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Baroplastic Behavior in Block Copolymer Blends YONGHOON LEE, HYUNGJU AHN, HOYEON LEE, Department of Chemical and Biomolecular Engineering, Yonsei University, Seoul 120-749, Korea, EUNHYE KIM, YOUNG SOO HAN, Neutron Science Division, Research Reactor Utilization Department, Korea Atomic Energy Research Institute, Daejeon 305-353, Korea, DU YEOL RYU, Department of Chemical and Biomolecular Engineering, Yonsei University, Seoul 120-749, Korea, YONSEI UNIVERSITY TEAM, KOREA ATOMIC ENERGY RESEARCH INSTITUTE TEAM — The study of block copolymer (BCP) blends, composed of the weakly interacting polystyrene-*b*-poly(n-butyl methacrylate) (PS-*b*-PnBMA) and polystyrene-*b*-poly-(n-hexyl methacrylate) (PS-*b*-PnHMA) presented the various composition-dependent phase behaviors arising from a miscible phase between the PnBMA and PnHMA blocks in the BCP blends. As the blend composition varied from PS-*b*-PnBMA to PS-*b*-PnHMA, a lower disorder-to-order transition (LDOT) to a closed-loop phase transition and to an order-to-disorder transition (ODT) on heating were observed. The hydrostatic pressure effects on the various phase behaviors of the BCP blends were further investigated using small-angle neutron scattering (SANS), depolarized light scattering (DPLS) and transmission electron microscope (TEM).

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