– Cyclopentadienyl metal hydrides can react in 3 different ways

1. **Protonation**, governed by the Lewis basicity of the central metal

2. **Using Lewis acids like BF**, which can add to cyclopentadienyl metal halides

3. **Adduct formation**, when moieties associate through hydride bridges. The formation of Cp₂MH units which then dimerize in various ways is a *characteristic* feature of electron-poor metallocenes, where the number of valence electrons is *less* than 16

– **Cyclopentadienyl metal halides** can be synthesized by Wilkinson’s reaction

– **Cyclopentadienyl metal halides** can react to form Cp-metal alkyls/Cp-metal aryls:

**Ring Slippages**

Cp rings can move from being pentahapto (bound 5 carbons) to being trihapto (bound through 3 carbons).