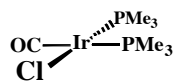


Reactions of Carbonyl Complexes

- **Dissociative substitution**
 - Heat
 - Light
 - Amine N-oxide
- **Associative substitution**
- **Attack by external nucleophiles**
- **Attack by internal nucleophiles**

Organometallic Lewis Acid?

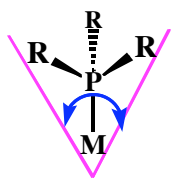


16 electron

open coordination sites

Lewis Acid

Cone Angles



electronic effects
steric effects

R	Angle
H	87
F	104
OMe	107
Me	118
Et	132
Ph	145
Cy	170
t-Bu	182
C ₆ F ₅	184
mesityl	212

Ligand Substitution

Pathways:

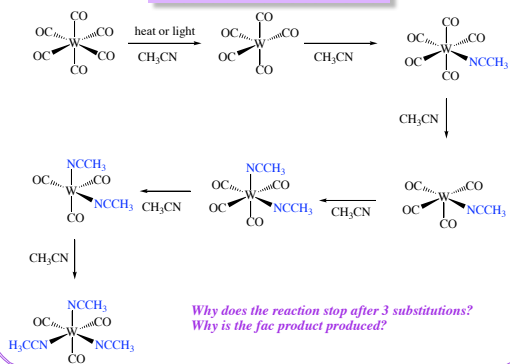
(a) Dissociative

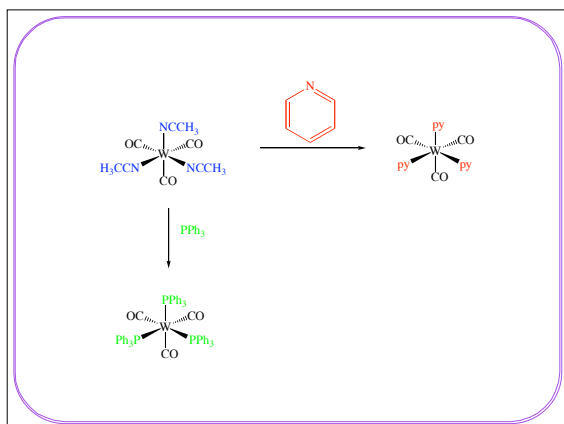
(b) Associative

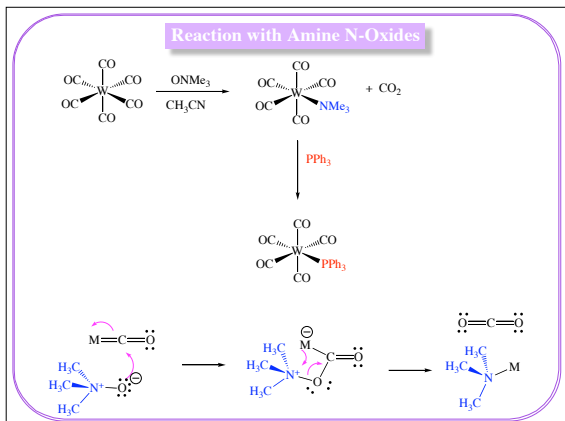
(c) Interchange

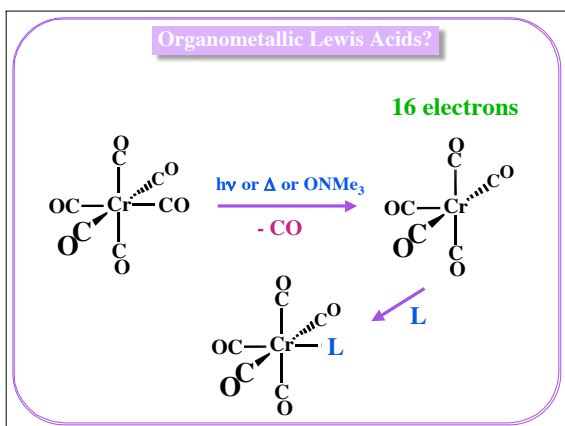
(d) Mixed

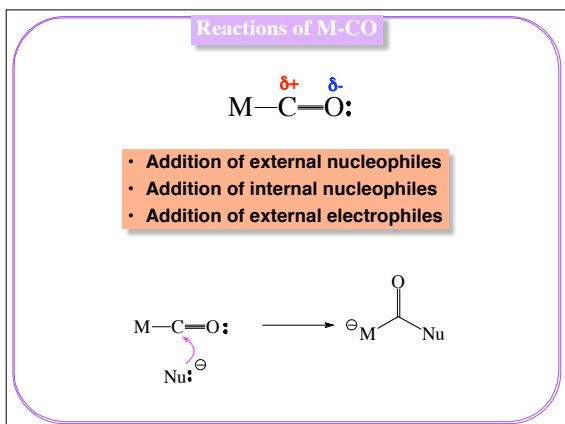
Dissociative Substitution



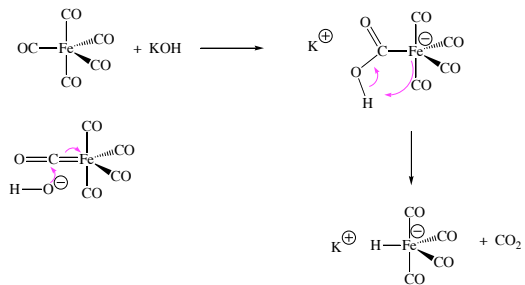




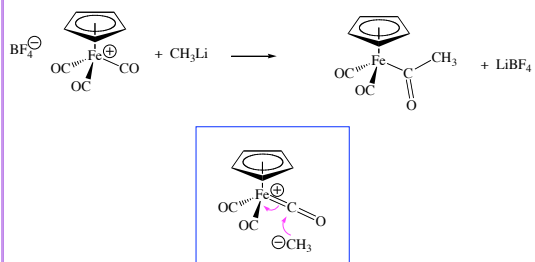




Reaction with hydroxide



Reaction with methyl lithium



Reaction with internal nucleophiles

