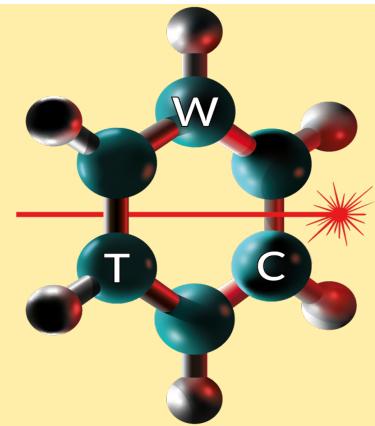




Synthesis and Investigation of Mesophase, Optical, and Spectral Properties of Thieno [3,2-b]thiophene-Based Liquid Crystals



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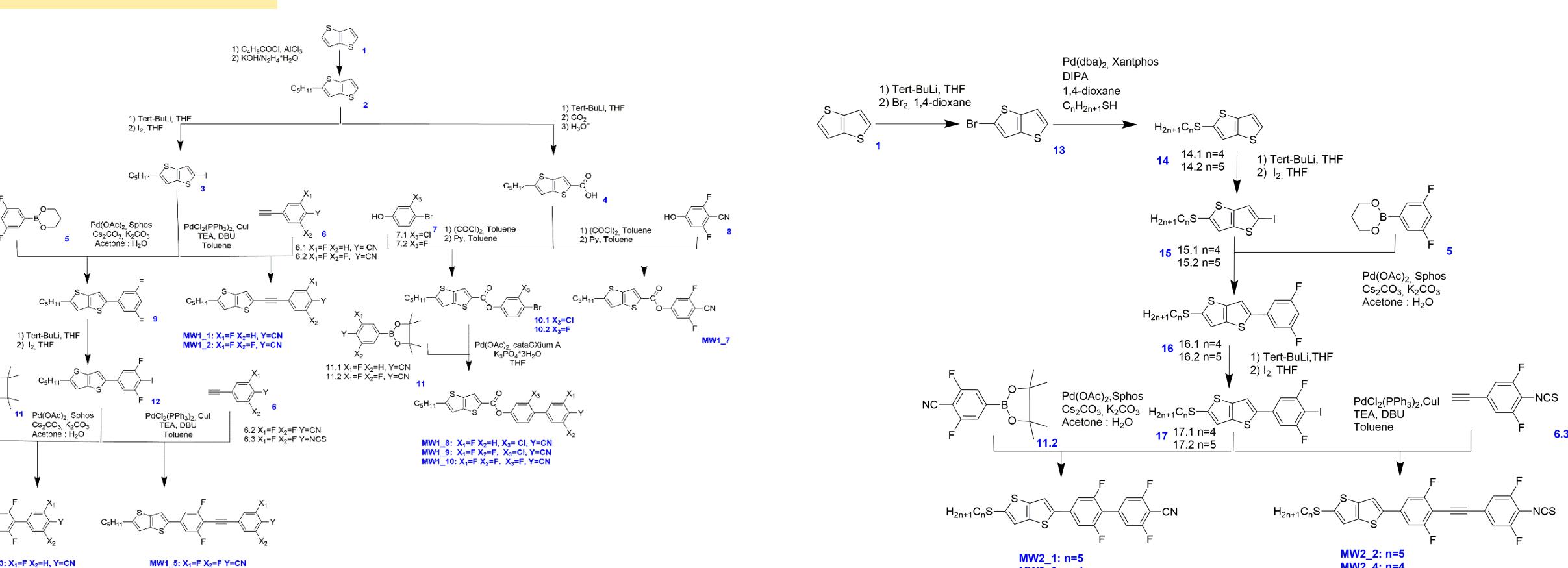
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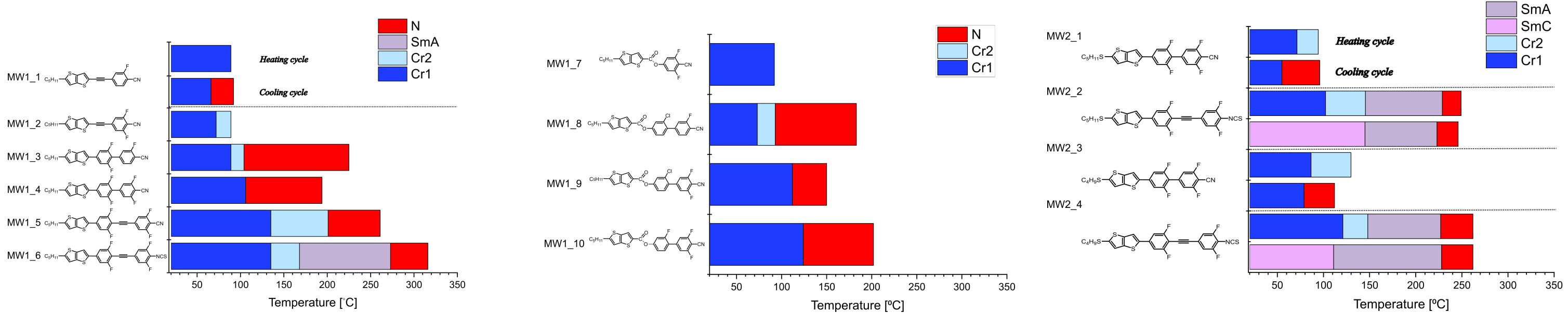
Why choose thieno[3,2-b]thiophene ring as the core of highly birefringent liquid crystals?

