



Infrared dispersion of liquid di-*n*-propylether.

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Streszczenie

The spectra of the real and imaginary components of the complex electric permittivity and complex polarizability of liquid di-*n*-propylether were determined in broad optical range ($25,000\text{--}100\text{ cm}^{-1}$), basing on refractive index measurements in the Visible range and absorption spectra in the Near Infrared, Mid Infrared and Far Infrared spectral regions. High-frequency dielectric properties of the liquid were determined and discussed. The total molar polarization was also determined from static dielectric measurements.

The molar vibrational polarization related to various spectral ranges has been determined. It has been found to be extremely small for overtone bands. The main contribution stems from the deformation modes of the molecule. An attempt was made to ascribe molar vibrational polarization values to particular modes. The total molar vibrational polarization originating from internal vibrational modes in the $15,000\text{--}700\text{ cm}^{-1}$ region amounts to $1.271\text{ cm}^3 \cdot \text{mol}^{-1}$, contributing ca. 3.85% to the distortion polarization and 2.16% to the total molar polarization.

The results were compared with data on liquid *n*-propanol and the molar vibrational polarization due to hydrogen-bond formation in neat liquid *n*-propanol was estimated and discussed.

Słowa kluczowe

di-*n*-propylether, *n*-propanol, IR dispersion, High-frequency dielectric properties of liquids, Vibrational polarization of H-bond

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