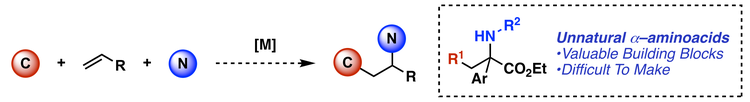
Cu-Catalyzed Three-Component Strategies for 1,2- and 1,5-Carboamination of Olefins

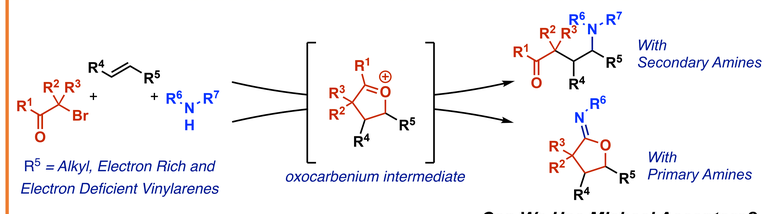
Andrei G. Popov[1], Theodore L. Jefferson[1], Aja M. Nicely[1], Hannah C. Wendlandt[1], Vincent R. Viviani[1], Piotr Skumiał[1], Grace L. Trammel[2], Daniel G. Kohler[2], Samer G. Salman[1], Henry B. Baxter[1], Kami L. Hull[1,2]

The University of Texas at Austin
Department of Chemistry
College of Natural Sciences

[1]Department of Chemistry, The University of Texas at Austin, 100 E. 24th Street, Austin, TX 78712, United Stated
[2]Department of Chemistry, University of Illinois at Urbana-Champaign, 600 South Mathews Avenue, Urbana, IL 61801, United States

Carboamination Reaction

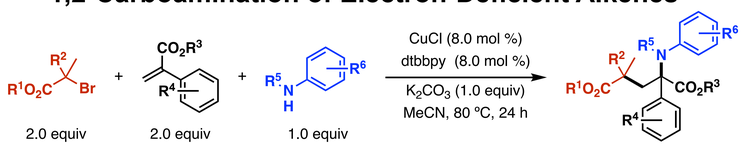


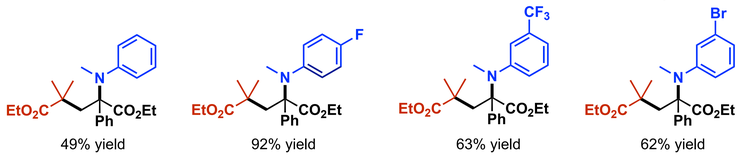


Can We Use Michael Acceptors?

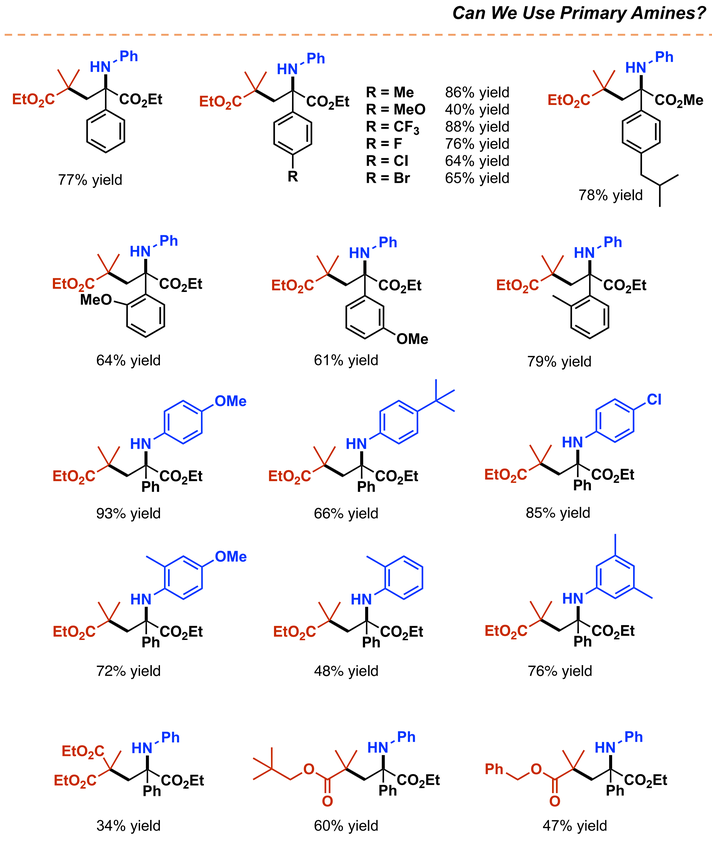
Gockel S. N., Buchanan, T. L., Hull K. L. *J. Am. Chem. Soc.* **2018,** *140*, 1, 58.

