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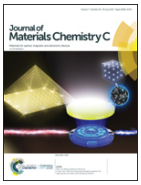

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Giant surfactants for the construction of automatic liquid crystal alignment layers

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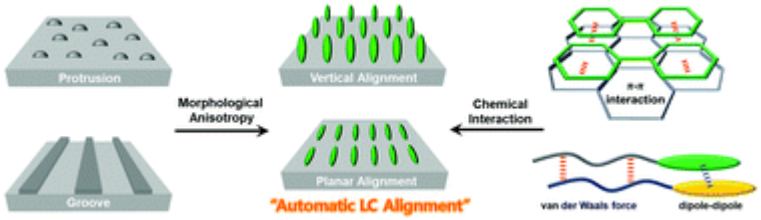
Abstract

There has been considerable interest in nanomaterials for the development of anisotropic molecular alignment layers for electronic and biomedical applications. This review covers the recent progress in the design, synthesis, and characterization of automatic liquid crystal (LC) alignment layers. Amphiphilic hybrid nanomaterials consisting of organic parts and inorganic cores can interact favorably on LC media and substrates resulting in the uniaxial orientation of LC molecules in a specific direction. Among such systems, this review emphasizes giant surfactants showing automatically self-assembled 2D monolayers. Polymerizable giant surfactants allow us to build robust molecular alignment layers *via* a one-bottle approach. We believe that the automatic LC alignment layer constructed by doping giant surfactants can realize practical applications in smart materials.



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