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Title:	Hydrogen-bond mediated columnar liquid crystalline assemblies of C3-symmetric heptazine derivatives at ambient temperature
Authors:	Bala, I. (/jspui/browse?type=author&value=Bala%2C+I.) De, J. (/jspui/browse?type=author&value=De%2C+J.) Pal, S.K. (/jspui/browse?type=author&value=Pal%2C+S.K.)
Keywords:	Phthalocyanine Triphenylene Liquid Crystals
Issue Date:	2018
Publisher:	Royal Society of Chemistry
Citation:	Soft Matter, 14(30), pp. 6342-6352
Abstract:	A new class of hydrogen (H) bonded fluorescent liquid crystals (FLCs) based on a newly discovered s-heptazine fluorophore discotic component have been synthesized. The tendency of the s-heptazine core to form H-bonded LCs has been explored for the first time. Interestingly, the pure heptazine derivatives (non-mesomorphic) on complexation with tri-alkoxy benzoic acids exhibit enantiotropic columnar mesomorphism over a wide range of temperatures including room temperature. This indicates the strength of the resulting H-bonded complexes. The H-bonded supramolecular complexes were studied through FT-IR, temperature dependent FT-IR and NMR studies and H-D exchange studies, and their thermal behaviour was deduced through polarized optical microscopy (POM), differential scanning calorimetry (DSC) and X-ray diffraction (XRD) studies. Because of the inherently fluorescent pure heptazine derivative, the resulting complexes exhibit fluorescent behaviour in the solution state as well as in the solid state.
Description:	Only IISERM authors are available in the record.
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