

Supplementary data for article

Non-covalent intermolecular interactions of colloidal nematic liquid crystals doped with Graphene Oxide

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Figure 1S

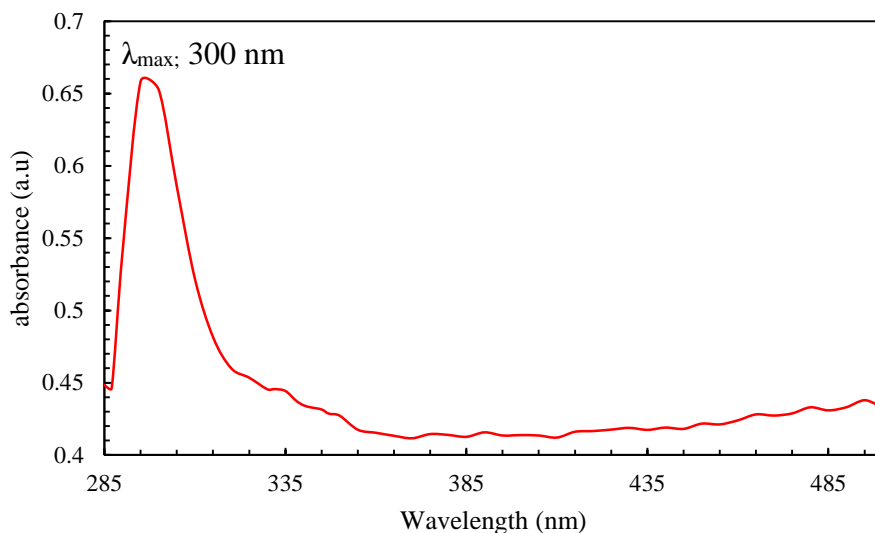


Figure 1S. UV-visible spectra of GO dispersed in CHCl₃

Figure 2S

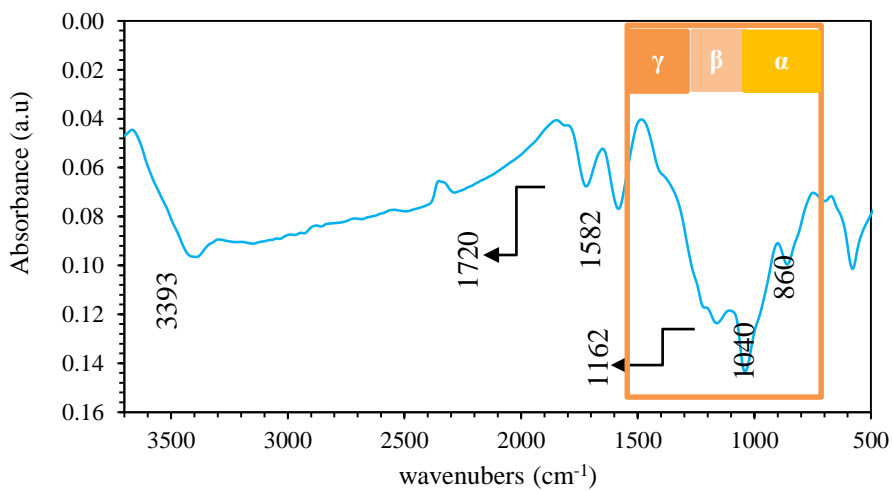
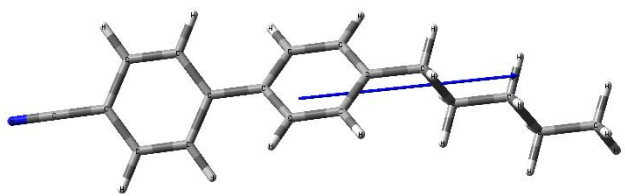


Figure 2S. FT-IR spectra of GO Nanostructure

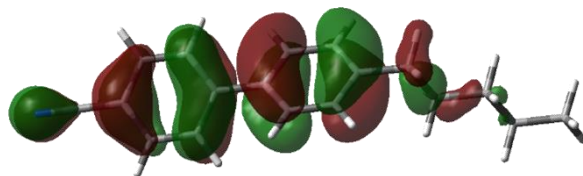
peak 3393 cm⁻¹ is stretch ν (C-OH), peak 1720 cm⁻¹ is stretch of ν (C=O), peak is stretch of ν (C=C) and finally the peaks of α , β and γ region related stretch of ν (C-O-C) in GO.

Figure 3S: DFT-derived geometry optimized structure E_{5CN7} , 7CB and 5CB, HOMO and LUMO plot of studied inhibitors.