1,2-Carboamination of Electron-Deficient Alkenes



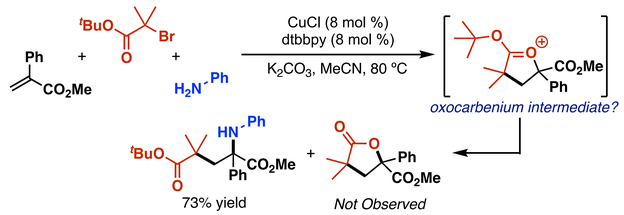


Can We Use Primary Amines?

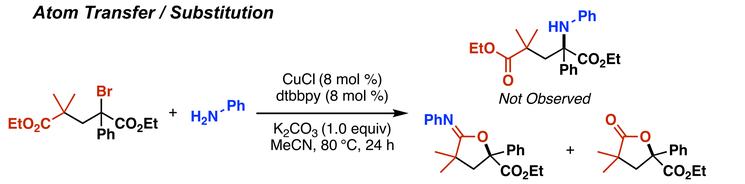


Mechanistic Studies

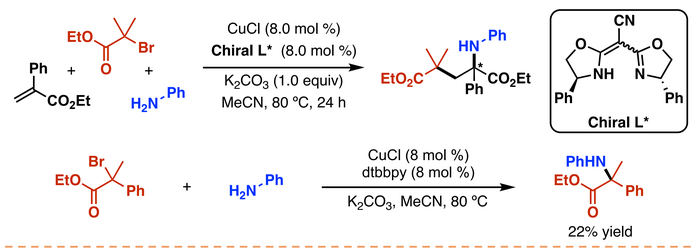
Oxocarbenium intermediate



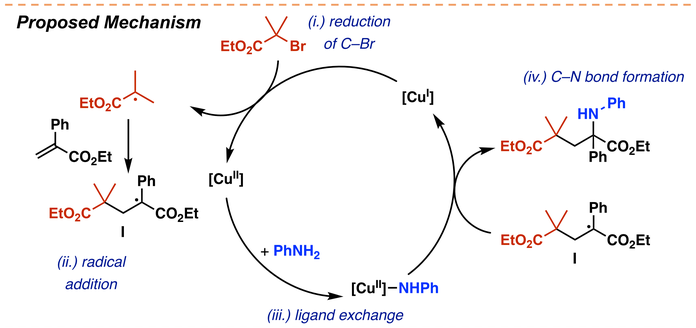
Atom Transfer / Substitution



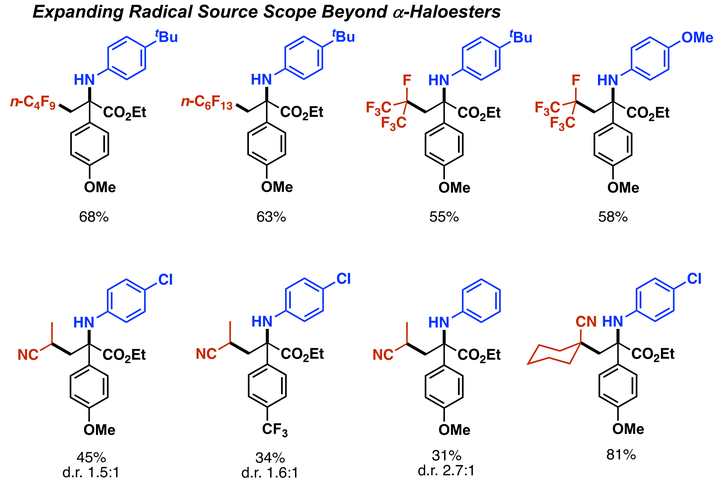
Copper-Mediated Amination



Proposed Mechanism



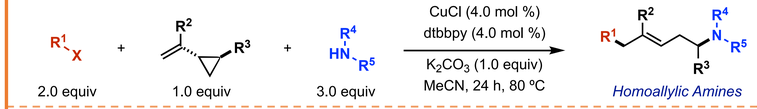
Expanding Radical Source Scope Beyond α-Haloesters

