

Static and Dynamic Dielectric Polarization and Viscosity of *n*-Hexylcyanobiphenyl in the Isotropic and Nematic Phases

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On the basis of the temperature dependence of the static principal permittivities, ϵ_{\parallel} and ϵ_{\perp} , measured for the nematic phase of *n*-hexylcyanobiphenyl ($C_6H_{13}-Ph-Ph-C\equiv N$, 6CB), a value of the angle β between the long molecular axis and the direction of the dipole moment μ of 6CB, as well as the order parameter $S(T)$, were obtained by use of the Maier-Meier equations. From the dielectric relaxation and viscosity data, the contribution of the nematic potential to the molecular dynamics was estimated. In the isotropic phase the dielectric and viscosity data allow one, in the framework of the Debye model, to estimate the effective length of 6CB molecule.

Key words: Electric Permittivity; Dielectric Relaxation; Viscosity; 6CB.