PVT Measurements on 3-Cyanobenzyl 2,5-bis(4-n-octyloxybenzoyloxy)benzoate up to 250 MPa and 423 K

A. Würflinger, M. Sandmann, and W. Weissflog^a

Physical Chemistry II, Ruhr-University, D-44780 Bochum, Germany
^a Physical Chemistry, University Halle-Wittenberg, D-06108 Halle, Germany

Reprint requests to Prof. A. W.; Fax: +49 234 7094 183; E-mail: Albert.Wuerflinger@ruhr-uni-bochum.de

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P, V_m, T data have been measured for the nematic and isotropic phases of 3-cyanobenzyl 2,5-bis (4-n-octyloxybenzoyloxy)benzoate between 273 and 423 K and up to 250 MPa. The volume changes accompanying the crystal – nematic and nematic – isotropic transitions have been determined. The corresponding enthalpy changes have been calculated using the Clausius-Clapeyron equation. The p, V_m,

than found in previous studies for conventional rod-like liquid crystals. Key words: Aryl-branched Liquid Crystals; High Pressure; pVT; Phase Transitions; Thermodynamics.

T data enable also to estimate the volume entropy for the nematic-isotropic transition. It is found that the configurational part of the transition entropy amounts to 80%, this portion being distinctly larger