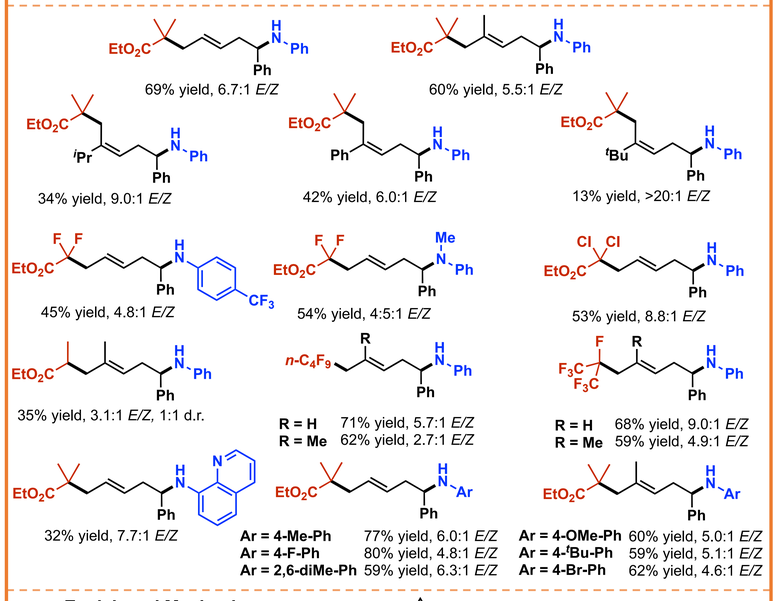


Nicely, A. M., Popov, A. G., Wendlandt, H. C., Trammel, G. L., Kohler, D. G., Hull K. L. *Org. Lett.* **2023,** *25,* 5302−5307.
Wendlandt, H. C., Trammel, G. L., Kohler, D. G., Utley, J. A., Nicely, A. M., Popov, A. G., Hull K. L. *Manuscript Submitted*

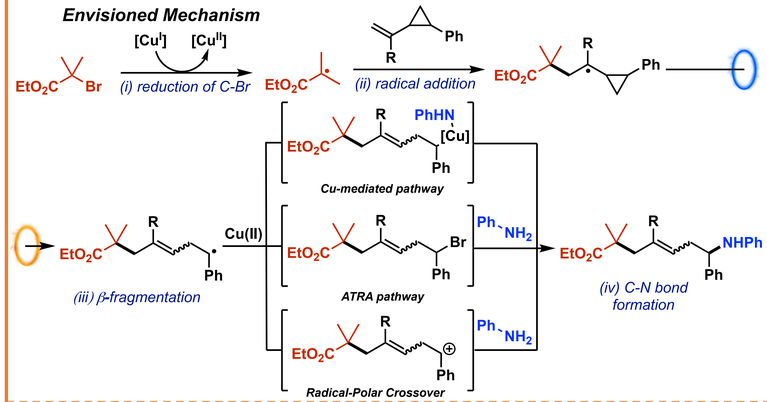
1,5-Carboamination of Vinylcyclopropanes

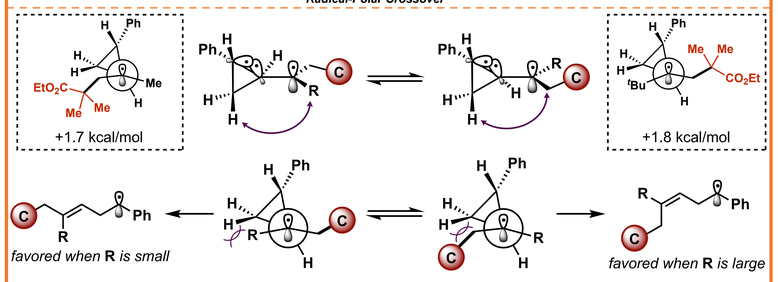
What Other Disconnections Can We Access?





Envisioned Mechanism





Popov, A.G., Viviani, V. R., Skumiał, P., Jefferson, T. L., Salman, S. G., Baxter, H. B., Hull, K. L. *Manuscript In Preparation*

Acknowledgements

Lilly NIH National Institutes of Health THE Welch FOUNDATION Advancing Chemistry Improving Life. NOVARTIS

The Hull Lab,
The University of Texas at Austin

Professor
Kami L. Hull