IR/UV double resonance spectroscopy on aromatic cations and beta-sheet model systems

Abstract:

Different IR/UV double and triple resonance techniques are used to investigate structures and dynamics of isolated cations and beta-sheet model systems in molecular beam experiments. In combination with ab initio calculations the experimentally observed vibrational frequencies can be used to predict structural arrangements. In the first part of the talk different and partially new developed techniques as well as their applications on structure and dynamics of aromatic cations and their hydrogen bonded clusters are introduced. Especially rearrangement reactions are discussed. In the second part of the talk the first investigations on beta-sheet model systems in the gas phase are presented. These systems contain clusters of protected amino acids, peptides, and template molecules. The aim is to find appropriate template molecules which inhibit the growth of pathogenic beta-sheet structures.

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