

Abstract Submitted
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Concentration Dependent Structure of Block Copolymer Solutions¹ SOOHYUNG CHOI, Hongik University, FRANK S. BATES, TIMOTHY P. LODGE, University of Minnesota — Addition of solvent molecules into block copolymer can induce additional interactions between the solvent and both blocks, and therefore expands the range of accessible self-assembled morphologies. In particular, the distribution of solvent molecules plays a key role in determining the microstructure and its characteristic domain spacing. In this study, concentration dependent structures formed by poly(styrene-*b*-ethylene-*alt*-propylene) (PS-PEP) solution in squalane are investigated using small-angle X-ray scattering. This reveals that squalane is essentially completely segregated into the PEP domains. In addition, the conformation of the PS block changes from stretched to nearly fully relaxed (i.e., Gaussian conformation) as amounts of squalane increases.

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