

研究论文

时域反射谱法研究烷基丙烯酸酯与酚复合的介电弛豫

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摘要:

The dielectric relaxation measurements on binary mixtures of esters (methyl acrylate, ethyl acrylate, and butyl acrylate) with phenol derivatives (p-cresol, p-chlorophenol, and 2,4-dichlorophenol) were carried out at different concentrations at 303 K using the time domain reflectometry (TDR) over the frequency range from 10 MHz to 20 GHz. The Kirkwood correlation factor and excess inverse relaxation time were determined and discussed to yield information on the molecular interactions of the systems. The relaxation time increased with increasing concentration of phenols and increasing chain length of esters. The excess inverse relaxation time values were negative for all the systems, which indicated the solute-solvent interaction existing between esters and phenols producing a field in such a way that the effective dipole rotation was hindered.

关键词: Dielectric relaxation Time domain reflectometry Phenol derivatives

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