

INTERMOLECULAR NON-COVALENT INTERACTIONS REVEALED BY BROADBAND ROTATIONAL SPECTROSCOPY

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Non-covalent interactions play a key role in chemistry, physics and biology, being responsible for the three-dimensional structure of proteins, the physical properties of condensed phases, and the outcome of molecular recognition processes, to cite just a few examples. In this talk we will focus on intermolecular non-covalent interactions and present our results on several complexes investigated by chirped pulsed Fourier transform microwave spectroscopy and computational methods. A range of clusters, involving odorants, aromatic hydrocarbons, alcohols and water will be reviewed. The interplay between primary and secondary hydrogen bonds and/or dispersion forces will be discussed, as well as the performance of several theoretical methods in view of the experimental data.