

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Phase Behavior of Block Copolymers containing Poly(vinyl pyridine) by Coordination with Metal Chloride DONG HYUN LEE, HWANG YONG KIM, JIN KON KIM, Pohang Univ of Science and Technology, DU YEOL RYU, Yonsei University, JUNE HUH, Seoul National University — We studied, via small angle X-ray scattering, rheology, and transmission electron microscopy, the change of the domain spacing (D) and the order-to-disorder transition temperature (T_{ODT}) with the amount of cadmium chloride ($CdCl_2$) for polystyrene-*block*-poly(2-vinyl pyridine) copolymers (PS-P2VP) and polystyrene-*block*-poly(4-vinyl pyridine) copolymers (PS-P4VP). With increasing amount of $CdCl_2$, both D and T_{ODT} of PS-P2VP increased greatly. On the other hand, with increasing amount of $CdCl_2$, D of PS-P4VP decreased, whereas T_{ODT} of PS-P4VP increased dramatically. These results are due to different types of the coordination between $CdCl_2$ and nitrogen atoms in the 2-position of pyridine ring (intra-chain coordination) in PS-P2VP, compared with nitrogen atoms in the 4-position (inter-chain coordination) in PS-P4VP. This work was supported by Creative Research Initiative Program supported by KOSEF

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Date submitted: 16 Nov 2006

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