

Dielectric relaxation in liquid trichloroacetonitrile.

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1987

Czasopismo

Journal of Molecular Liquids

Numer woluminu

34

Strony

231-239

DOI

10.1016/0167-
7322(87)80049-1

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Measurements of the complex electric permittivity of liquid trichloroacetonitrile (TCIA) in the range from 500 MHz to 36 GHz are reported at three temperatures (293 K, 303 K, 313 K). The relaxation times and the Kirkwood correlation factor g for these temperatures were calculated and discussed in terms of the molecular reorientation of TCIA molecules. The dipole moment at 293 K was determined in neat liquid and in benzene solutions. The reorientational correlation function was determined from dielectric data. Combining this function with IR data the vibrational correlation function and vibrational correlation time for the fully-symmetrical, parallel type $\nu_S(\text{CN})$ vibration was determined and compared with results of Raman studies.

Adres publiczny

[https://doi.org/10.1016/0167-7322\(87\)80049-1](https://doi.org/10.1016/0167-7322(87)80049-1)

Strona internetowa wydawcy

<http://www.elsevier.com>