

Fluorescent bent-shaped compounds with benzo[*c*]thiophene as a central unit

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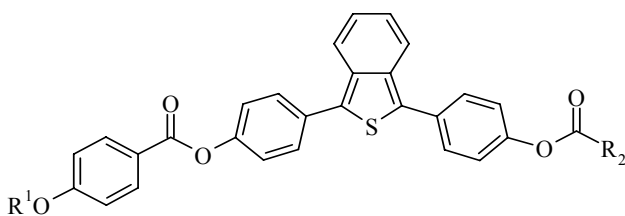
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Recently we have introduced¹ benzo[*c*]thiophene as central unit of new bent-shaped liquid crystals. Symmetrical 5 to 7-ring materials exhibited a broad nematic phase and showed strong fluorescence. In continuation of this work we report synthesis and study of mesomorphic behaviour of a new series of 4 to 7 ring benzo[*c*]thiophene based materials. The mesomorphic behaviour was broadly varied by number of the benzene rings in the lengthening arms and nature of the terminal alkyl chains (alkyl, perfluoroalkyl, chiral alkyl). Based on the molecular structure, diverse mesomorphic behaviour was observed involving formation of N, SmA and SmC* in broad temperature interval. Despite of the bend of the molecular core, formation of banana-type phases was not observed.

Mesomorphic behaviour of new materials was studied by texture observation, DSC and X-ray studies.

References:

(1) A. Kovářová, J. Svoboda, V. Novotná, M. Glogarová, M. Salamonczyk, E. Gorecka and D. Pocięcha: Poster PA11, ECLC 2007 – 9th European Conference on Liquid Crystals, Lisbon, Portugal.



R₁ = C₁₂H₂₅
C₄F₉(CH₂)₈
CH₂=CH(CH₂)₉
C₁₂H₂₅OPhCO

R₂ = C₁₂H₂₅OPh
C₄F₉(CH₂)₈OPh
C₁₂H₂₅OPhCOOPh
CH₃CH₂CH(CH₃)(CH₂)₆COOPh
C₁₀H₂₁OCH(CH₃)COOPh
C₁₂H₂₅OCH(CH₃)