

Induced Smectic-G Phase through Intermolecular Hydrogen Bonding Part VIII: Phase and Crystallization Behaviours of 2-(p-*n*-heptyloxybenzylidene imino)-5-chloro-pyridine: p-*n*-alkoxybenzoic acid (HICP:*n*ABA) Complexes

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New intermolecular H-bonded liquid crystalline complexes, viz., 2-(p-*n*-heptyloxybenzylidene imino)-5-chloro-pyridine:p-*n*-alkoxybenzoic acid; (HICP:*n*ABA) (where *n* denotes the alkoxy carbon numbers 3 to 10 and 12) exhibiting smectic-F (*n* = 12) and smectic-G phases have been synthesized and characterized by Thermal Microscopy and Differential Scanning Calorimetry (DSC). Detailed IR (solid and solution states) analysis confirms the existence of intermolecular H-bonding between the pyridyl nitrogen and the COOH group of the p-*n*-alkoxybenzoic acid moiety. The phase behaviour of the series is discussed in the light of reported data on free p-*n*-alkoxybenzoic acids. The crystallization kinetics of a representative complex, using the DSC technique, is discussed. The mechanism of the crystal growth of the new crystalline smectic-G phase is computed with the Avrami equation.

Key words: H-bonding; HICP:*n*ABA; Crystallization Kinetics; Avrami Parameters.