

Synthesis and Characterization of A Novel Ester Homologous Series :P(P'-N-Alkoxy Benzoyloxy) B-Phenyl – Ethyl Cinnamates

Shilpa N. Pandya¹, Mukesh L. Chauhan^{*2}

¹Research Scholar, Pacific Academy Of Higher Education And Research University , Udaipur, Rajasthan,
India

²Chemistry Department Sheth P. T. Arts & Science College, Godhra, Gujarat University, Gujarat, India

ABSTRACT:

A novel homologous series (p'-n-Alkoxy Benzoyloxy) β -Phenyl Ethyl Cinnamates is synthesized and studied with a view to understanding and establishing the effects of molecular structure on mesogenic behavior in a series. The mesogenic property commences from third homologue to the last homologue. The transition temperatures of the series are relatively high, ranging between 152 °C and 225 °C. The mesogenic range varies between 8 °C (C₁₆) and 37 °C (C₆). The novel ester series is nematogenic without exhibition of any smectogenic property and an average thermal stability of 167.6 °C. The mesogenic behavior of the novel series is compared with structurally similar isomeric/nonisomeric other known series.

Keywords : Liquid crystal; Mesogen; mesomorphism; nematic; smectic