

Abstract Submitted
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Self-assembled Au nanorods - polymer composites¹ HEUNG-SHIK PARK, OLEG LAVRENTOVICH, Liquid Crystal Institute and Chemical Physics Interdisciplinary Program, Kent State University, ASHISH AGARWAL, NICHOLAS KOTOV, Department of Chemical Engineering, University of Michigan — The unique optoelectronic properties of the anisotropic metallic nanorods (NRs) are of great interest because of their potential applications in biological sensing, solar energy conversion, cloaking devices, etc. In order to utilize NRs, tuning their properties and immobilizing NRs into polymer matrix are essential. We present a simple and universal process for formation of self-assembled nanorods polymer composite. This approach is based on the anisotropic electrostatic interaction between aggregates of chromonic molecules and NRs that lead to either end-to-end or side-by-side assembly of NRs. We discuss encapsulation of these structures with polymer matrices.

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