Title:	Synthesis, Mesomorphism and Photoluminescence of a New Class of Anthracene-based Discotic Liquid Crystals
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Abstract:	Four discotic liquid crystals (DLCs) based on anthracene, a novel redox active central core, have been synthesized and their mesomorphic behavior investigated. Among them, two of the derivatives showed stable hexagonal plastic mesophases whereas other two exhibited a columnar nematic phase at near room temperature as derived by X-ray scattering results. Type of the mesophases formed by these new class of compounds are rare that renders the central anthracene core attractive in the search for new functional DLC materials. HOMO-LUMO values have also been found to be much less in these materials which make them as good candidates for electron migration studies in self-organized systems. All the compounds show blue luminescence in solution under the long wavelength UV light. Overall, these new class of materials are promising, considering the emissive nature, ease of synthesis and stabilization of unconventional mesophases at room temperature or near room temperature.
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