Synthesis and catalytic activity of triazolylidene iron(ii) piano stool complexes

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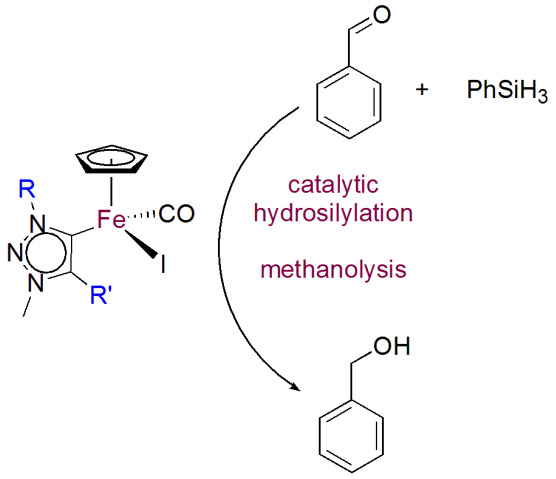
In recent years, mesoionic 1,2,3-triazolylidenes have emerged as a highly versatile subclass of N-heterocyclic carbene (NHC) ligands.[1] This NHC scaffold can be effectively tailored to specific functions as a consequence of the flexibility of the [3 + 2] cycloaddition of alkynes with azides. This feature, coupled with the ligands' strong σ-donor abilities have led to their diverse application in catalytic transformations.[2]

Despite the substantial economic advantages of iron based NHC catalysts vs the rare and heavy transition metals, examples are relatively scarce.[3] Herein we present a new class of triazolylidene iron(II) piano stool complexes and discuss their application in catalytic hydrosilylation reactions.



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[2] K. F. Donnelly, A. Petronilho, M. Albrecht, *Chem. Commun.*, **2013**, *49*, 1145-1159.
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