

Latvijas Universitātes starptautiskā zinātniskā konference

KĪMIJAS SEKCIJA

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CATIONIC REARRANGEMENT REACTIONS OF PROPARGYL SILANES

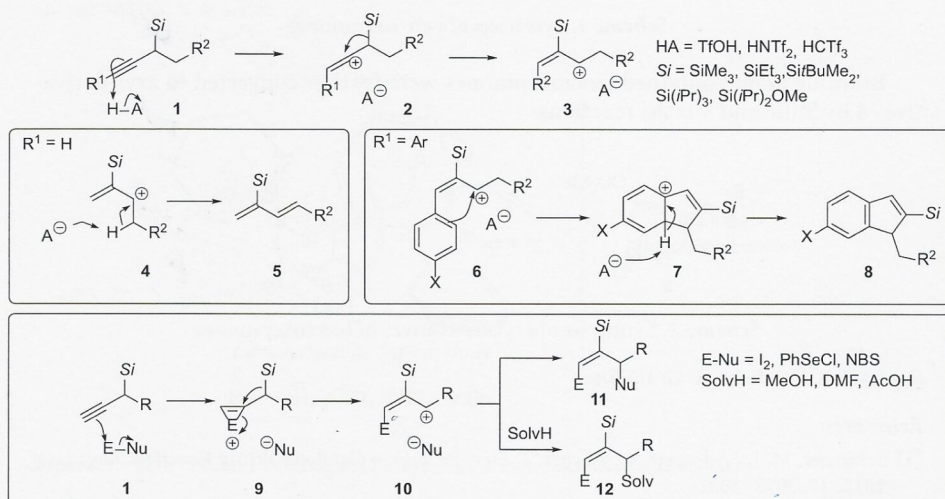
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Hosomi-Sakurai type reactivity of propargyl silanes towards electrophiles has been well documented. In some cases, 1,2-silyl shift in the intermediate β -silyl vinyl carbenium ion has been observed [1]. Here we report the generation of allyl carbenium ions from propargyl silanes by electrophilic activation. Three reactivity pathways are operational. Deprotonation to give silyl dienes, intramolecular cyclisation to give silyl indenenes and intermolecular addition to give allyl functionalized vinyl silanes.

Protonation of the triple bond of propargyl silanes with strong Brønsted acids results in formation of allyl carbenium ions **3** (Scheme 1). If $R^1 = H$, deprotonation gives silyl dienes **5**. In aryl substituted carbenium ions **6** both deprotonation and intramolecular attack to give silyl indenenes **8** can occur. Selectivity is influenced by polarity of the solvent, electronic properties of aryl substituents and the Brønsted acid used.

Activation of the triple bond with electrophilic halogen reagents results in allyl carbenium ions **10**. Addition of the conjugate nucleophile gives allyl functionalized vinyl silanes **11**. If a nucleophilic solvent is used, formation of vinyl silanes **12** is observed.



Scheme 1. Electrophilic activation of propargyl silanes.

Supervisor: prof., Dr. chem. M. Turks

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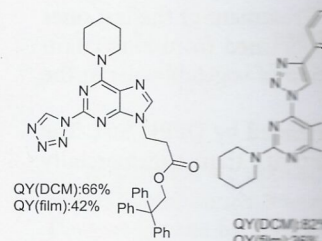
SYNTHESIS AND FUNCTIONALIZATION OF CONJUGATES

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Earlier we reported the synthesis of 2/6-trisubstituted purine derivatives and the synthesis of 2/6-trisubstituted purine derivatives. Different electron-donor and electron-acceptor groups were used to modify the purine structure that could lead to increased amorphous properties and improved photophysical capabilities [3].

In this work, the synthesis of 2/6-trisubstituted purine derivatives with an amine electron-donor group and a carbonyl electron-acceptor group at the Purine N(9) position was reported. The fluorescent properties and quantum yields in DCM were studied.



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