

Microphase separation driven transitions in soft matter: computer simulations

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We present the results of some recent simulations of polyphilic systems that undergo phase transitions of various kind. In particular, memory effects and stripe-like deformations in smectic elastomers, bulk order in liquid crystal dendrimers, as well as formation of nanostructures in the binary mixture confined in the pore with decorated walls are considered. The emphasis is given on the role of microphase separation and the competition between entropic and enthalpic effects.

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[3] J.M. Ilnytskyi, M. Saphiannikova, D. Neher, M.P. Allen, in preparation