Synthesis and characterization of new thermotropic liquid crystals derived from 4-hydroxybenzaldehyde

Abstract:

A homologous series of aromatic esters, 4-nalkanoyloxybenzylidene- 4'-bromoanilines, nABBA, consisting of two 1,4-disubstituted phenyl cores and a Schiff base central linkage was synthesized. All the members can be differed by the number of carbon atoms at terminal alkanoyloxy chain (C nH 2n-1COO-, n = 2, 6, 18). The molecular structure of nABBA was confirmed with infrared spectroscopy, nuclear magnetic resonance (NMR) spectroscopy and electron-ionization mass (EI-MS) spectrometry. Mesomorphic properties were studied using differential scanning calorimetry and polarizing optical microscopy.