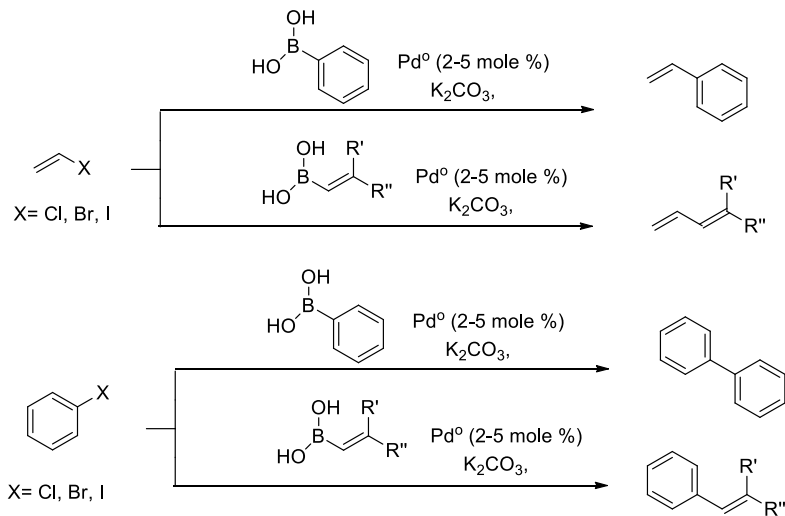


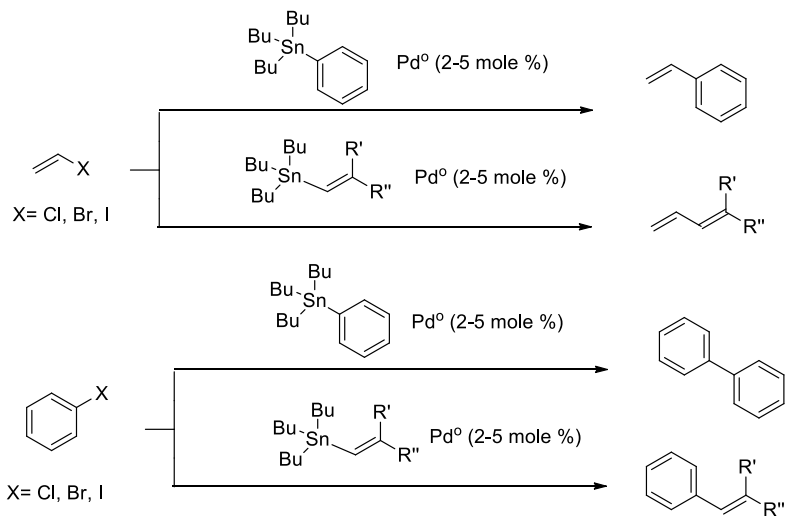
2010 Nobel Prize in Chemistry:

was shared by Richard F. Heck, Ei-ichi Negishi and Akira Suzuki for Pd mediated coupling reactions. The Nobel Prize probably would have also been shared with John Stille, but he died in 1989 in a plane crash.

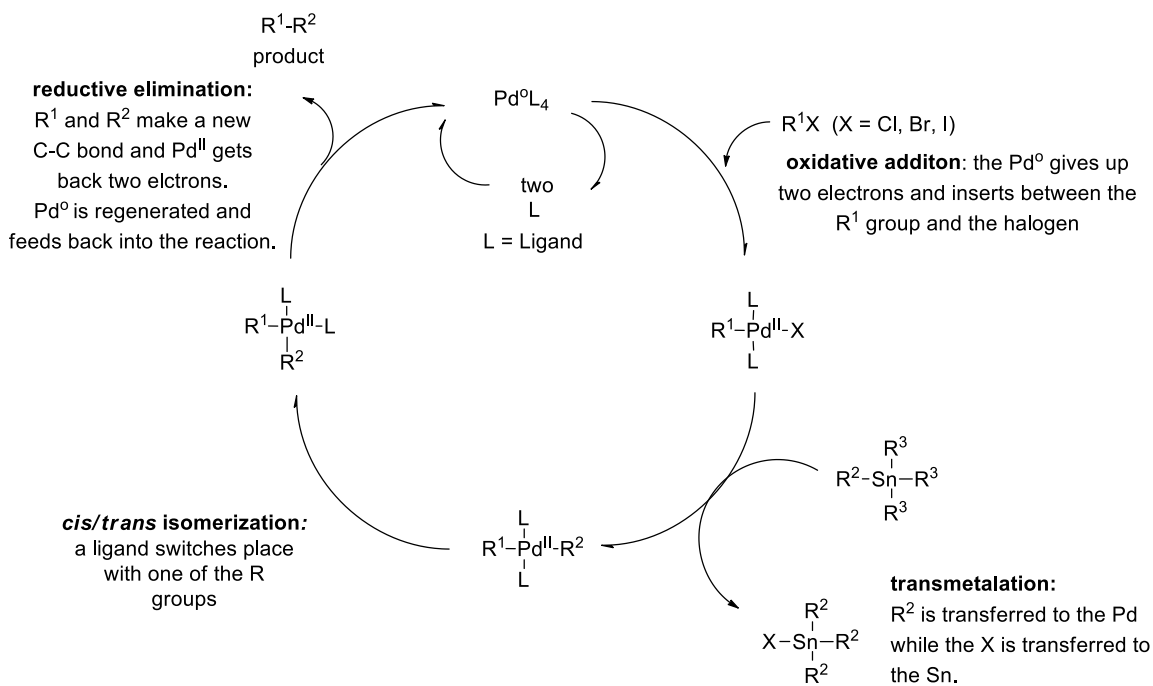
Suzuki reaction (coupling) is a palladium-catalyzed cross coupling between aryl organoboronic acid or vinylic organoboronic acid and an aryl halide or vinylic halides.



Stille reaction (coupling) is a palladium-catalyzed cross coupling between aryl stannane or vinylic stannane and an aryl halide or vinylic halides.

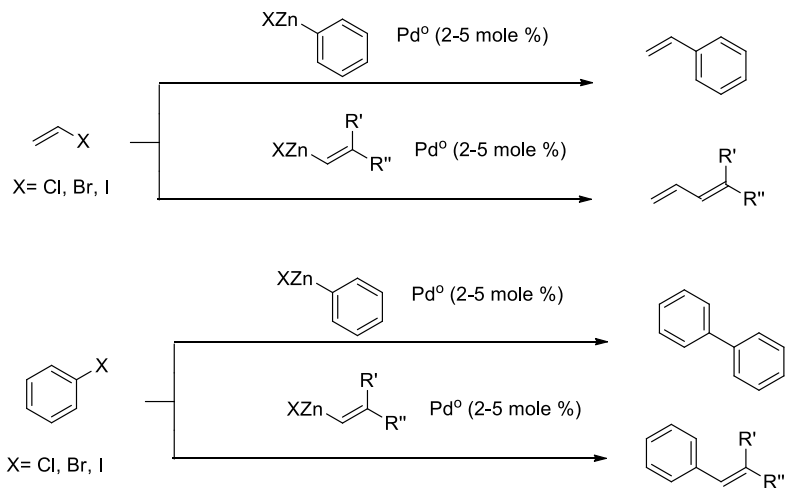


General mechanism for a Stille Reaction



The group that is sp^2 hybridized is usually transferred quicker.

Negishi reaction: (coupling) is a palladium-catalyzed cross coupling between aryl organozinc compounds or vinylic organozinc compounds and an aryl halide or vinylic halides.



Heck Reaction: See pages 643-645 of the 8th edition of Carey's Organic Chemistry