

ABSTRACT:

A series of new rod-shaped mesomorphic compounds, 6-ethoxy-2-(4-alkanoyloxybenzylidenamino)benzothiazoles, consisting of a 2,6-disubstituted benzothiazole core and a Schiff base central linkage, were synthesized and their structures were ascertained via elemental analysis and spectroscopic techniques. Their mesomorphic properties were studied using differential scanning calorimetry (DSC), polarized optical microscopy (POM) and X-ray diffraction (XRD) analysis. All compounds showed enantiotropic mesomorphism. Whilst the lower members of the series, hexanoyloxy and octanoyloxy derivatives exhibited nematic phase, the higher members (decanoyloxy, dodecanoyloxy, tetradecanoyloxy, hexadecanoyloxy and octadecanoyloxy derivatives) exhibited nematic and smectic C phases.