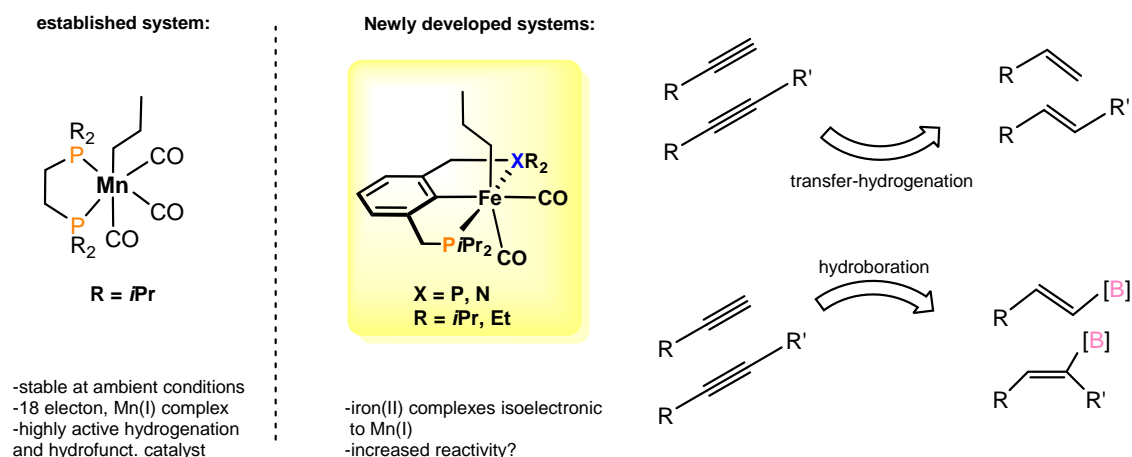


IRON (II) ALKYL PINCER COMPLEXES: SYNTHESIS AND REACTIVITY EXPLOITATION

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In recent years, the Kirchner group reported on the successful development of a highly active, bench stable catalyst system which was active in a variety of different transformation. This reactivity was caused by its ability to generate vacant coordination sites by undergoing a migratory insertion reaction. [1]



Herein, we like to report the successful functionalization of previously reported iron PCP [2] and newly developed PCN iron (II) pincer complexes towards their alkyl congeners. Furthermore, the reactivity of the synthesized complexes towards the catalytic semi-hydrogenation of terminal and internal alkynes will be elaborated. Concludingly, the activity towards the hydroboration of internal and terminal olefins under mild conditions will be given, which previously required harsh reaction conditions (such as UV radiation).[3] Mechanistic investigations into the insertion behavior of the utilized complexes will conclude the presentation, to elaborate on possible future transformations.

[1] Weber, S.; Kirchner, K. *Acc. Chem. Res.* **2022**, *55*, 18, 2740–2751

[2] Eder, W.; Himmelbauer, D.; Stöger, B.; Veiros, L.F.; Pignitter, M.; Kirchner, K.; *Dalton Trans.* **2021**, *50*, 2740-2751

[3] Jiang, S.; Quintero-Duque, S.; Roisnel, T.; Dorcet, V.; Grellier, M.; Sabo-Etienne, S.; Sortais J.-P. *Dalton Trans.*, **2016**, *45*, 11101-11108