

## Specific Heat Capacity of Nitrobenzene–Tetradecane Near the Liquid-Liquid Critical Point

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Adiabatic scanning calorimetry (ASC) [1] has been employed to obtain high-resolution data of the specific heat capacity  $C_{p,x}(T)$  in the one (+) and two-phase (–) regions for the mixture nitrobenzene–tetradecane near its upper critical point. Concretely, mixtures of different purity have been studied in order to evaluate the effect of impurities on the critical behavior, in particular on the critical temperature  $T_c$ . Mixtures were prepared according to critical composition values based on recent dielectric [2] and previously reported refractive index data [3]. The specific heat capacity data were analyzed within the traditionally employed fitting strategies, namely, by using a linear background plus a single power-law term with critical exponent  $\alpha$  and critical amplitude  $A^\pm$ . The value obtained for  $\alpha$  is consistent with that of the Ising-3D universality class ( $\approx 0.11$ ). In addition, the amplitude of the correlation length,  $\xi_0$ , was determined from  $A^+$  via two-scale factor universality and compared to the previously reported value [4].

[1] J. Thoen, Chapter 4 in “Handbook of Liquid Crystals” (D. Demus, J. Goodby, C. W. Gray, H. W. Spiess, V. Hill, Eds.), Wiley-VCH, 1999.

[2] J. Leys et al., to be published.

[3] X. An, H. Zhao, F. Jiang, C. Mao and W. Shen, *J. Chem. Thermodyn.* 29 (1997) 1047.

[4] C. Zhou, X. An, F. Jiang, H. Zhao and W. Shen, *J. Chem. Thermodyn.* 31, (1999) 615.