



SEMINAIRE ISMO

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Matrix-isolation VCD spectroscopy: Towards the characterization of chiral reactive intermediates.

Vibrational Circular Dichroism (VCD) spectroscopy measures the small difference in the absorption of left- and right circular polarized infrared light by a chiral sample. It allows the unambiguous assignment of absolute configurations by comparison of experimental and computationally predicted spectra, but it is also highly sensitive to even very subtle differences in structures, such as conformational changes induced by solute-solvent interactions. In our work, we take advantage of this conformational sensitivity and use VCD spectroscopy to probe intermolecular interactions of interest in catalysis and supramolecular chemistry.

After a short introduction to the technique itself, this walk will focus on the implementation of a combined setup of VCD spectroscopy and the matrix-isolation technique as sample preparation method for the isolation of small molecules and reactive intermediates. Highlighting some recent results, we show that trapping chiral molecules in solid rare gas matrices can help us understand problems faced in the interpretation of solution phase spectra. These challenges in the analysis are, for instance, flat potential energy surfaces or rapidly rearranging photoisomerization products.

Mardi 9 octobre 2018 à 11 h
Amphithéâtre du bât 520 (3^{ème} étage)
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