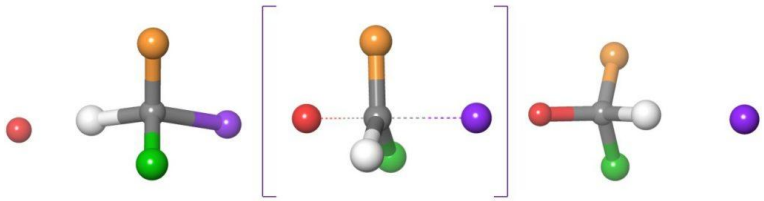
September 25-26, 2025
Riga, Latvia



Paul Walden 14th Symposium on Organic Chemistry

Latvian Institute of Organic Synthesis

1862
RIGA TECHNICAL UNIVERSITY

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D-10

Copper-catalyzed arylation of propargyl silanes with iodanes featuring the 1,2-silyl shift

Rasma Kroņkalne, Māris Turks*

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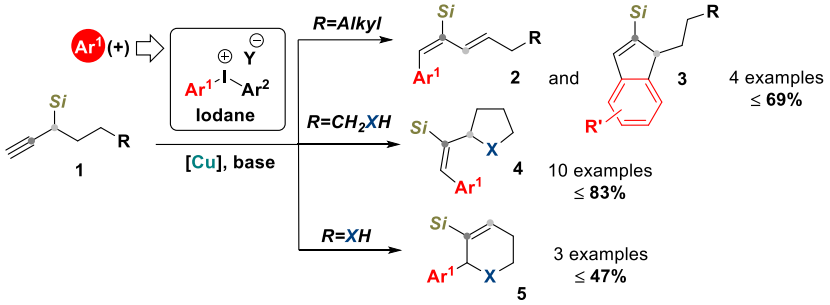
Following our previous studies on propargyl silane functionalization,[1] we now explore the arylation of propargyl silanes **1**, using iodanes as formal carbon electrophiles. In the absence of a propargylic silyl group, transition metal-catalyzed (Cu, Pd) approaches typically result in terminal alkyne C(sp)–H arylation.[2] In contrast, propargyl silanes, depending on C-skeleton length, undergo either 1,3- or 1,1-carbodifunctionalization (Scheme 1). In substrates containing an internal nucleophile, this leads to the formation of 5-membered heterocycles **4**, containing a styryl side chain, or 6-membered heterocycles **5**. In the case of aliphatic propargyl silanes, an arylation - β-H elimination event occurs, leading to aryl dienes **2** and indenes **3**. The introduction of a variety of (hetero)aromatic groups with electron-donating and electron-withdrawing substituents was studied for this reaction.



Scheme 1. Cu-catalyzed arylation of propargyl silanes featuring iodanes.

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