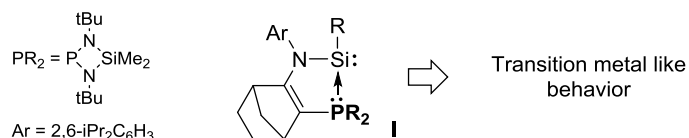


## Challenge: Mimicking transition metals using Si

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Silylenes are neutral silicon species featuring a divalent silicon atom with only six valence electrons and they are in general highly reactive transient species with a short life time. Since the discovery of first stable silylenes, several methods to stabilize such species have been developed. Among them, the use of a donating ligand, which thermodynamically stabilizes silylenes by electron donation but also increases the steric protections, have been recognized to be an efficient methodology to synthesize various types of silylenes.



Since several years, we are developing the chemistry of silylenes complexed with a phosphine ligand **I**. Of particular interest, they retain the silylene reactivity in spite of their high stability and present somewhat transition metal like behavior.<sup>1</sup> Here we will show their chemistry and some interesting perspectives.

- [1] a) R. Rodriguez, D. Gau, T. Kato, N. Saffon-Merceron, A. De Cózar, F. P. Cossío, A. Baceiredo, *Angew. Chem. Int. Ed.* **2011**, *50*, 10414; b) R. Rodriguez, Y. Contie, D. Gau, N. Saffon-Merceron, K. Miqueu, J.-M. Sotiropoulos, A. Baceiredo, T. Kato, *Angew. Chem. Int. Ed.* **2013**, *52*, 8437; c) R. Rodriguez, Y. Contie, Y. Mao, N. Saffon-Merceron, A. Baceiredo, V. Branchadell, T. Kato, *Angew. Chem. Int. Ed.* **2015**, *54*, 15276; d) R. Rodriguez, Y. Contie, R. Nougé, A. Baceiredo, N. Saffon-Merceron, J.-M. Sotiropoulos, T. Kato, *Angew. Chem. Int. Ed.* **2016**, *55*, 14355.