WEAK HYDROGEN BONDS FROM ALIPHATIC AND FLUORINATED ALOCOHOLS TO MOLECULAR NITROGEN DETECTED BY SUPERSONIC JET FTIR SPECTROSCOPY

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Complexes of organic molecules with the main component of earth's atmosphere are of interest,[a] also for a stepwise understanding of the phenomenon of matrix isolation.[b] Via its large quadrupole moment, nitrogen binds strongly to polarized OH groups in hydrogen-bonded dimers. Further complexation leads to a smooth spectral transition from free to embedded molecules which we probe in supersonic jets. Results for 1,1,1,3,3,3-hexafluoro-2-propanol,[c] methanol,[d] *t*-butyl alcohol,[e] and the conformationally more complex ethanol[f] are presented and assigned with the help of quantum chemical calculations.

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