Synthesis and characterization of liquid crystalline materials with allyloxy terminal group

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A new homologues series of liquid crystalline materials with allyloxy terminal group are synthesized. The representative compounds of the series are characterized by ¹H NMR spectroscopy. FTIR spectra are recorded for all the compounds. The liquid crystalline phases exhibited by these compounds are characterized by polarizing optical microscope (POM) attached with a hot stage. The phase transition temperatures and enthalpy changes across the transitions are determined by differential scanning calorimeter (DSC). All the compounds in the series are found to exhibit the nematic phase at ambient temperatures. The phase behavior and their mesomorphic thermal stabilities are discussed by varying the chain length or chemical moieties of the molecule.

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