RESONANT ION-DIP INFRARED SPECTROSCOPY OF TWO N-PHENYL CIS AMIDES AND THEIR HYDROGEN BONDED CLUSTERS WITH WATER AND AMMONIA

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One-color, mass-resolved R2PI based resonant ion-dip infrared (RIDIR) and IR-UV hole-burning spectroscopies have been used to identify and assign the structures of the water and ammonia hydrogen bonded clusters of two N-phenyl cis amides in a supersonic jet expansion. The frequency shifts and intensities of the OH and NH fundamental vibrations allow unambiguous identification of vibronic features belonging to different clusters and permit detailed structural assignments to be made. Experimental RIDIR spectra and structural assignments will be discussed with an emphasis on the comparison of single water and ammonia clusters and on the structural alternatives for the ternary mixed clusters of the cis amides containing both water and ammonia.