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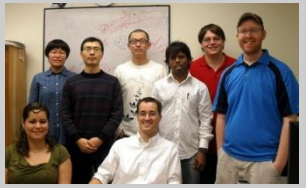

Intermolecular Non-Covalent Interactions in π-Conjugated Heterocyclic Oligomers

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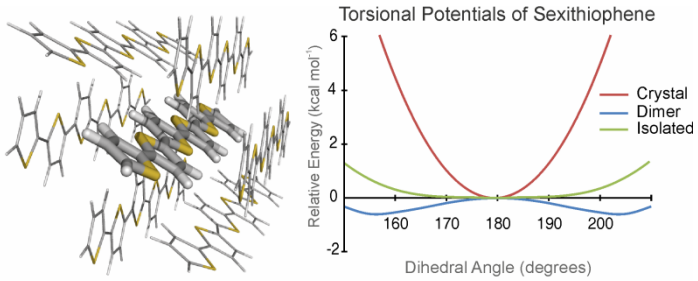

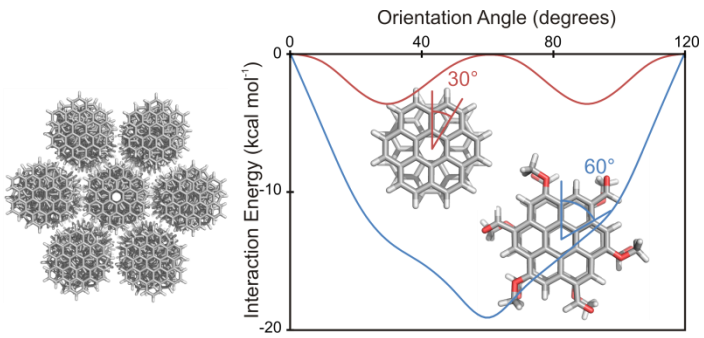

Controlling intermolecular non-covalent interactions is vital to the design of next-generation organic electronic materials with carefully tuned optoelectronic properties. We are studying model non-covalent interactions relevant to organic electronic materials and conjugated heterocyclic oligomers, and quantifying the impact of these interactions on the physical properties of the resulting materials.

We have demonstrated that inter-chain interactions can have diverse impacts on the torsional behavior of oligothiophenes, introduced novel means of controlling the local orientations of discotic materials, and provided a comprehensive overview of the physical nature of substituent effects on XH/π interactions.