Pressure-Temperature Phase Diagrams for four 4,4'-Dialkylbiphenyl Compounds

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The high pressure phase behaviour of four 4,4'-dialkylbiphenyl compounds (**Cm-Cn**, m = 5, 6,7, n = 6, 7) has been studied with differential thermal analysis. The pressure dependence of the phase transitions has been determined up to 200 MPa. In one substance a pressure limited and in another a pressure induced phase was observed. Volume changes accompanying the transitions to the isotropic phase were calculated using the Clausius-Clapeyron equation and the enthalpy changes from DSC measurements at 1 atm. They are compared with the data for other two-ring compounds.

Key words: Liquid Crystals; Smectics; DTA; Phase Diagram; High Pressure.