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**Temperature Dependent Micellization of Polystyrene-*b*-poly(2-vinylpyridine) at Si-Ionic Liquid Interface** HAIYUN LU, THOMAS RUSSELL, Department of Polymer Science and Engineering, University of Massachusetts, Amherst — Highly ordered and stable surface micelles formed from both symmetric and asymmetric block copolymers of polystyrene-*b*-poly(2-vinylpyridine) (PS-*b*-P2VP) at the Si-ionic liquid (IL) interface have been investigated. The 1-butyl-3-methylimidazolium trifluoromethanesulfonate IL, a selective and temperature-tunable solvent for P2VP, was used and gave rise to block copolymer micelles having different morphologies that strongly depended on temperatures. In addition, the micellar structures formed also depended on the film thickness, molecular weight of polymers, substrate and experimental conditions such as pre-annealing, rinsing, and interaction time. The possible mechanism for micelle formation will be discussed.

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