Nicolò **Tampellini**

PhD Student · Organic Chemistry

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Education

Ph.D. - Yale University

New Haven, CT, USA

Doctoral Student

Sep 2021 - present

- Advisor: Prof. Scott J. Miller

B.Sc. - University of Bologna

Bologna, IT

Bachelor of Science Degree

Sep 2017 - Jul 2020

- 110 with Honors / 110 (Italian GPA 29.43 / 30)
- Thesis advisor: Prof. Paolo Righi - Co-advisor: Prof. Giorgio Bencivenni

Publications

4. Enantiocontrolled Cyclization to Form Chiral 7- and 8-Membered Rings Unified by the Same Catalyst Operating with Different Mechanisms
- **Tampellini, N.**, Mercado, B., and Miller, S.* *J. Am. Chem. Soc.* **2025**, *ASAP* - Link

3. Catalytic Enantioselective Sulfoxidation of Functionalized Thioethers Mediated by Aspartic Acid-Containing Peptides
- Huth, S., **Tampellini, N.**, Guerrero, M. and Miller, S.* *Org. Lett.* **2024**, 26, 32, 6872–6877 - Link

2. 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

1. 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

Awards

2024 Kenneth B. Wiberg Research Fellowship, Yale University - New Haven, CT - Link

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

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

Personal Projects

FIRECODE - Filtering Refiner and Embedder for Conformationally Dense Ensembles

2021 - present

- Open-source computational chemistry program in Python, automating conformational search protocols, multimolecular embedding, similarity filtering and constrained ensemble optimization. Interfaces with external calculators like XTB, ORCA, GAUSSIAN and Pytorch Neural Network MLIP models via ASE (AIMNET2). Repository

Invited Talks

Indena Innovation Symposium 2024

Settala, IT

Indena S.p.A. - Host: Alessandro Brusa

Dec. 2024

- Presented my research work on the "Stereocontrolled cyclization of inherently chiral medium-sized rings" to an audience of professionals working on the Research and Development branch of the company.

Yale Chemistry Symposium 2024

New Haven, CT, USA

Yale University - Host: Prof. Scott J. Miller

Aug. 2024

- Presented my research work to the department on the "Stereocontrolled cyclization of inherently chiral medium-sized rings"

UTD Research Talk 2024

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"

Organic Chemistry Colloquium 2023

Bologna, IT

University of Bologna - Host: Prof. Paolo Righi

Dec. 2023

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