



ALKYNE CYCLOTRIMERIZATION MEDIATED BY LOW-COORDINATE Fe(II) AND CO(II) COMPLEXES

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Earlier work in our research group has focused on the design, synthesis and reactivity of rhodium(I) complexes supported by an anionic tripodal phosphane with uncommon *pseudo-tetrahedral* coordination environments. The reactions between these complexes and alkynes was explored leading to organometallic compounds where the alkyne acts as a four-electron donor with one equivalent of alkyne, whilst with excess alkyne they were found to be efficient precatalyst for the regioselective dimerization of terminal alkynes to E-enynes.^[1] Inspired by these results and with the purpose of elucidating the role of the metal center and its coordination environment in alkyne oligomerization catalysis we turned to first-row two-coordinate complexes containing bulky ligands whose unique geometry can offer new opportunities in reactivity and catalysis.^[2]

Here in the present communication, we present two-coordinate cobalt(II) and iron(II) diaryl complexes stabilized by *m*-terphenyl ligands as efficient precatalysts for alkyne cyclotrimerization under mild reaction conditions. The importance of the reaction conditions and its connection to the chemoselectivity will be discussed.

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References

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