

Abstract Submitted  
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**Self-Corralling of nanorods under electric fields.** SURESH GUPTA, QINGLING ZHANG, TODD EMRICK, THOMAS RUSSELL, Polymer Science and Engineering department, University of Massachusetts, Amherst — Orienting semiconductor nanorods normal to a surface is highly desirable for applications including photovoltaic, spintronics, etc. We have achieved this using solutions of mixture of alkane-covered CdSe nanorods with PMMA by solvent evaporation under an electric field. The electric field aligns the nanorods parallel to the field lines whereas incompatibility between the PMMA and alkane ligands causes a phase separation that tends to segregate the nanorods. This phase separation generates line tension that further compacts the packing of nanorods. Furthermore the nanorods are being synthesized that are covered with photoactive polymer such as poly (3-hexyl thiophene). This may lead to enhancement in efficiency of organic-inorganic heterojunction photovoltaic devices.

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