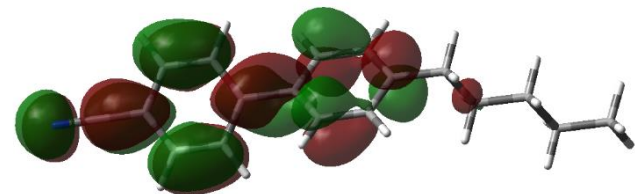
5CB



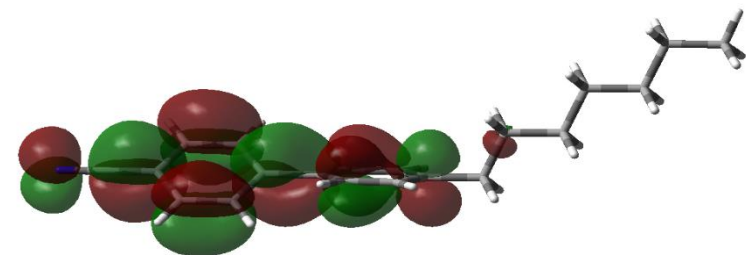
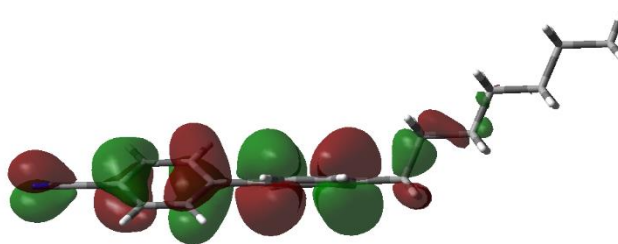
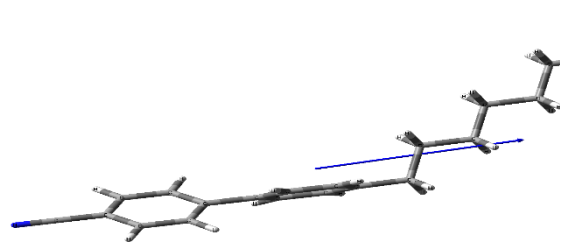
HOMO



LUMO



7CB



E_{5CN7}

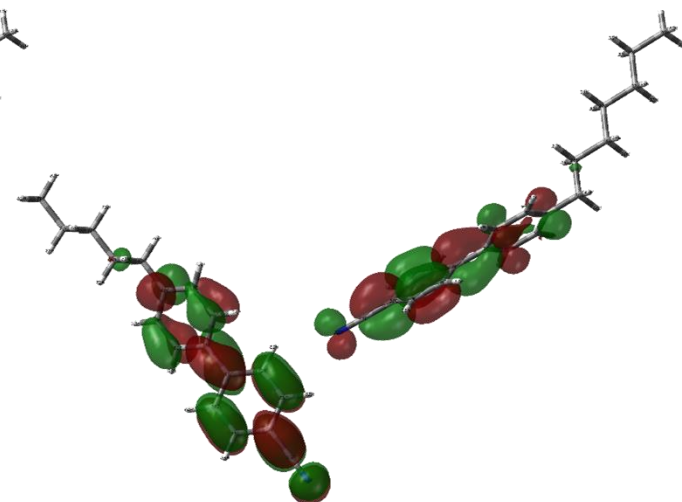
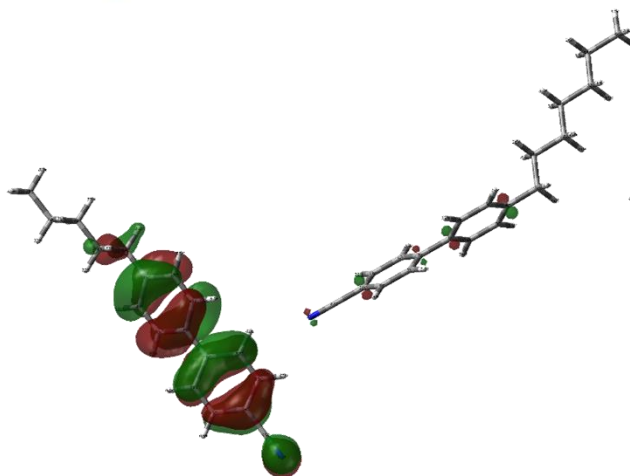
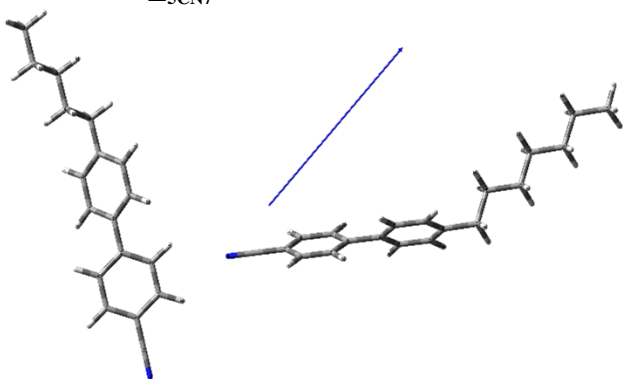


