

Pros and Cons of H-bonds, ion-pairing and other electrostatic interactions

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H-bonds and electrostatic interactions are important non-covalent binding forces often used nowadays in supramolecular systems. Compared to other types of interactions such as hydrophobic, van der Waals or pi-stacking interactions they have several advantages due to their complementarity and (at least in some cases) also directionality, which helps in the construction of well-defined specific supramolecular complexes and aggregates. However, these interactions are very sensitive to the surrounding. And especially in the most important solvent (at least for potential applications), that is water, these interactions are rather weak. The lecture will discuss the principal aspects and features of this type of interactions, and will present examples of their successful use to obtain stable complexes and aggregates even in aqueous solvents.

