

# Hybrid nanocrystalline TiO<sub>2</sub> solar cells with a fluorene-thiophene copolymer as a sensitizer and hole conductor

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## Abstract

The charge separation and photovoltaic properties of TiO<sub>2</sub>/polymer hybrid structures was reported. As such, efficient photoinduced charge transfer was observed from a fluorene-thiophene copolymer to the TiO<sub>2</sub> film, while interfacial recombination was relatively slow. As a result, effective penetration of the polymer into porous nanocrystalline films was achieved to films of around 100 nm thickness.

## Indexed keywords

**Engineering controlled terms:** Aromatic polymers; Charge transfer; Copolymers; Current density; Interfaces (materials); Morphology; Nanostructured materials; Photovoltaic cells; Quantum efficiency; Short circuit currents; Spectroscopy; Titanium dioxide

**Engineering uncontrolled terms:** Fluorene; Monochromatic power conversion; Thiophene

**Engineering main heading:** Solar cells