Nicolò **Tampellini**

PhD Student · Organic Chemistry

nicolo.tampellini@yale.edu | ntampellini.github.io | ntampellini | @ntampellini

Education

Yale University
New Haven, CT, USA

PH.D. STUDENT — *Sep 2021 - present*

- Advisor: Scott J. Miller

University of Bologna
Bologna, IT

BACHELOR OF SCIENCE DEGREE — *Sep 2017 - Jul 2020*

- GPA 29.43 / 30, final grade 110 with Honors / 110
- Thesis advisor: Prof. Paolo Righi - Co-advisor: Prof. Giorgio Bencivenni

Publications

Scaffold-Oriented Asymmetric Catalysis: Conformational Modulation of Transition State Multivalency during a Catalyst-Controlled Assembly of a Pharmaceutically Relevant Atropisomer - **Tampellini, N.**; Mercado, B. and Miller, S.* *Chem. Eur. J.* **2024**, e202401109 - Link

Computational Investigation on the Origin of Atroposelectivity for the Cinchona Alkaloid Primary Amine-Catalyzed Vinylogous Desymmetrization of N-(2-t-Butylphenyl)maleimides - **Tampellini, N.***; Righi, P. and Bencivenni, G.* *J. Org. Chem.* **2021**, 86, 17, 11782–11793 - Link

Mentoring and Research Experience

PhD research
New Haven, CT, USA

YALE UNIVERSITY - ADVISOR: PROF. SCOTT J. MILLER — *Jan 2022 - Present*

- Completed a project on the first atroposelective imidation of *N*-Aryl quinazolinediones. The project involved the development of a novel flexible bifunctional superbase and a thorough computational dissection of its workings. Mentored an undergrad student, Jenny Tan (YC 2023).

Teaching Fellow - Advanced Organic Chemistry (Graduate level)
New Haven, CT, USA

YALE UNIVERSITY - ADVISOR: PROF. SCOTT J. MILLER — *Sep-Dec 2022*

- Led discussion sections and assisted Prof. Miller in a physical organic chemistry graduate class on kinetics, thermodynamics, orbital symmetry and stereochemistry.

Dissertation Internship
Bologna, IT

UNIVERSITY OF BOLOGNA, INDUSTRIAL CHEMISTRY - ADVISOR: PROF. PAOLO RIGHI — *Apr 2020 - Present*

- Performed a computational modeling of an asymmetric organocatalytic reaction, which led to a publication on the origin of selectivity in such system. Thesis title - “Computational Insights into the Enantioselective Axial Desymmetrization of Maleimides”

Awards

2017 National Finalist, Italian Olympiads of Chemistry - Rome, IT - Link

2016 National Finalist, Italian Olympiads of Chemistry - Frascati, IT - Link

Memberships and Personal Projects

TSCoDe - Transition State Conformational Docker
2021 - present

- Open-source computational chemistry program in Python. Automates conformational searches, embedding protocols and ensemble optimization and processing for ground and transition state assemblies of flexible molecules. Repository

Presentations

Organic Chemistry Colloquium 2023
Bologna, IT

UNIVERSITY OF BOLOGNA - HOST: PROF. PAOLO RIGHI — *Dec. 2023*

- Presented my research work titled ”Catalyst conformational modulation - enabling the atroposelective cyclization of quinazolinediones with flexible bifunctional superbases”

UTD Research Talk
Richardson, TX, USA

UNIVERSITY OF TEXAS AT DALLAS - HOST: PROF. FILIPPO ROMITI — *June 2024*

- Presented my research work titled ”Atroposelective synthesis of new chiral scaffolds with flexible, bifunctional superbases”