

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Effect of Alignment on the Nematic to Isotropic Phase Transitions of 8CB DIPTI SHARMA, UML — This study reports the effect of alignment on the nematic to isotropic phase transition of bulk octylcyanobiphenyl liquid crystal. This effect reveals a reduced time and temperature lag with possible solutions to the time response and backlight bleed drawbacks of liquid crystal displays (LCDs). The aligned octylcyanobiphenyl shows a quicker and early occurrence of the nematic transition with less deviation from thermal rates than the unaligned octylcyanobiphenyl using calorimetry technique. Smaller enthalpy of activation indicates less energy requirement and makes the aligned octylcyanobiphenyl suitable for LCDs. The results are discussed in terms of the formation of aligned domains of octylcyanobiphenyl molecules under the force of magnetic field.

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Date submitted: 27 Nov 2009

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