

Abstract Submitted
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Morphology Control of Multicomponent Polymeric Surfactants Using Pressure¹ JUNHAN CHO, dankook university — The development of nanoscale morphologies for a molten polymeric surfactant under pressure is investigated by using a recently formulated self-consistent field theory. A linear ABC block copolymer is taken as our model system that allows a disparity in the propensities for curved interfaces and pressure responses of ij-pairs. The interplay of those features lead the copolymer to new morphologies at a moderate segregation level and at ambient condition such as networks and pillars of 2-dimensional array. It is shown that pressure is an effective means of morphology control and identification for those new structures. The role of volume fluctuations in the development of those structures is discussed.

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