Title:	Perylene tetraesters based Discotic Liquid Crystals for Optoelectronic Applications
Authors:	Singh, Nitya (/jspui/browse?type=author&value=Singh%2C+Nitya)
Keywords:	Molecular Anisotropy History of LCs Hexagonal mesophase (Col h) Smectic discotic phase
Issue Date:	10-Sep-2018
Publisher:	IISERM
Abstract:	This thesis deals with the synthesis, characterization and application of perylene tetraester based DLCs. The final compounds synthesis involves the click chemistry which didn't proceed thermally but under microwave conditions, went easily with moderate yield varying from 60- 72 % for all the compounds. We have synthesized four compounds which shows liquid crystalline behaviour and they have been verified and characterized. The first chapter of the thesis deals with the brief history, introduction and types of LCs. Mainly, the DLCs has been discussed elaborately. The second chapter of the thesis deals with the brief introduction to all the techniques which we have used during our project. The working principle of the techniques have been illustrated with the modelling of the instrument. In the third chapter, we have discussed our project which involves the synthesis and characterization of perylene derivatives. The details of the synthesis procedures have been added and the compound's spectral, thermal, photophysical, electrochemical behaviour has been analysed and theoretical studies have been done using DFT. The last chapter i.e. fourth chapter discusses the application part of the perylene tetraester derivatives, the conclusions and the future outlook.
URI:	http://hdl.handle.net/123456789/1044 (http://hdl.handle.net/123456789/1044)
Appears in Collections:	MS-13 (/jspui/handle/123456789/914)

Show full item record (/jspui/handle/123456789/1044?mode=full)

(/jspui/handle/123456789/1044/statistics)