

## **Micellization and Phase Transitions in a Triblock Copolymer-Water System**

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The triblock copolymer of PPO-PEO-PPO (commercially known as 17R4) has hydrophobic ends and a hydrophilic center. When placed in water, micelles of different geometries can form depending on the concentration of polymer and the temperature. We have measured the micellization line as well as a one- to two-phase transition at higher temperatures. This second transition is an Ising-like, LCST critical point. We compare our results to earlier measurements and use micelle size measurements from dynamic light scattering to interpret the interesting behavior of this system. Specific heat measurements from our adiabatic calorimeter also provide important information about the type of transition seen at both the critical point and at the micellization transition. We acknowledge support from Research Corporation, The College of Wooster, and (for BC and SG) to the donors of the American Chemical Society Petroleum Research Fund Grant 01433212.