FAKULTÄT FÜR CHEMIE

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Einladung zum Vortrag von

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“A versatile model system for studying non-covalent interactions of aromatic surfaces”

Non-covalent interactions of aromatic surfaces are important to the function of many synthetic and biological systems. Yet, the fundamental origins and stability trends of these weak interactions are still a subject of considerable study and debate. One reason is the lack of accurate and comprehensive experimental data. To address this problem, we developed a small molecule model system that can form and accurately measure the strength of intramolecular interactions of aromatic surfaces. Due to a central N-arylimide single bond with restricted rotation, the rigid bicyclic framework is in equilibrium between *folded* and *unfolded* confirmations, which can and cannot form the intramolecular noncovalent interaction. Thus, measurement of the folded/unfolded ratio by ^{1}H NMR integration provides a measure of the interaction of interest. Due to the synthetic versatility and ease of preparation, we have applied this model system to study a range of noncovalent interactions of aromatic services including: face-to-face π-stacking, dispersion, OH-π, fluorine-π, heterocyclic π-stacking, and Ag-π.

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