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Recent Advances in Liquid Crystal Nanomaterials

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Message from the Guest Editor

Self-assembling organic materials that exhibit liquid crystalline behavior represent soft matter with unique properties. They are extremely promising anisotropic media for the design of nanocomposite systems. Composite systems—liquid crystals (LCs) doped with different nanoparticles, such as gold, or semiconducting, ferroelectric, magnetic, or carbon nanotubes—have been subjected to intensive research in an effort to produce materials with unique properties, as well as to increase the sensitivity of these materials to external fields. Several approaches have been devised for the generation of new functional materials. Promising new directions include LCs for organic electronics; semiconductor devices; energy conversion; LC templating to create nanostructured materials; synthesizing nanoparticles in liquid crystalline templates or ordering nano- and microparticles; liquid crystal colloids and their potential in photonics and metamaterials; liquid crystal-functionalized polymer fibers; LC elastomer actuators; and drug delivery applications.

This SI is a timely approach to survey the recent progress in the field of liquid crystal-based nanomaterials and their applications.





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Message from the Editor-in-Chief

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