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Swelling and Shrinkage of Lamellar Domain of Conformationally Restricted Block Copolymers by Metal Chloride[1] DONG HYUN LEE, JIN KON KIM, Department of Chemical Engineering, Pohang University of Science and Technology, JUNE HUH, School of Materials Science and Engineering, Seoul National University, DU YEOL RYU, Department of Chemical Engineering, Yonsei University — The lamellar domain spacing (D) of symmetric polystyrene-block-poly(2-vinyl pyridine) copolymer (PS-P2VP) and PS-block-poly(4- vinyl pyridine) copolymer (PS-P4VP) with cadmium chloride (CdCl2) were studied by using rheometry, small angle X-ray scattering and transmission electron microscopy. With increasing amount of CdCl2, D of PS-P2VP increased greatly, but it decreased for PS-P4VP. This is due to different types of the coordination between CdCl2 and nitrogen atoms in the 2-position of pyridine ring (intra-chain coordination), compared with nitrogen atoms in the 4-position (inter-chain coordination).

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