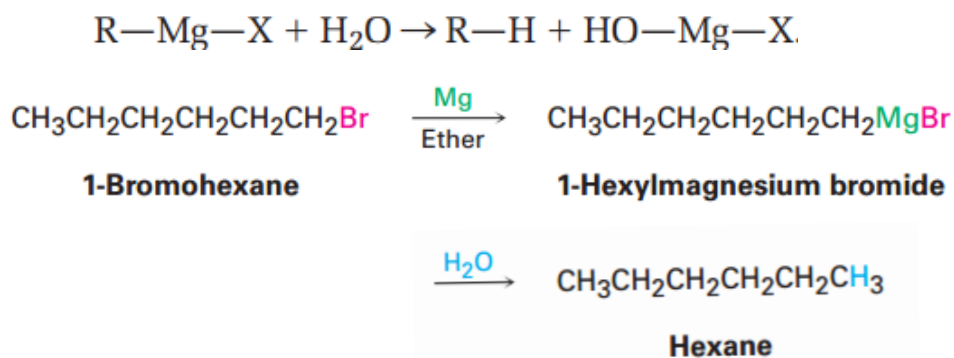


Organometallic compounds of Mg and Li: Use in synthesis of organic compounds

A Grignard reagent is formally the magnesium salt, $R_3C^{-}MgX$, of a carbon acid, R_3C-H , and is thus a carbon anion, or **carbanion**. But because hydrocarbons are such weak acids, with pK_a 's in the range 44 to 60, carbon anions are very strong bases. Grignard reagents must therefore be protected from atmospheric moisture to prevent their being protonated and destroyed in acid-base reactions



Use in synthesis of organic compounds:

Grignard reagents themselves don't occur in living organisms, but they serve as useful carbon-based nucleophiles in several important laboratory reactions. In addition, they act as a simple model for other, more complex carbon-based nucleophiles that are important in biological chemistry.