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Anomaly in the heat capacity of nitrobenzene and dodecane NATHAN UTT, D.T. JACOBS, Physics Department, The College of Wooster, Wooster OH 44691 — The heat capacity \mathbf{C}_p of the liquid-liquid mixture nitrobenzene+dodecane has been precisely measured using our own computer-based data acquisition and control, adiabatic calorimeter. A step process of adding heat and then waiting several minutes for a stable temperature assures equilibrium values for the heat capacity from the known heat added and the resulting change in temperature. For a sample at the critical concentration, we observe behavior in the heat capacity consistent with the Ising Model and determine the amplitudes in the one-and two-phase regions to test universal predictions. We acknowledge support from NSF-REU grant DMR 0243811.

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