

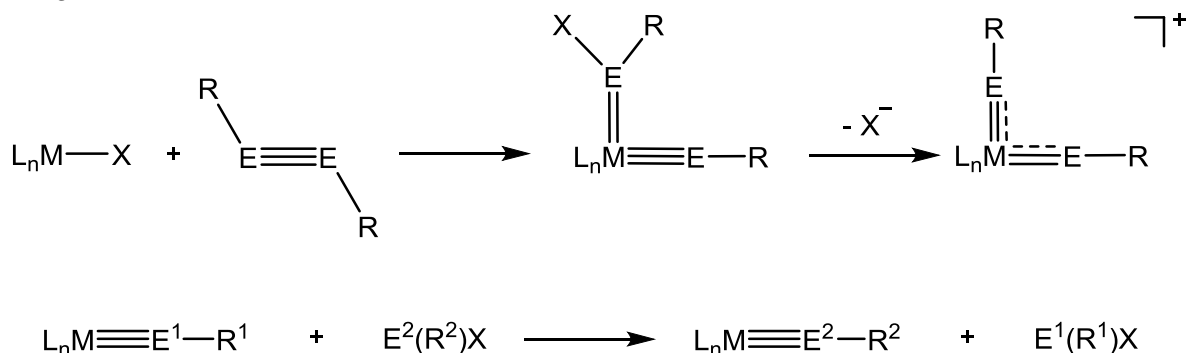


## Ditetrylnes as Ylidyne Transfer Reagents in Transition Metal Chemistry

A. C. Filippou<sup>[a]</sup>, T. Deckstein<sup>[a]</sup>, K. Tomer<sup>[a]</sup>, P. Palui<sup>[a]</sup>, J. Rump<sup>[a]</sup>

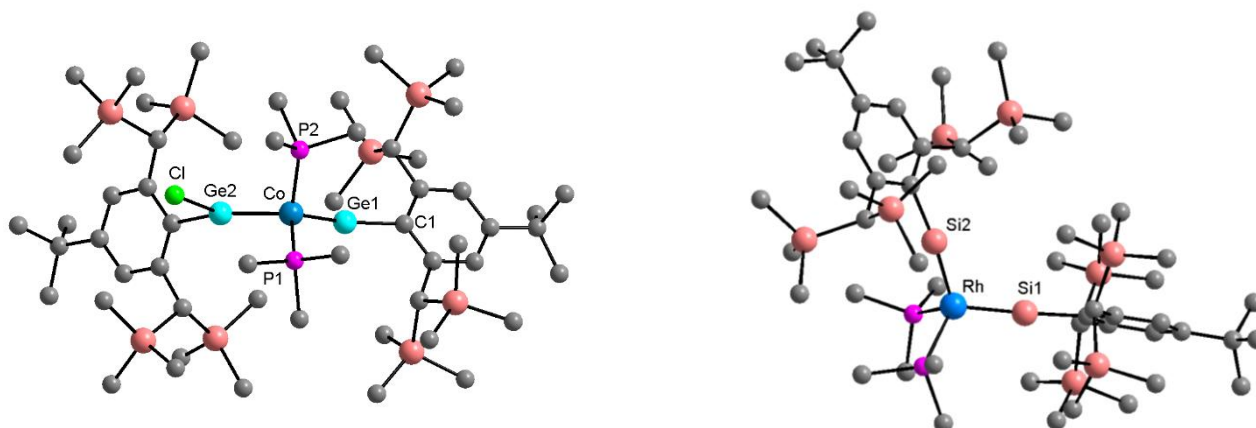
<sup>[a]</sup> *Institute of Inorganic Chemistry, University of Bonn, Gerhard-Domagk-Straße 1, D-53121 Bonn, Germany*

A series of novel reactions of ditetrylnes and tetrylidyne complexes will be presented in the talk. The reactions, shown schematically in Figure 1, involve metal-centred  $E \equiv E$  bond cleavages of ditetrelynes and metathetical  $M \equiv E$  bond exchanges ( $M$  = transition metal;  $E$  = Si, Ge, Sn). They provide an elegant route to first transition-metal tetrylidene-tetrylidyne and bis(tetrylidyne) complexes, selected examples of which are depicted in Figure 2.



$M$  = transition metal,  $X$  = halogen;  $E, E^1, E^2$  = Si - Sn;  $R, R^1, R^2$  = bulky organyl group

**Figure 1.** Metal-centred  $E \equiv E$  bond cleavage of ditetrylnes and metathetical  $M \equiv E$  bond exchange reactions.



**Figure 2.** Molecular structure of  $[\text{Co}(\text{GeTbb})(\text{GeClTbb})(\text{PMe}_3)_2]$  (left) and  $[\text{Rh}(\text{SiTbb})_2(\text{PMe}_3)_2]^+$  (right).

The electronic structure, electrochemical properties and follow-up chemistry of the products will be illustrated using selected examples.