

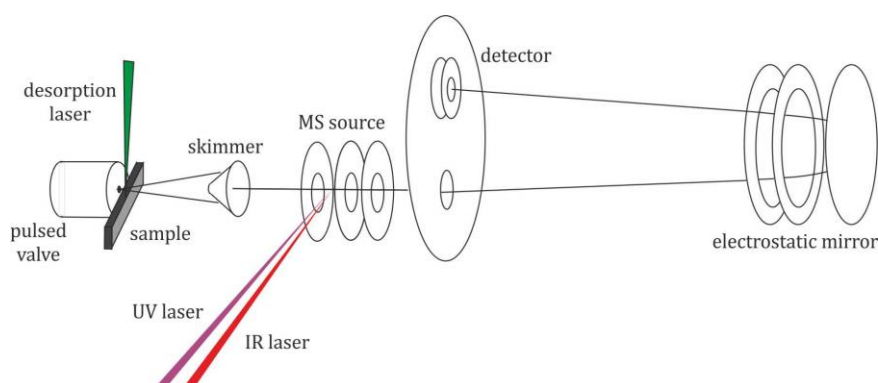
# Conformation-selective spectroscopy

Location: CEA Saclay

Researcher in charge of the Trainees: Dr. Eric Gloaguen

Maximum number of Trainees: 2

Experiment:



The set-up is designed to record conformation-selective IR spectroscopy of flexible molecules. Conformations are sorted according to their UV spectroscopic signatures, which are then used to select conformations for the next step, i.e., the IR/UV double resonance spectroscopy. The IR spectra obtained enable us to document the intramolecular interactions that stabilize the structures, by comparison with quantum chemistry calculations.

Schedule expected:

The Trainees will participate in the measurement of i) a UV spectrum of a model peptide molecule, and ii) IR spectra of several of its conformations, in the NH stretch spectral range (3 $\mu$ m region). Experiment will encompass the use of laser desorption, supersonic expansion, spectroscopy lasers and Optical Parametric Oscillator and a reflectron time-of-flight mass spectrometer. The trainees will proceed to data acquisition and will interpret the spectra obtained.

References:

- 1 E. Gloaguen and M. Mons, *Topics in Current Chemistry*, 2015, **364**, 225-270.
- 2 Y. Loquais, E. Gloaguen, S. Habka, V. Vaquero-Vara, V. Brenner, B. Tardivel and M. Mons, *J. Phys. Chem. A*, 2015, **119**, 5932-5941.