

Abstract Submitted
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Micellization and phase transitions in a triblock copolymer-D₂O system¹ HOSANNA ODHNER, Bryn Mawr, ALISON HUFF, KELLY PATTON, D.T. JACOBS, The College of Wooster, BRYNA CLOVER, University of Maryland, College Park, SANDRA GREER², University of Maryland and Mills College — The triblock copolymer (“unimer”) of PPO-PEO-PPO (commercially known as 17R4) has hydrophobic ends and a hydrophilic center. When placed in D₂O at lower concentrations and temperatures, only a network of unimers exists. However, at higher concentrations or temperatures, micelles of different geometries can form. We have measured the micellization line marking the transition from only unimers to some micelles, as well as a one- to two-phase transition at higher temperatures. This second transition is an Ising-like, LCST critical point, based on the shape of the coexistence curve. We find the LCST to not correspond to the minimum of the cloud point curve, which indicates polydispersity as described by Sollich.

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