Title:	Design and synthesis of chiral columnar discotic liquid crystals
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Keywords:	chiral columnar liquid crystals
Issue Date:	Apr-2022
Publisher:	IISER Mohali
Abstract:	While the field of Liquid Crystals (LC) has been known since their discovery in 1888, Discotic Liquid Crystals (DLCs) were only recently discovered in 1977. The envisioned disc-shaped molecules can stack to form anisotropic structures, which leads to the liquid-crystalline like behavior. A recent foray into these materials have revealed their enormous applications in the field of optoelectronics due to their 1D charge transfer properties. Hence, recently, a lot of emphasis has been laid on the design and characterization of such DLCs by researchers across the globe. Thiophene has been recently recognized as a good linker due to their aromaticity and presence of tunable sites. Similarly, 1,3,5-triethynylbenzene has also been recognized as a good core for the design of DLCs. In this project, we have shown the synthesis and characterization of molecules that involve both these components alongside cholesterol to induce chirality into the system. As anticipated, one of the synthesized examples is showing liquid-crystalline properties. Further experiments have been planned to confirm their properties and to generate their higher analogues.
URI:	http://hdl.handle.net/123456789/4241
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