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Characteristic Phase Behaviors for Symmetric PS-b-PAMAs (n= 1?6) and Their Pressure Dependence YONGHOON LEE, HOYEON LEE, Yonsei University, DONG HYUN LEE, Dankook University, DU YEOL RYU, Yonsei University, YONSEI UNIVERSITY COLLABORATION, DANKOOK UNIVERSITY COLLABORATION — A series of polystyrene-b-poly(alkyl methacrylates) (PS-b-PAMAs) that pertain to the weakly interacting BCP homologues exhibited a variety of phase behaviors by varying alkyl chain length (n) in methacrylate unit. The enthalpic and volumetric changes at phase transitions were measured by the differential scanning calorimetry (DSC) and in-situ spectroscopic ellipsometry with increasing temperature. Together with the overview on the characteristic phase behaviors for symmetric PS-b-PAMAs (n = 1 ? 6), the pressure coefficient (dT/dP) of transition temperatures was calculated on the basis of the Clausius?Clapeyron equation and compared with the reference values. The strong baroplastic character of the closed-loop transitions could be attributed to the significant negative volume changes on mixing at both phase transitions.

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