

Abstract Submitted  
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**Specific heat at the micellization and phase transitions in a triblock copolymer-water system** DAVID SIMPSON, D.T. JACOBS, The College of Wooster, Wooster OH 44691 — The triblock copolymer ("unimer") of PPO-PEO-PPO (commercially known as 17R4) has hydrophobic ends and a hydrophilic center. When placed in water a network of unimers can self-assemble to micelles of different geometries at higher concentrations or temperatures, We have measured the micellization line marking the transition from only unimers in solution to some micelles forming. There is also a one- to two-phase transition at higher temperatures that is an Ising-like, LCST critical point. Specific heat measurements from our adiabatic calorimeter provide important information about the type of transition seen at both the critical point and at the micellization transition. We have also used an Isothermal Titration Calorimeter to further probe the micellization line. We acknowledge the support from Research Corporation, NSF-REU grant DMR 0649112, and The College of Wooster.

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