

Imprint-Templated Nanocoaxial Array Architecture

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Arrays of vertically-oriented coaxial and triaxial nanostructures are fabricated from polymer nanopillar arrays prepared by nanoimprint lithography. With particular process modifications, these arrays have wide potential utility, including as molecular-scale biological (disease biomarker, pathogen, etc.) and chemical (explosives, environmental agents, etc.) sensors, high density neuroelectronic interfaces and retinal prostheses, radial junction photovoltaic solar cells, supercapacitors, and optical metastructures. We report on their fabrication and initial utilizations in these areas.

