

Abstract Submitted
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Phase Behavior of Polystyrene-block-Poly(n-alkyl-ran-n'alkyl methacrylate) Copolymers¹ HONG CHUL MOON, JUNHAN CHO², Dankook University, JIN KON KIM, Pohang University of Science and Technology — The phase behavior of polystyrene-block-poly(n-butyl-ran-n-hexyl) methacrylate copolymers and polystyrene-block-poly(n-octyl-ran-methyl) methacrylate copolymers were investigated by using small angle X-ray scattering, birefringence and rheometry. When the total molecular weight and the composition of the random copolymers were judiciously controlled, the closed-loop phase behavior with both a lower disorder-to-order transition and an upper order-to-disorder transition was observed. These block copolymers exhibited excellent baroplasticity. The observed phase behavior was explained by a compressible mean field approach.

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