

# Synthesis and Characterization of Smectic Polymorphism in Higher Homologues of N-(*p*-*n*-Alkoxybenzylidene)-*p*-*n*-(Alkylanilines)

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Higher homologues of N-(*p*-*n*-alkoxybenzylidene)-*p*-*n*-alkylanilines (*nO.m*) compounds with *n* = 15 and 18 and *m* = 4 to 10, 12, 14, and 16 have been synthesized and the smectic polymesomorphism is studied. The transition temperatures were obtained both from thermal polarizing microscopy and differential scanning calorimetry. The compounds exhibit a smectic-F phase from the isotropic melt, their amount increasing with the number of the alkoxy chain. This implies that with the alkoxy chain number the manifestation of smectic-F occurs with shorter alkyl chain. The phase variants were confirmed with miscibility studies.

*Key words:* *nO.m* Compounds; Smectic Polymorphism; Smectic-F; Miscibility Studies; Phase Diagrams.