Molecular Recognition Probes of Solvation Phenomena

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Intermolecular interactions in solution are affected by many different factors that have complicated the development of an understanding of molecular recognition at a quantitative level. Our research has focussed on the development of an integrated quantitative appreciation of the relative magnitudes of the various different effects that might influence the intermolecular interactions of a given system. In solution, non-covalent interactions are the result of the competition between solute-solute, solute-solvent and solvent-solvent interactions, and any one of these may dominate in a particular case. Thus an investigation of solvent effects on intermolecular interactions will not only help to delineate this relationship, it can also provide direct insight into the very nature of the forces that govern solvation phenomena and the behaviour of the liquid state.

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