Efficient Synthesis of Chiral Amines Using Visible Light Photoredox Catalysis and Asymmetric Organocatalysis

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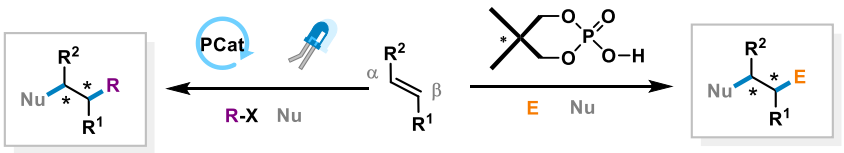
The vicinal difunctionalization of alkenes using multicomponent reactions is a powerful way to create highly functionalized building blocks. This lecture will cover two key areas of our work: the enantioselective synthesis of α,β-substituted amines[1] and new methods using photoredox catalysis. [2]

By using asymmetric organocatalysis, photocatalysis, or combining both, we have achieved significant advancements in producing various biologically active natural and synthetic products. Understanding the underlying mechanisms has been crucial to developing these effective new methods.



References

[1] B Bouchet, D.; Varlet, T.; Masson, G. *Acc. Chem. Res.* **2022**, 55, 3265. (b) Naulin, E.; Lombard, M.; Gandon, V.; Retailleau, P.; Elslande, E. V.; Neuville, L.; Masson, G. *J. Am. Chem. Soc.* **2023**, *145*, 48, 26504. (c) Bouchet, D.; Van Elslande, E.; Masson, G. *Org. Lett.* **2023**, *25*, 5395.

[2] (a) Leone, M.; Milton, J.; Gryko, D.; Neuville, L.; Masson, G. *Chem. Eur J.* **2024**, e202400363. (b) Serafino, A.; Pierre, H.; Le Vaillant, F.; Boutet, J.; Guillamot, G.; Neuville, L.; Masson, G. *Org. Lett.* **2023,** 25, 9249. (c)· Terlizzi, L. Nicchio, L.; Callegari, C Scaringi, S.; Neuville, L.; Fagnoni, M.; Protti, S. Masson, G. *Org. Lett.* **2023,** *25,* 9047. (d) Varlet, T.; Bouchet, D.; Van Elslande, E.; Masson, G. *Chem. Eur. J.* **2022**, *28*, e202201707.