Design, Synthesis, Folding and Function of Peptide Mimics

Research emphasis:
The Proulx lab develops chemistry for the rapid access of peptide mimic libraries, with particular focus on unnatural amino acid backbone compositions, e.g. azapeptides and N-substituted glycines (or peptoids). Our goal is to develop proteolytically stable peptide analogs with well defined secondary structures, in order to identify the bio-active conformations of peptides and develop new types of PPI inhibitors. We are also interested in discovering mild peptide ligation reactions, as well as conducting site-selective peptide and protein modifications.

Application:
- Peptide ligands;
- GPCRs;
- Combinatorial chemistry;
- Bio-orthogonal chemistry.

Collaboration potential:
- Synthesis of peptide mimic libraries;
- Understanding the effect of conformation on bio-activity in peptides;
- Developing protein-protein interaction (PPI) inhibitors.

Selected publications:


