

Overview of application of NIR spectroscopy to physical chemistry.

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Streszczenie

Near-infrared (NIR) spectroscopy is a powerful tool in studies of physicochemical properties of various kinds of samples. In particular, NIR spectroscopy contributed considerable to our understanding of intermolecular interactions (e.g. hydrogen bonding), molecular structure, solvent effect, clustering, phase transitions, kinetics. Because of mechanical and electrical anharmonicity of molecular vibrations, NIR spectra provide unique information not available from the other spectral regions. On the other hand, to elucidate useful information from NIR spectra, more sophisticated methods of data analysis than those applied in mid-infrared (mid-IR, MIR) region are necessary. This chapter presents selected examples demonstrating the variety of problems in the field of physical chemistry that have been studied by NIR spectroscopy.

Słowa kluczowe

Physical chemistry, NIR spectroscopy, Anharmonicity, Hydrogen bonding, Molecular structure, Intermolecular interactions, Solutions

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