Dielectric functions of *iso*-propanol and di-*iso*-propylether in the infrared.

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Rok wydania

2015

Czasopismo

Journal of Molecular Liquids

Numer woluminu

203

Strony

143-152

DOI

10.1016/j.molliq.2014.12.031

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

High-frequency dielectric functions of neat liquid*iso*-propanol and di-*iso*-propylether have been investigated and discussed. This included determining the spectra of real and imaginary components of complex electric permittivity and complex polarizability in the NIR–MIR–FIR spectral regions (12,000–200 cm^{-1}) and also calculation and analysis of molar vibrational polarization for both liquids.

The molar vibrational polarization originating from internal vibrational modes has been determined for both molecules for the entire studied spectral region and for various spectral subranges as well. By the use of a recently developed method an attempt was made to ascribe molar vibrational polarization values to particular modes. The vibrational polarization values obtained for di-*iso*-propylether have been compared with the data determined earlier for di-*n*-propylether.

The obtained results also allowed for an estimation of vibrational polarization due to hydrogen-bond formation in neat liquid *iso*-propanol. It was found that the vibrational polarization of hydrogen-bonded OH group increases significantly when compared to non-bonded OH group.

Słowa kluczowe

Iso-propanol, Di-iso-propylether, IR dispersion, High-frequency dielectric properties of liquids, Vibrational polarization of H-bond

Adres publiczny

http://dx.doi.org/10.1016/j.molliq.2014.12.031

Strona internetowa wydawcy

http://www.elsevier.com