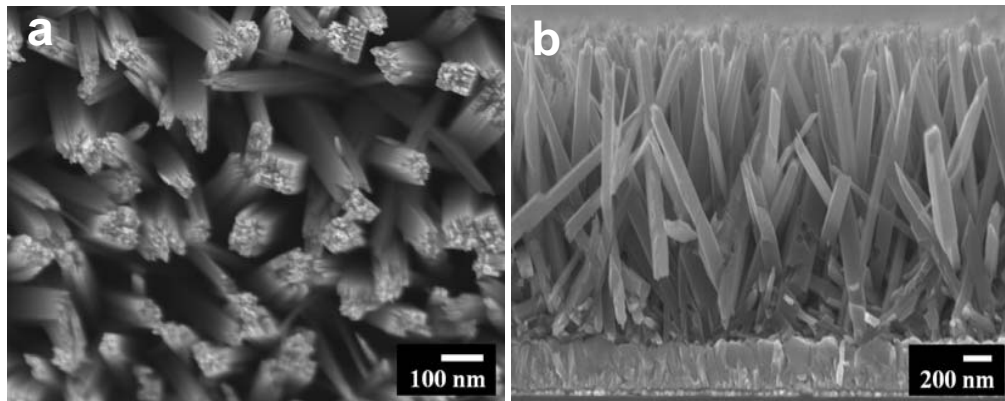
# TiO<sub>2</sub> Nanorod Based Dye Sensitized Solar Cells

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NNIN Facilities utilized: Characterization Facility & Nanofabrication Center

- We have synthesized, for the first time, single crystalline titanium dioxide nanorods on conducting transparent substrates and assembled dye-sensitized solar cells from these nanorods.



- Nanorods grow epitaxially on F-doped tin oxide substrates.
- Very promising 3% overall power conversion efficiency has been achieved with only 4 μm long nanorods.
- Publication: Bin Liu and Eray S. Aydil Growth of Oriented Single-Crystalline Rutile TiO<sub>2</sub> Nanorods on Transparent Conducting Substrates for Dye-Sensitized Solar Cells,” *J. Am. Chem. Soc.* **131**, 3985-3990 (2009).