Dynamic and electrooptical non-equivalency of amino group NH bonds of anisidines in H-bonded 1:1 and 1:2 complexes with proton acceptors.

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Streszczenie

IR spectra of 1:1 and 1:2 complexes of meta-, ortho- and paraanisidines with various proton acceptors were studied in aprotic solvents in the region of stretching and deformational vibrations of NH_2 group.The spectral moments $M^{(0)}$, $M^{(1)}$, $M^{(2)}$ and effective halfwidth of valence ν(NH) bands as well as frequencies of deformation modes of free and hydrogen-bonded NH_2 groups have been determined.1:1 complexes formation constants of anisidines with DMF, DMSO, HMPA as well as dynamic parameters and valence angles γ(HNH) of free and hydrogen-bonded molecules have been found. Dynamic and electrooptical non-equivalence of N-H bonds in 1:1 and 1:2 complexes were studied. It was shown that electrooptical non-equivalency N-H bonds increase more distinctly with the growth of the hydrogen bond strength than the dynamic one.The correlation has been established between spectroscopic, dynamic and electrooptical characteristics of NH_2 groups in free and hydrogen-bonded molecules of anisidines.

Słowa kluczowe

Anisidines, Proton acceptors, Hydrogen bond, Dynamic constants, Electrooptical parameters

Adres publiczny

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