

## Reactive Ge=Si double bond responsible for an intramolecular [2+4] cycloaddition of a phenyl ring

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In the last decade, low valent group 14 compounds gain growing interest, as they appeared to be highly reactive towards small molecules. In this way, these systems are further investigated for the application as catalysts, as they are in part mimicking the behavior of transition metals but are less toxic and more abundant.<sup>[1]</sup>

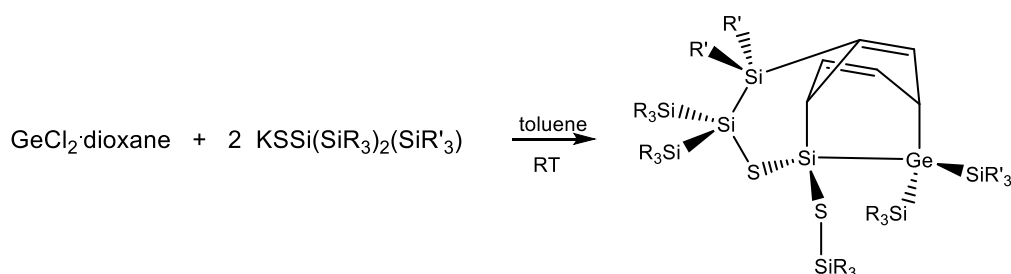


Fig.1: Synthesis of compound **1**

Recently, we presented the reaction system  $\text{GeCl}_2 \cdot \text{dioxane} / \text{LiSC}(\text{SiMe}_3)_3$ , where different products can be obtained by slightly changing the reaction conditions. This reaction systems already showed a high reactivity and was capable for the C-H activation of thf for example.<sup>[2]</sup> By switching to other thiolate substituents, completely different reactivities can be observed. We now present the reaction of  $\text{GeCl}_2 \cdot \text{dioxane}$  with the thiolate  $\text{KSSi}(\text{SiR}_3)_2(\text{SiR}'_3)$ , which shows an unexpected reactivity (Fig. 1). The formation of compound **1** must proceed via several rearrangement steps, which is underlined by quantum chemical calculations as well as NMR spectroscopic measurements.<sup>[3]</sup>

**Literature:** [1] P. P. Power, *Nature* **2010**, 463, 171; C. Weetman, S. Inoue, *ChemCatChem* **2018**, 10, 4213-4228; T. J. Hadlington, M. Driess, C. Jones, *Chem. Soc. Rev.* **2018**, 47, 4176-4197. [2] T. Kunz, C. Schrenk, A. Schnepf, *Chem. Eur. J.* **2019**, 25, 7210-7217. [3] T. Kunz, C. Schrenk, A. Schnepf, *submitted*.