

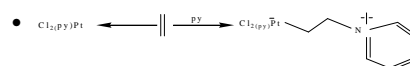
Nucleophilic and electrophilic addition in organometallic compounds

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- Types of Reactions
- The attacking reagent is either electrophile or Nucleophile.
- Nucleophilic attack is favoured when the metal fragment is poor pi-base or good sigma-acid.
- Electrophilic attack is favoured when metal is weak sigma acid and strong pi-base.

- Nucleophilic attack
- The complex bears net positive charge or having electron withdrawing Ligands.
- The one of the attached ligand is depleted of electron density in such a case Nucleophile can attack Ligand.

Nucleophilic addition



Nucleophilic addition to CO

CO is very sensitive to Nucleophilic attack when coordinated to metal to low pi-basicity. Co carbon is positively charged because L-to-M sigma donation which is not compensated by back donation.

The CO pi-star orbital are open to attack by Nucleophile.

