PhD in Chemical Sciences
Department of Chemistry "Ugo Schiff"
University of Florence

PhD Seminar

Synthetic chemistry applied to fragment library production and vaccine design

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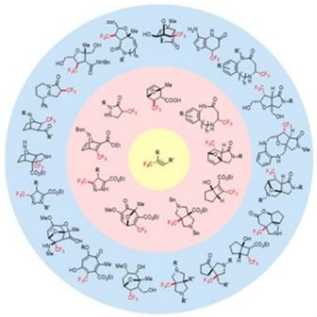
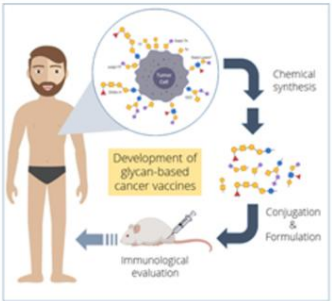
Abstract

In the Clausen lab we apply synthetic chemistry to address biological questions. We have a longstanding interest in the design and synthesis of screening libraries for high-throughput screening and more recently fragment-based drug discovery. The lecture will highlight some examples of how we harness the power of synthetic chemistry to populate chemical space to maximize chemical diversity.

The group also has expertise in the chemical synthesis of oligosaccharides and their application in the study of carbohydrate-protein interactions. Our latest application in this area is in the search for a therapeutic cancer vaccine. We have combined tumor-associated carbohydrate antigens (TACAs) with a glycolipid adjuvant in a vaccine formulation and demonstrated both activation of iNKT cells *in vitro* and IgG production *in vivo*.



Fragment synthesis and FBLD for protein and RNA targets



Development of glycan-based cancer vaccines