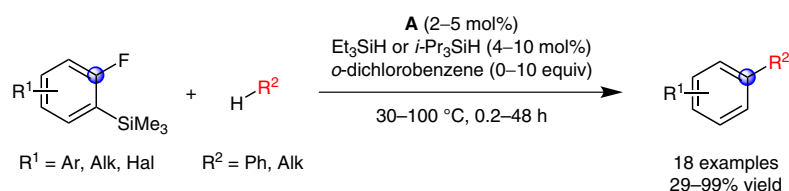
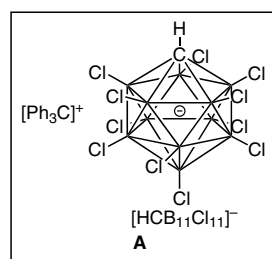
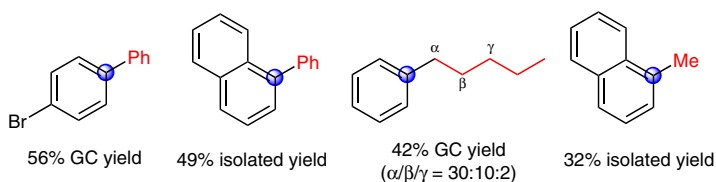


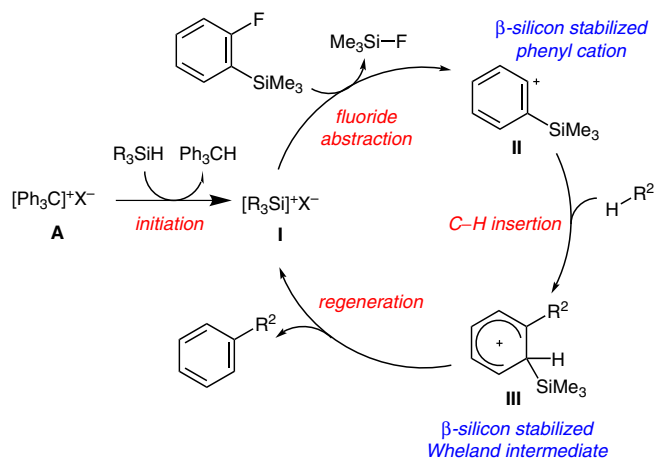
Silylium Ion Catalyzed C–H Arylation of Hydrocarbons



Selected examples:



Proposed catalytic cycle:



Significance: The Nelson group reports a silylium ion catalyzed arylation of $C(sp^2)$ –H and $C(sp^3)$ –H bonds. By employing 2–5 mol% of precatalyst **A** in the presence of a trialkylsilane initiator, various aliphatic and aromatic hydrocarbons were arylated with variously functionalized trimethylsilyl fluorobenzenes.

Comment: Previously, catalytic reactions involving highly reactive phenyl cation equivalents were limited to intramolecular transformations. The authors describe the formation of a β -silylon-stabilized phenyl cation (equivalent) **II**, which is proposed to subsequently undergo intermolecular insertion into the C–H bond of a hydrocarbon present in large excess. Desilylation of the resulting Wheland intermediate furnishes the product and regenerates the catalytically active species **I**.