

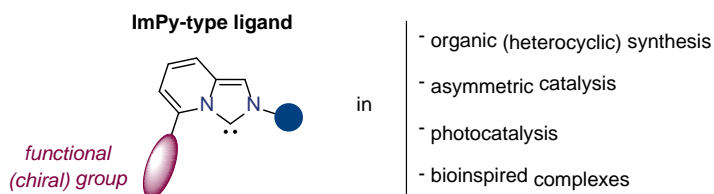
Synthesis, coordination and catalysis with L-shape, N-fused bicyclic NHC ligands

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L-shape *N*-Heterocyclic Carbene (NHC) based on the imidazo[1,5-*a*]pyridine (ImPy) scaffold have recently gained considerable interest as the true carbene ligand analogues of the popular dialkylbiarylphosphines, better known as Buchwald phosphines.^[1] Nevertheless, the substitution pattern of ImPy ligands is still rather limited due to synthetic access issues.

About eight years ago, we initiated a new research program aiming at developing new (chiral) L-shape ImPy ligand classes. In this presentation, we will summarize the results obtained in this area from the original, divergent synthetic access towards the imidazo[1,5-*a*]pyridinium precursors to the implementation of NHC systems in asymmetric and photocatalysis, as well as in bioinspired complexes.^[2]



References:

[1] P. Teixeira, S. Bastin, V. César, *Isr. J. Chem.* **2023**, *63*, e202200051.

[2] (a) Y. Tang, I. Benaissa, M. Huynh, L. Vendier, N. Lugan, S. Bastin, P. Belmont, V. César, V. Michelet, *Angew. Chem. Int. Ed.* **2019**, *58*, 7977-7981. (b) L. Pallova, L. Abella, M. Jean, N. Vanthuyne, C. Barthes, L. Vendier, J. Autschbach, J. Crassous, S. Bastin, V. César, *Chem. Eur. J.* **2022**, *28*, e202200166. (c) T. Kittikool, K. Phakdeeyothin, A. Morales, C. Barthes, L. Vendier, S. Yotphan, S. Bontemps, S. Bastin, A. Lledós, O. Baslé, V. César, *ChemistryEurope* **2024**, *2*, e202300083. (d) M. Marquardt, L. Vendier, V. Maurel, J. M. Mouesca, S. Bastin, I. Castillo, V. César, *manuscript in preparation*.