

PhD Position

“Synthesis of Iminosugar Based Glycomimetics as Probes for Activity-Based Profiling of Glycoside Processing Enzymes

Position:

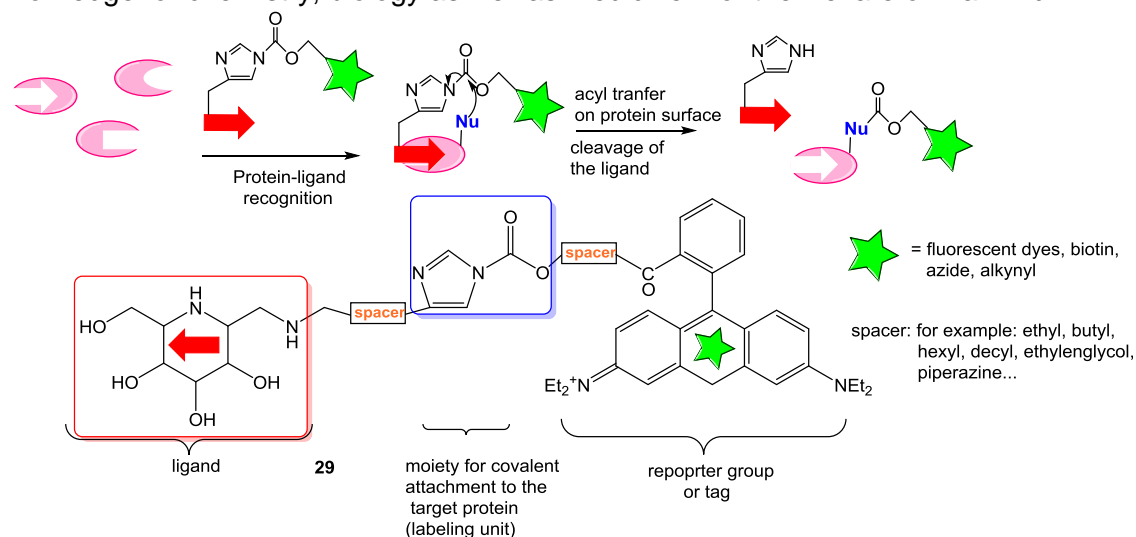
The PhD-position (Doctoral School Chemistry, TU Graz) is available for 3 years at the Institute of Organic Chemistry at Graz University of Technology, Glycogroup. Salary according to FWF regulations, 30 hours per week.

The PhD-position is offered in the program of a stand-alone Project funded by the FWF and available by 1st November 2017.

Activity-Based Protein Profiling of Carbohydrate Processing Enzymes: A Ligand Directed Enzyme Labelling Approach

Carbohydrate processing enzymes (CPEs), which are ubiquitous in living cells, play vital roles in the metabolism of carbohydrate structures inside as well as outside cells. A malfunction of CPEs causes aberration of the structure or function of glycoconjugates resulting in diseases such as diabetes, bacterial as well as viral infections, immunological diseases, cancer, lysosomal storage diseases, Alzheimer's and Parkinson disease and other human genetic disorders. However, and as a matter of fact, in many diseases the mode of action concerning the carbohydrate part is still unknown or even unrealised.

This project aims at developing a novel concept for activity based protein profiling (ABPP) of CPEs by ligand-directed chemistry for protein labeling. By chemical approaches, such glycomimetic (carbohydrate look-a-likes) based probes will be synthesised which will be biological evaluated with the respective proteins. These probes will find application for the elucidation of unknown disease pathways. The elucidation of the role of carbohydrates and carbohydrate processing proteins in the living system will provide knowledge for chemistry, biology as well as medicine - for the welfare of mankind.



Requirements:

Candidates are expected to have a strong background in synthetic organic chemistry (not necessarily carbohydrate chemistry) and be interested in the interdisciplinary topics of Glycosciences. A Master-degree (MSc) in Chemistry is required.

Start of contract: 1st November 2017

How to apply: Please send your application including a motivation statement, CV and list of publications by email to: Assoc. Prof. Dipl. Ing. Dr. Tanja Wrodnigg, t.wrodnigg@tugraz.at

