

Abstract Submitted
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Viscous properties of bent core nematic liquid crystals measured using a nanoliter viscometer¹ CHRISTOPHER BAILEY, JOHN HARDEN, AN-TAL JAKLI, Kent State University — Since the development of bent core liquid crystal mesogens showing the nematic phase, much work has been done to study the physical properties of these materials in the form of dielectric spectroscopy, dynamic light scattering, and magnetic field induced phase transitions. Some results of these studies showed interesting behaviors such as slow biaxial fluctuations and the possibility of long range tetrahedric ordering above the nematic phase. Here we report rheological and optical studies on several bent core mesogens in their isotropic and nematic phases. For the rheological studies, we built a viscometer capable of measuring viscoelastic properties with two centipoise resolution with only using 10nL of fluid. Results show abnormal viscosity and optical behavior near the isotropic to nematic phase transition.

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Christopher Bailey
Kent State University

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