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Ionic Salt Effect on the Phase Transition of PS-b-P2VP Copolymers BOKYUNG KIM, HYUNGJU AN, DU YEOL RYU, Yonsei University, Korea, JEHAN KIM, Pohang Accelerator Laboratory, Korea — Solid-state electrolytes have long been considered as suitable candidates owing to the simple and easy processes for rechargeable battery manufactures, compared to conventional liquid electrolyte counterparts. Especially, polymer/salt systems involving PMMA and PVP complex forms have been studied since they provide stable electrochemical characteristics as well as mechanical properties. We studied the phase behavior of PS-b-P2VP upon the salt addition by small angle x-ray scattering (SAXS) and depolarized light scattering. Transition temperatures of block copolymer were significantly influenced by the salt addition in addition to the changes of d-spacings, which is caused by the effective coordinative interaction between P2VP block and salt. This study suggests a simple approach to solid-state block copolymer electrolytes.

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