

## Phase Behavior of Adenine Functionalized Block Copolymers

김은설, 김진곤<sup>†</sup>

POSTECH

(jkkim@postech.ac.kr<sup>†</sup>)

Nucleobase functionalized polymer can be applied in various fields because the polymers can have complementary multiple hydrogen bonding between nucleobases. However, the polymerization of these polymers is hard due to poor solubility.

Adenine functionalized block copolymers, poly(9-(4-vinylbenzyl)adenine)-*b*-polystyrene (PVBA-*b*-PS), were synthesized successfully using RAFT polymerization in polar solvents (DMSO, DMF) and characterized by GPC and NMR. Phase behavior of (PVBA-*b*-PS) was investigated by small-angle X-ray scattering and transmission electron microscopy. Increasing volume fraction of PS from 0.1 to 0.9 drives transition of morphologies. Body-centered-cubic spheres (BCC), hexagonally packed cylinders (HEX), and lamellae (LAM) were observed.