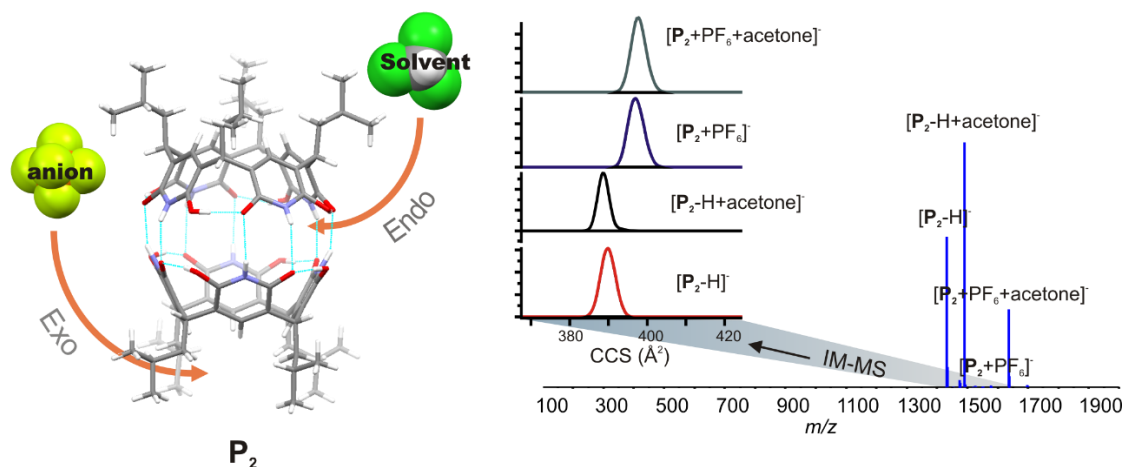


Ion Mobility-Mass Spectrometry of Supramolecular Complexes and Assemblies

Ion mobility-mass spectrometry (IM-MS), an increasingly popular technique for structural analysis of peptides, proteins, glycans and lipids, is well known from its importance to "omics", separation sciences, and structural chemistry of small molecules. It is though surprising that applying IM-MS to study abiotic supramolecular complexes and assemblies in the gas-phase is still a very young field of research. The IM-MS offers unprecedented opportunities to structural supramolecular chemistry research. As a technique it completes the structural chemistry palette (X-ray crystallography, NMR, DOSY NMR, spectroscopic techniques) for studying complex supramolecular assemblies and complexes. IM-MS can be applied to various systems from proteins and oligonucleotides to supramolecules, metal coordination complexes and nanoparticles. I will focus here on the current state of this technique and the benefits of its use for structural chemistry of complex supramolecular systems. Examples on nanoreactors,¹ self-assembled capsules,² and metallocupramolecular systems³ will be given.



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