Dipartimento di Scienze Chimiche
Università degli Studi di Trieste

CONFERENZA

Transition metal chemistry with N-heterocyclic carbenes beyond classical avenues

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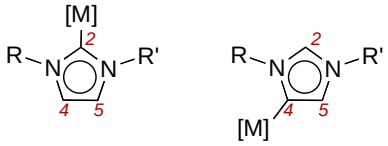
Aula A1, Dipartimento di Scienze Chimiche

In recent years, catalyst development has greatly profited from the discovery of *N*-heterocyclic carbenes as ligands for transition metals. Typically, such carbene complexes bind to the metal via C2. In some rare cases, non-classical carbene bonding and metallation at C4 has been observed.[1] Initially, formation of such complexes has been rather coincidental and few general procedures have been developed.



classical *non-classical*

carbene bonding

We will present rational synthetic approaches towards C4–bound carbene complexes and will discuss the unique properties imposed by these new carbene ligands.[2] A particular emphasis will be directed towards the electronic impact of these non-classical heterocyclic carbenes and the catalytic consequences for activating otherwise unreactive bonds and related reactivity patterns that emanate from such C4-carbene bonding.

[1] For reviews, see: P. L. Arnold, S. Pearson, *Coord. Chem. Rev.* **2007**, *251*, 596; M. Albrecht, *Chem. Commun.* **2008**, 3601.

[2] M. Heckenroth, E. Kluser, A. Neels, M. Albrecht, *Angew. Chem. Int. Ed.* **2007**, *46*, 6293; L. Yang, A. Krüger, A. Neels, M. Albrecht, *Organometallics* **2008**, *27*, 3061; P. Mathew, A. Neels, M. Albrecht, *J. Am. Chem. Soc.* **2008**, *130*, in press.

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