Figure 4S

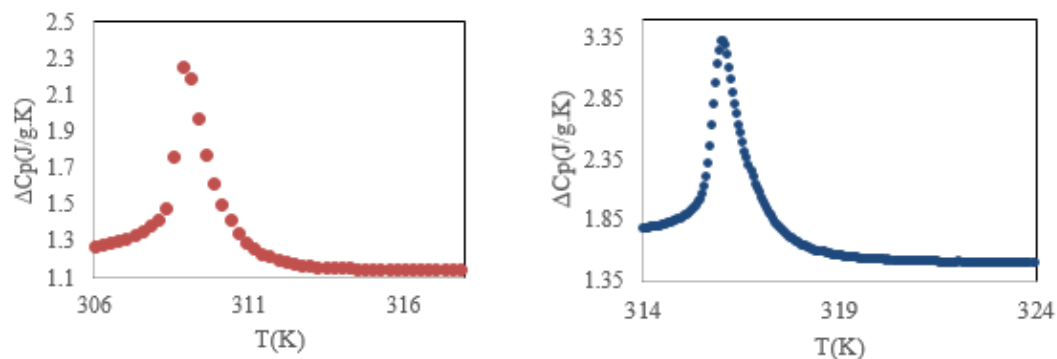


Figure4S Temperature dependence of the excess of specific heat capacity versus temperature plot showing N-I phase transition at 309.01 K and 316.64 K with 5 K/min ramp rate for 5CB (red symbol) and 7CB (blue symbol) respectively.

Figure 5S

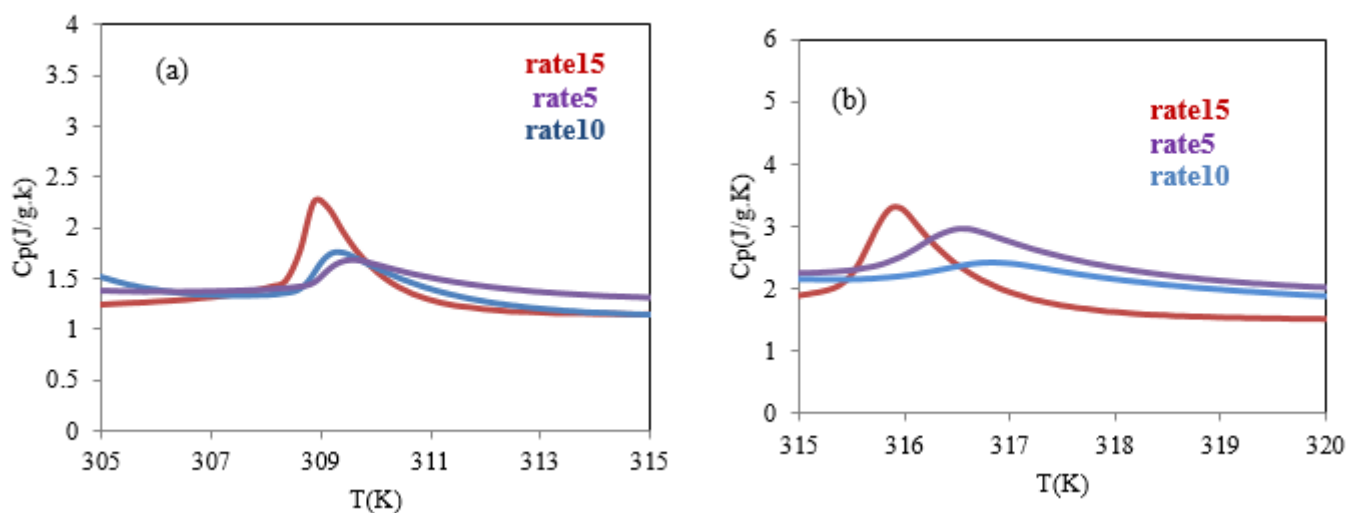


Figure5S: cooling rate dependence of the melting and I-N phase transition of 5CB (a) and 7CB (b) LC as a function of temperature varying ramp rates from 5 to 15 K min⁻¹.

Table1S: Summary of C_p values for 5CB and 7CB at 5 K min^{-1}

samples	C_p	C_p
	(kJ . $\text{K}^{-1} \text{ mol}^{-1}$)	(kJ . $\text{K}^{-1} \text{ mol}^{-1}$)
5CB	0.41	0.42 ^b
7CB	0.75	0.77

^bObtained value form directly C_p measurements at 5 k/ min ramp rate.