

# Solvent effects on the amidic bond. $^1\text{H}$ nuclear magnetic resonance study of acetamide and N-methylacetamide

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The influence of various common basic solvents on the  $^1\text{H}$  n.m.r. spectra of the N-H protons in N-methylacetamide and acetamide has been studied. The chemical shifts at infinite dilution show approximately linear relationships with the donor number of the solvent. In strong donor solvents it is possible to observe the n.m.r. signals of two non-equivalent amidic protons in acetamide owing to the effect of the solvent on C-N rotation. The influence of the solvent on the chemical shifts and line splittings is discussed as well as the concentration effects by considering possible solute-solvent and solute-solute interactions.