

CATIONIC 1,2-SILYL SHIFT IN PROPARGYL SILANES

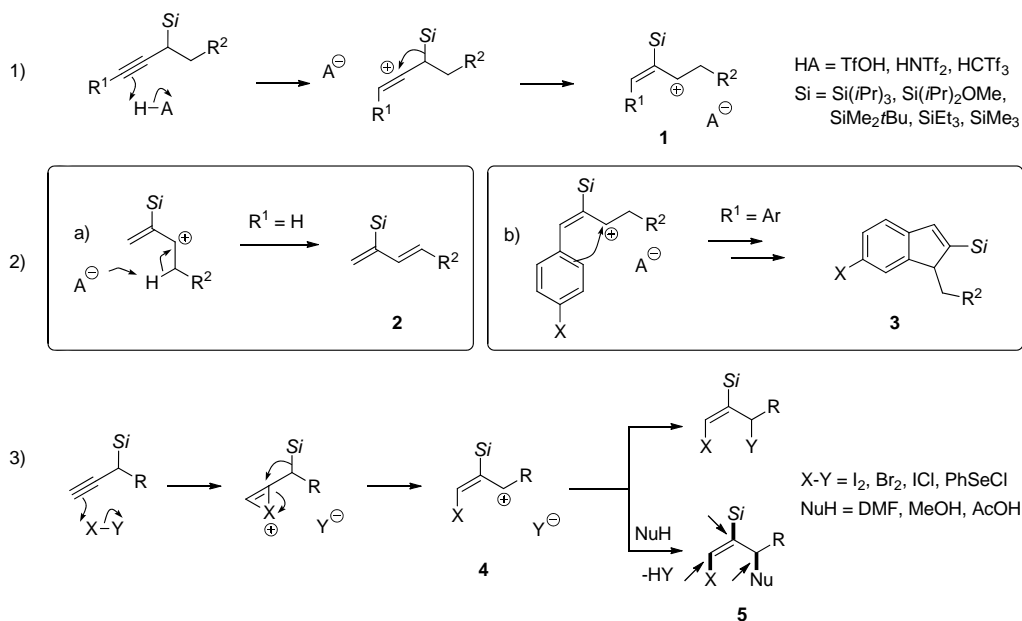
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Transformations involving non-vertical stabilization type 1,2-silyl shift in propargyl silanes give access to multi-functionalized products containing useful alkenyl silane moiety. Apart from the early reports of Danheiser [1] and Evans [2], this approach is still largely underdeveloped.

We have found that protonated propargyl silanes undergo 1,2-silyl shift, which results in an intermediate allyl carbenium ion **1**. We demonstrate two possible reactivities of the reactive intermediate – elimination to give silyl dienes **2** and intramolecular Friedel-Crafts reaction to give silyl indenes **3** [1].

Using electrophilic halogen reagents such as *N*-bromosuccinimide the intermediate carbenium ion **4** can be intercepted by external nucleophile, i. e., solvent. This strategy allows for preparation of compounds **5** with up to 3 potential handles for further functionalization via palladium catalyzed cross-coupling chemistry.



[1] Danheiser, R. L.; Dixon, B. R.; Gleason, R. W. *J. Org. Chem.* **1992**, 57 (23), 6094–6097.

[2] Evans, D. A.; Aye, Y. *J. Am. Chem. Soc.* **2007**, 129 (31), 9606–9607.

[3] Puriņš, M.; Mishnev, A.; Turks, M. *J. Org. Chem.* **2019**, 84 (6), 3595–3611.