

**SYNTHESIS AND CHARACTERIZATION OF THIENO [3, 2-B] THIOPHENE
DERIVATIVE INTERMEDIATE IN SYNTHESIS OF LIQUID CRYSTAL
COMPOUNDS**

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Liquid crystals (LCs) represent truly fascinating materials in terms of their properties, their importance for the fundamental understanding of molecular self-assembly, and their tremendous success in commercial applications. [1] Liquid crystals, the fourth state of matter, are a class of compounds which exhibit liquid crystalline behavior, which appears under temperature or solvent. The molecular order of LCs is intermediate between that of an ordered solid crystal and a disordered liquid. LCs combines the physical properties of the crystalline and liquid states. [2]

The compounds based on thieno groups and thiophene derivative with various classes of π -conjugated polycyclic molecules have been presented, better electronic characteristics and also more resistant to degradation. These compounds are versatility because of a variety of combinations of aromatic and heteroaromatic units that provide desired tuning for target structures. Many heteroacene derivatives based on thiophene units have recently been suggested as promising materials for electronic and optoelectronic devices. [3]

Here we report the synthesis of some intermediates base on thieno [3, 2-b] thiophene core used in the synthesis of new liquid crystals. The characterization and purity of compounds were confirmed through elemental analysis, 1D NMR, UV-Vis.

Acknowledgements: This work was supported by a grant of Ministry of Research and Innovation, CCCDI - UEFISCDI, project number PN-III-P3-3.1-PM-RO-CN-2018-0139/19/2018, within PNCDI III

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