

Abstract Submitted
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Polarized Raman Spectroscopic and Conoscopic study of twist-bend nematic liquid crystal CB7CB¹ JINXIN FU, KARTHIK NAYANI, JUNG OK PARK, MOHAN SRINIVASARAO, Georgia Institute of Technology — The liquid crystal CB7CB, which exhibits a new twist bend nematic phase, has aroused lots of interest recently. We use polarized Raman Spectroscopy to measure the liquid crystal order parameters, which are crucial to know the molecular orientation distribution and to understand the phase transition. It is found that in the twist-bend phase, both $P_{\langle 200 \rangle}$ and $P_{\langle 400 \rangle}$ increase with temperature before the nematic transition takes place at 103°C, and then decrease in the nematic region until the LC becomes isotropic at 116°C. Conoscopy is a convenient tool to determine the structure and orientation of crystals. We develop a monochromatic conoscopy method to study the uniaxial and biaxial behavior of CB7CB in the different phases.

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