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**Determination of critical micelle concentrations in ionic liquid/block copolymer systems** MICHELLE MOK, TIMOTHY LODGE, University of Minnesota — The micellization of block copolymers in ionic liquids is of great interest, due to their potential as cargo carriers for separations, transfer and extraction applications. In this study, we investigate the critical micelle concentration (cmc) of block copolymers in ionic liquids using fluorescence-based techniques. Specifically, the cmcs of poly(styrene-*b*-ethylene oxide) and poly(styrene-*b*-methylmethacrylate) copolymers were determined from the polarity-sensitive emission spectra of pyrene probes. At the onset of micellization, the probes preferentially partition to the non-polar styrene cores, analogous to pyrene-based cmc studies of aqueous micelle systems. The cmcs are explored as a function of copolymer block molecular weight and composition, as well as ionic liquid composition.

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