

LASER-BASED IR TRANSMISSION SPECTROSCOPY OF PROTEINS

Motivation

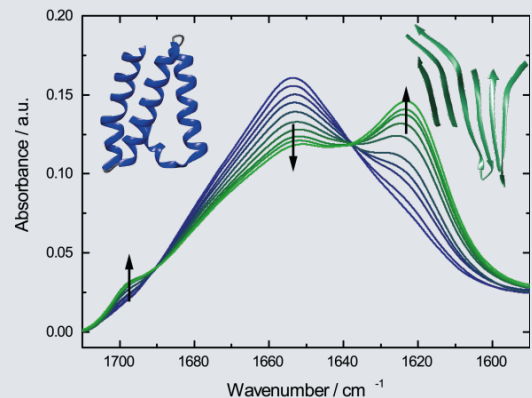
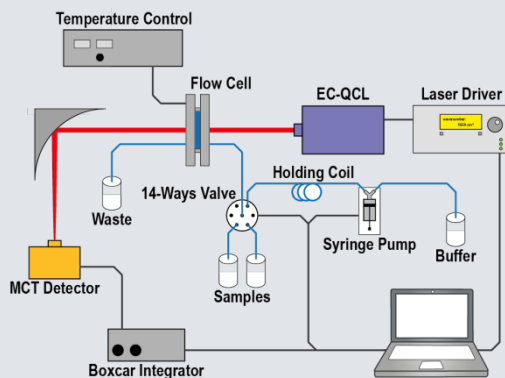
This master thesis is part of the general research interest of the department aiming at advancing laser-based IR transmission spectroscopy. Recently, an IR transmission setup was developed employing an external-cavity quantum cascade laser as a light source. With its high output power, this type of laser source allows a significant increase in ruggedness compared to traditional FT-IR spectrometers and opens the way to new techniques for investigations of protein secondary structure by IR spectroscopy.

Scope of the work

The student will be working in the Lendl lab at TU Vienna together with a team of PhD students and PostDocs. The work consists in IR measurements of proteins to study their secondary structure and changes thereof. Measurements will be performed with the novel laser-based IR transmission setup as well as with conventional FT-IR spectrometers.

This master thesis is part of a the research project „Industrial Methods for Process Analytical Chemistry – From Measurement Technologies to Information Systems (imPACts)“.

Financial compensation for this thesis is available.



Requirements

Bachelor in Chemistry, Physics or equivalent

Interest in instrumental analysis

Contact

Dr. Andreas Schwaighofer
andreas.schwaighofer@tuwien.ac.at

Prof. Bernhard Lendl
bernhard.lendl@tuwien.ac.at