The thieno[3,2-b]thiophene ring, characterized by high polarizability is an electron-rich unit that has 10π electrons across 8 atoms. It can be disubstituted at the 2 and 5 positions to form an almost completely linear structure. These features are expected to significantly enhance the optical anisotropy and liquid crystalline phase stability of thieno[3,2-b]thiophene-based mesogens. Measurements of their birefringence indicate that the contribution of a single thieno[3,2-b]thiophene ring is approximately 0.14.

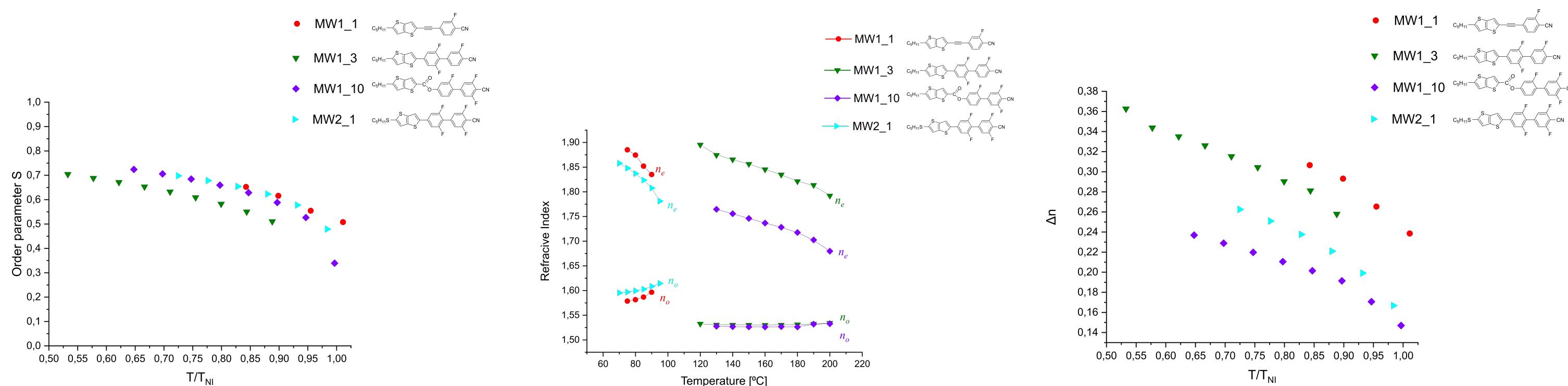
Synthetic Procedure



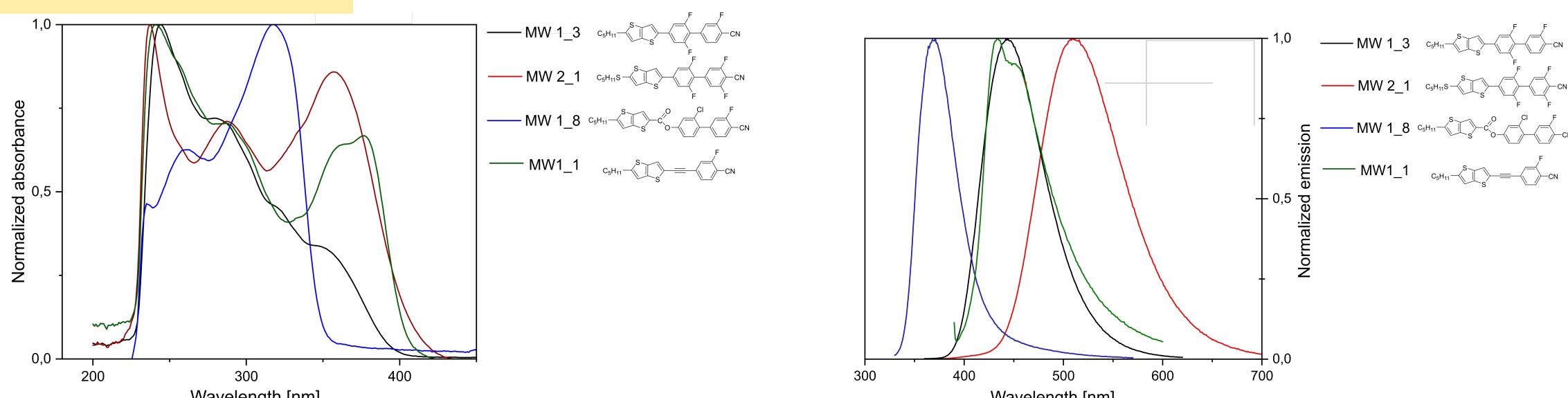
Mesomorphic Properties



Optical Properties



Spectral Properties



References

1. XIAOZHE YANG, LINGCHAO MO, MINGGANG HU, JIAN LI, JUANLI LI, RAN CHEN & ZHONGWEI AN (2018) New isothiocyanato liquid crystals containing thieno[3,2-b]thiophene centralcore, *Liquid Crystals*, 45:9, 1294-1302, DOI:10.1080/02678292.2018.1435828