

Master Thesis Position

“Synthesis of Iminosugar Based Glycomimetics

Position:

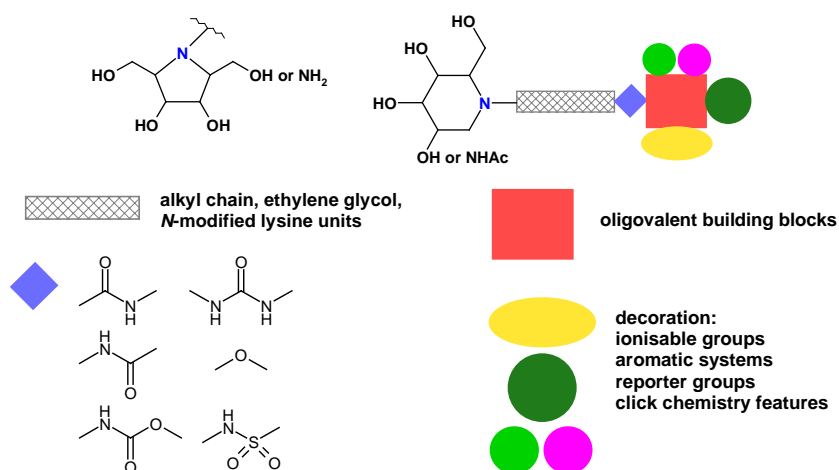
The Master Thesis Position (Master's Degree programs 'Chemistry' or 'Technical Chemistry', TU Graz) is available at the Institute of Organic Chemistry at Graz University of Technology, Glycogroup. Salary according to FWF regulations.

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

Iminosugar Based Glycomimetics

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. The elucidation of the role of carbohydrates and carbohydrate processing proteins in the living system provides knowledge for chemistry, biology as well as medicine - for the welfare of mankind.

This project aims at designing and synthesising novel iminosugar based glycomimetics for various applications such as inhibitors of CPEs, pharmacological chaperones for the treatment of lysosomal storage disorders as well as probes for activity based protein profiling (ABPP) of CPEs by ligand-directed chemistry for protein labeling. By chemical approaches such glycomimetics (carbohydrate look-a-likes) will be synthesised which will undergo biological evaluation by our collaborators.



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 Bachelor-degree (BSc) 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