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Gas Pressure Effect on Phase Behavior of Deuterated Polystyrene-block-poly(n-pentyl methacrylate)[1] HYE JEONG KIM, JIN KON KIM, Pohang University of Science and Technology, DU YEOL RYU, Yonsei University — The pressure effect of various gases on the phase transitions of deuterated polystyrene-block-poly(n-pentyl methacrylate) copolymer was investigated by small angle neutron scattering (SANS) and birefringence. With increasing helium gas pressure, the size of closed-loop consisting of both the lower disordered- to-ordered transition and the upper ordered-to-disordered transition was decreased, which is similar to the hydrostatic pressure effect. On the other hand, when nitrogen gas was used, the size of the closed-loop became larger with increasing pressure. These interesting results are explained by the binding energy calculation.

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