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Phase Behavior of Miscible Block copolymer Blends YONGHOON LEE, HYUNGJU AHN, HOYEON LEE, DU YEOL RYU, Yonsei University — We have investigated the phase behavior for the binary block copolymer (BCP) blends composed of a weakly interacting (with no specific interaction) polystyrene-*b*-poly(alkyl methacrylate) (PS-*b*-PAMA) copolymers using small-angle neutron scattering (SANS), small-angle x-ray scattering (SAXS), and depolarized light scattering (DPLS) experiments. A series of phase behaviors were reproduced from a lower disorder-to-order transition (LDOT) to closed-loop having a LDOT and an upper order-to-disorder transition (UODT), to an UODT type depending on composition in the BCP blends. On the basis of the results and previous observations, we will discuss the phase behavior type of polystyrene-*b*-poly(alkyl methacrylate) (PS-*b*-PAMA) copolymers.

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