Solvent effects on the infrared and 1h-nmr spectra of n, n?-thiodianilines

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The influence of various common basic solvents on the IR and 1H-NMR spectra of a series of N, N?- thiodianilines, (FORMULA OMITTED) X = H, OMe, Br, CI, and m-N02 has been studied. The solvent shifts of both, frequencies v(NH) and chemical shifts 5(NH), show a near linear dependence on solvent basicity, DN (DN: Donor Number). The sensitivity of the thiodianilines to the solvent, expressed as the slopes in the curves 5(NH) and vd(NH) vs. DN, are determined by the inductive effect of the substituents on the amino group. The anomalous behavior of the m-N02 derivative is attributed to strong intermolecular interactions.