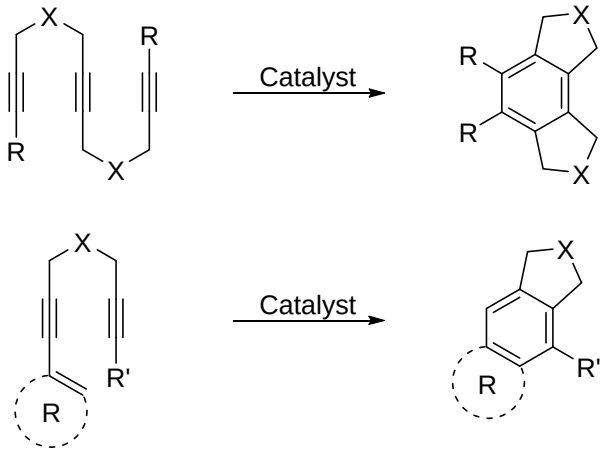
Low-Valent Manganese, Iron and Cobalt Catalysts for Hydrofunctionalization and Cycloaddition Reactions

Benedikt Baumann[a], Marko Hapke[a,b]

[a]Institute for Catalysis (INCA), Johannes Kepler University, A-4040 Linz, Austria
[b]Leibniz Institute for Catalysis e. V (LIKAT), D-18059 Rostock Germany

As cycloaddition reactions represent an atom-efficient way of constructing cyclic molecules, developing transition metal catalysts for this reaction type is of high interest [1-3]. In this work, we focus on manganese-, iron- and cobalt-based catalytic systems for [2+2+2] cycloadditions as well as for the Garratt-Braverman reaction [4]. Furthermore, the application of manganese catalysts for hydrofunctionalization reactions is reported.



[1] F. Fischer, M. Hapke *Eur. J. Org. Chem*. **2018**, 3193-3201

[2] P. Jungk, F. Fischer, M. Hapke, *ACS Catalysis* **2016**, *6*, 3025-3029

[3] P. Jungk, F. Fischer, I. Thiel, M. Hapke *J. Org. Chem.* **2015**, 80, 9781–9793

[4] P. Bhattacharya, M. Singha, E. Das, A. Mandal, M. Maji, A. Basak, *Tetrahedron Lett*. **2018**, 59, 3033-3051