

Liquid-crystalline properties of 4-octyloxybenzylidene-4'-alkyloxylanilines and their mixtures with 4-pentyloxybenzylidene-4'-heptylaniline.

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Streszczenie

Liquid-crystalline properties of the homologous series of 4-octyloxybenzylidene-4'-alkyloxylanilines are described. Based on the polarization microscopy (POM and TOA methods) and the calorimetric (DSC) measurements a rich polymorphism was detected. Investigated compounds exhibit nematic, smectic C, smectic I and smectic G mesophases with their characteristic configurations. The presence of all mesophases was confirmed by the miscibility method, using 4-heptyloxybenzylidene-4'-pentylaniline (I), 4-octyl-4'-decyloxyazobenzene (II) and 4-octyl-4'-undecyloxyazobenzene (III) as the mesophase standards. The influence of an alkyl chain length on the mesophase sequence and the entropic effects are extensively discussed.

Słowa kluczowe

Liquid crystals, Nematic, Smectic, Schiff base, Phase diagram, DSC, Entropy

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