

# New Developments in Ni-Catalyzed Transnitration

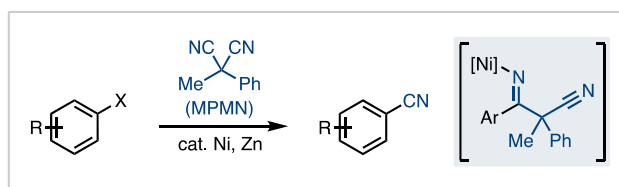
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Accessing medicinally relevant small molecules in a more efficient and/or safer manner continues to drive important discoveries in synthetic organic chemistry. My group is particularly interested in the development of new Ni-catalyzed processes to address these challenges and the use of readily available building blocks to access complex small molecules.

The preparation of nitrile-containing organic molecules has garnered considerable attention from the community for over a century due to their prevalence in pharmaceuticals and their versatility as synthetic intermediates. In this field, the use of toxic cyanide salts (and their equivalents) or HCN as a source of nitrile to forge C–CN bonds remains a problem. To address this challenge, my group is developing new synthetic methods that use inexpensive and less toxic nitrile-transfer reagents for the synthesis of these compounds. We have demonstrated that valuable nitrile-containing building blocks can be prepared based on the concept of nitrile-transfer (or “transnitration”).<sup>1,2</sup> This presentation will highlight our contributions to this field, with a particular focus on the development of Ni-catalyzed methods for the synthesis of nitriles.<sup>2</sup>



## References

- [1] a) Alazet, S.; West, M. S.; Patel, P.; Rousseaux, S. A. L. *Angew. Chem. Int. Ed.* **2019**, *58*, 10300–10304; b) Mills, L. R.; Rousseaux, S. A. L. *Tetrahedron* **2019**, *75*, 4298–4306.
- [2] a) Mills, L. R.; Graham, J.; Patel, P.; Rousseaux, S. A. L. *J. Am. Chem. Soc.* **2019**, *141*, 19257–19262; b) Mills, L. R.; Edjoc, R. K.; Rousseaux, S. A. L. *J. Am. Chem. Soc.* **2021**, *143*, 10422–10428; (c) Palermo, A. F.; Chiu, B. S. Y.; Patel, P.; Rousseaux, S. A. L. *J. Am. Chem. Soc.* **2023**, *145*, 24981–24989.