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Optical Anisotropy of Chromonic Phases of Liquid Crystalline Materials

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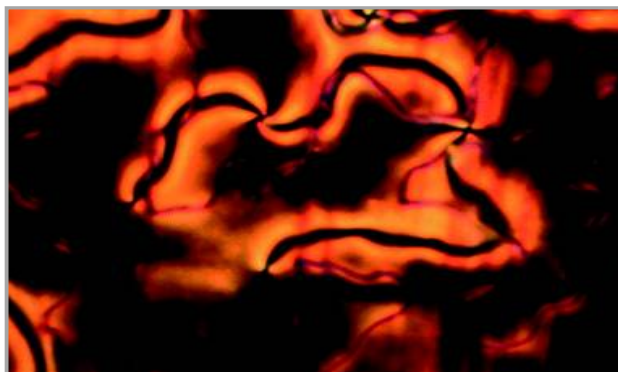
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ABSTRACT

The crux of our study focuses on specific properties- thermal and optical of a system comprising of multiple component system, namely: curcumin, sodium dodecyl sulfate (SDS), and glacial acetic acid (GAA). Mixture of these molecules shows the existence of co-existent biphasic regions of nematic (N + I) and lyotropic nematic (N) phases: sequentially when the specimen is cooled from its isotropic phase respectively at different temperatures. The paper throws light on experimentally measured temperature-dependent liquid crystalline refractive index at varied wavelength. The study also concentrates on the temperature variations of optical transmittance of chromonic liquid crystalline phases.

Graphical Abstract



Microphotographs obtained in between the crossed polars.

Keywords: Ternary mixture, Optical anisotropy, Optical transmittance, Temperature-dependent Wavelength.
