

# Thermochemistry of dissolution, solvation, and hydrogen bonding of anilines in proton-acceptor organic solvents at 298.15 K

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## Abstract

© 2014 Pleiades Publishing, Ltd. Enthalpies of dissolution at infinite dilution (298.15 K) of aniline, N-methylaniline, and N,N-dimethylaniline in a series of proton-acceptor solvents of different classes of compounds have been measured. The solvation enthalpies have been determined, and its relationship with the anilines structure has been analyzed. Enthalpy of hydrogen bonding in the complexes of aniline (1: 2) and N-methylaniline (1: 1) with the solvents has been calculated. In the case of aniline complexes, negative cooperativity of hydrogen bonding has been revealed, the effect enhancing with increasing the solvent proton-acceptor ability.

<http://dx.doi.org/10.1134/S1070363214090059>

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## Keywords

aniline, cooperativity, hydrogen bond, solution enthalpy, solvation