

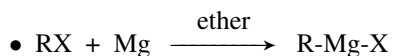
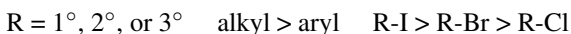
CHEM 20481 - Basic Organic Chemistry - Chapter 14 Review Organometallic Compounds

Significance

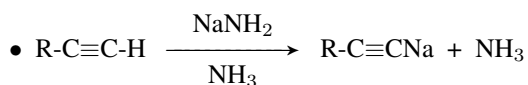
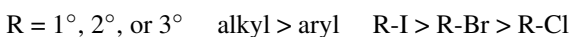
Organometallic compounds contain a metal-carbon bond. These bonds are significantly polar, with the carbon atom having a partial negative charge.



Preparation of Organometallic Compounds



Grignard reagent

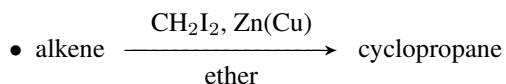


(See Alkyne chapter)

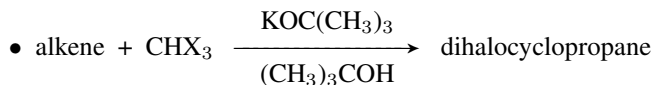


R usually 1°

Gilman coupling



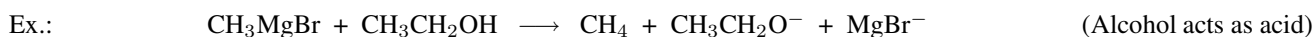
Simmons-Smith reaction



X usually Br or Cl

Acid/Base Properties

Organometallic compounds are strongly basic, and will react instantly with compounds (including solvents) that contain **O-H**, **S-H**, or **N-H** groups.



Organometallic reactions with Carbonyls



R-M = Grignard, organolithium, or acetylenic anion



Two equivalents of 'R' added (alkoxide acts as leaving group)