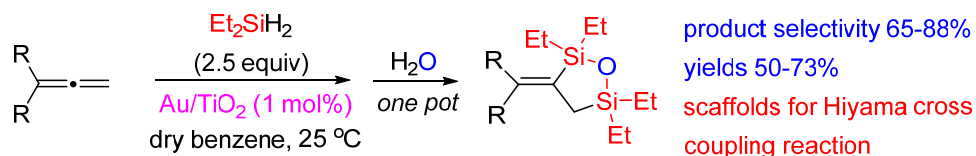


## REGIOSELECTIVE DISILYLATION OF ALLENES BY DIHYDROSILANE CATALYZED BY GOLD NANOPARTICLES

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We have previously reported the regioselective addition of the  $\sigma$  Si-H bond of monohydrosilanes on the more substituted double bond of allenes catalyzed by Au nanoparticles, forming hydrosilylation products.[1] In this study we present the Au nanoparticle-catalyzed regio- and site selective dehydrogenative disilylation on the less substituted double bond of allenes by a dihydrosilane ( $\text{Et}_2\text{SiH}_2$ ).[2] This mode of reactivity is unprecedented, as all known examples of metal-catalyzed reactions between dihydrosilanes and allenes afford the typical hydrosilylation products.[3] Treatment of the disilylation products with  $\text{H}_2\text{O}$ , in an one pot operation also catalyzed by  $\text{Au/TiO}_2$ , leads to 3-alkylidene-1,2,5-oxadisilolanes, which proved to be excellent scaffolds for the stereoselective synthesis of stereodefined aryl alkenes under Hiyama-type cross coupling conditions.



[1] Kidonakis, M.; Stratakis, M. *Org. Lett.* **2015**, *17*, 4538.

[2] Kidonakis, M.; Kotzabasaki, V.; Vasilikogiannaki, E.; Stratakis, M. *Submitted*.

[3] a) Tafazolian, H.; Schmidt, J. A. R. *Chem. Commun.* **2015**, *51*, 5943. b) Asako, S.; Ishikawa, S.; Takai, K. *ACS Catal.* **2016**, *6*, 3387. c) Wang, C.; Teo, W. J.; Ge, S. *Nat. Commun.* **2017**, *8*, 2258.