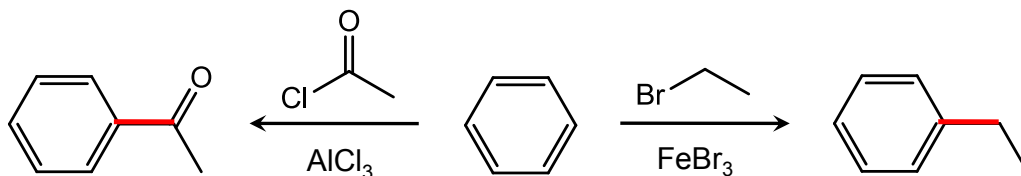
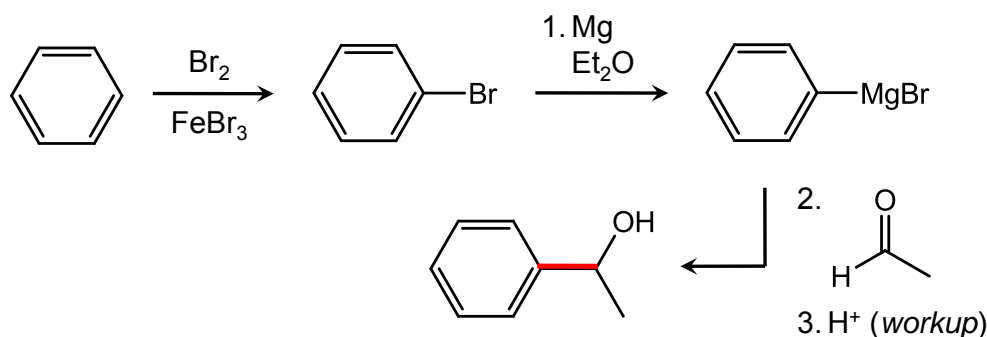


Comparing C-C Bond-Forming Reactions

Review: Friedel-Crafts alkylation & acylation:

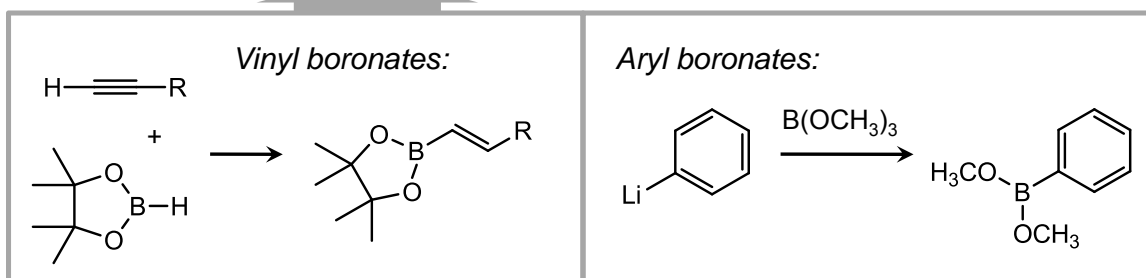
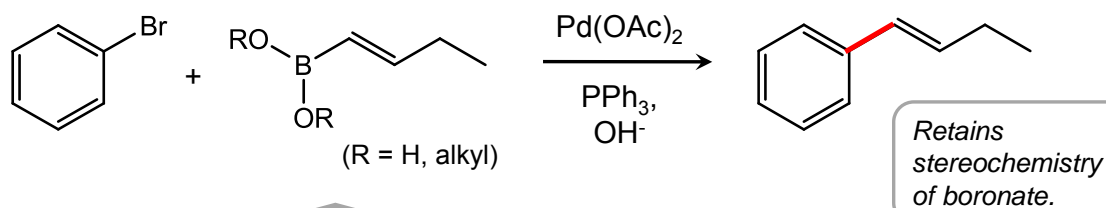


Review: Grignard and organolithium reagents.



Milder C-C Bond Forming Reactions

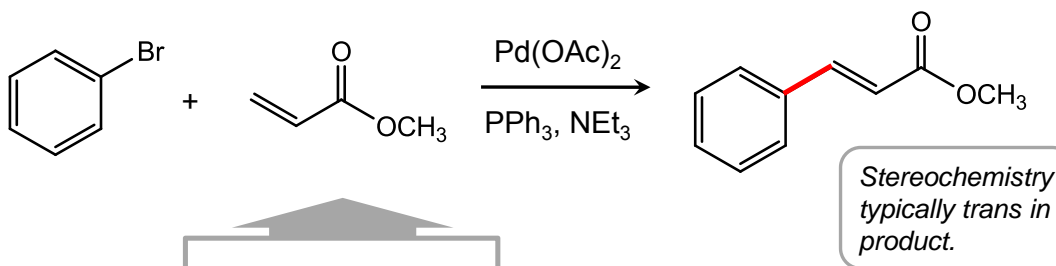
The Suzuki Reaction: Combines an aryl or vinyl halide with an aryl or vinyl boronate.



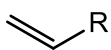
Can also be done with triflates instead of halides. Other Pd catalysts (PdL_2) possible.

Milder C-C Bond Forming Reactions

The Heck Reaction: Combines an aryl or vinyl halide with a (usually electrophilic) alkene.



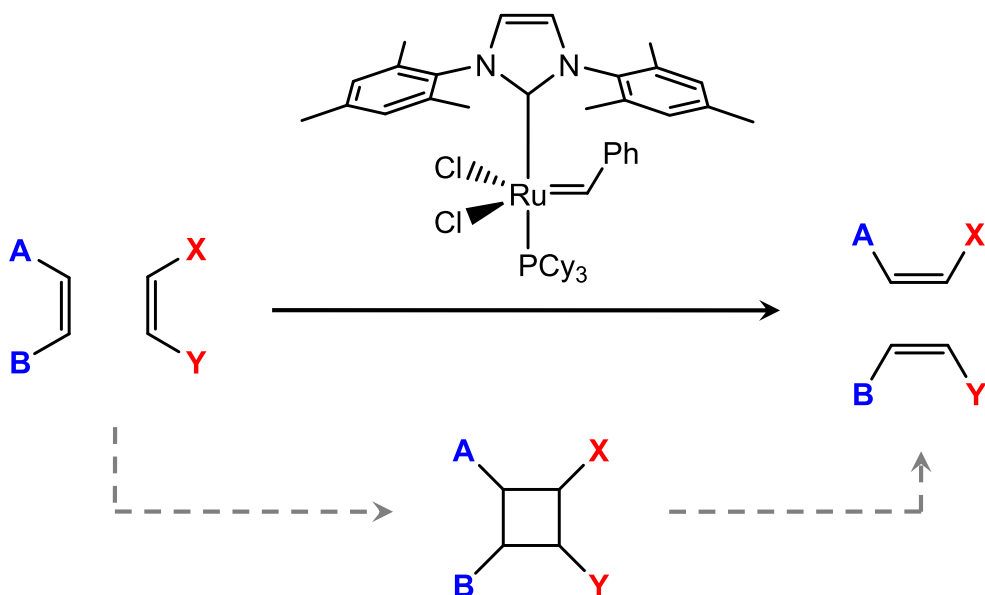
Many possible monosubstituted alkene reactants.



$R = H, CN, \text{amide}, \text{ester}, \text{aldehyde}, \text{ketone}$

Olefin Metathesis

Exchanges C=C double-bonded partners.



Olefin Metathesis

Exchanges C=C double-bonded partners.

Example:

