

Abstract Submitted  
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**Guided Molecular Self-Assembly of Block Copolymer and Nanoparticles** SHAN ZOU, Department of Chemistry, University of Toronto, GILBERT WALKER, Department of Chemistry, University of Toronto — Block copolymers form a variety of ordered structures on nanometer length scales, allowing them to serve as an ordered matrix for nanoparticles which add functionality to the composite. The result is an ordered array of nanoparticles with potential applications including magnetic storage media, photonic crystals, or high-surface-area catalysts. Here we demonstrate the molecular self-assembly of diblock copolymers and cadmium selenide based nanoparticles. In thin films, nanoparticles assemble into one of the ordered pattern domains formed by the diblock copolymers on Si substrates. Ideas for directing the individual particles to different locations normal to the surface will be discussed.

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