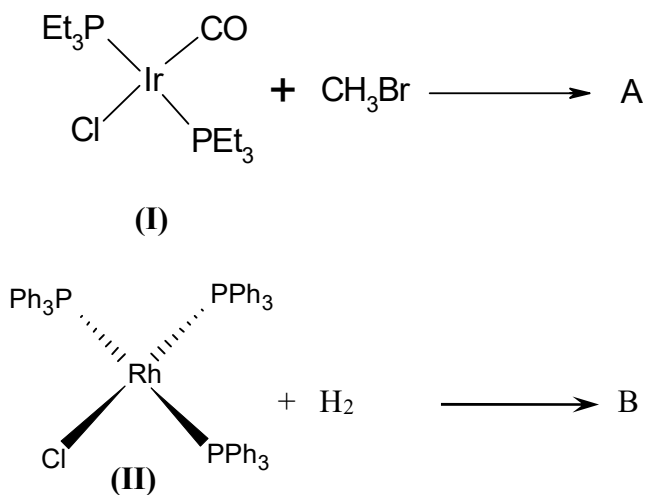


Tutorial IV (Organometallics): Aut-17-18

Q1. “CO” is a π acid ligand, explain the statement using simple orbital overlap diagram.

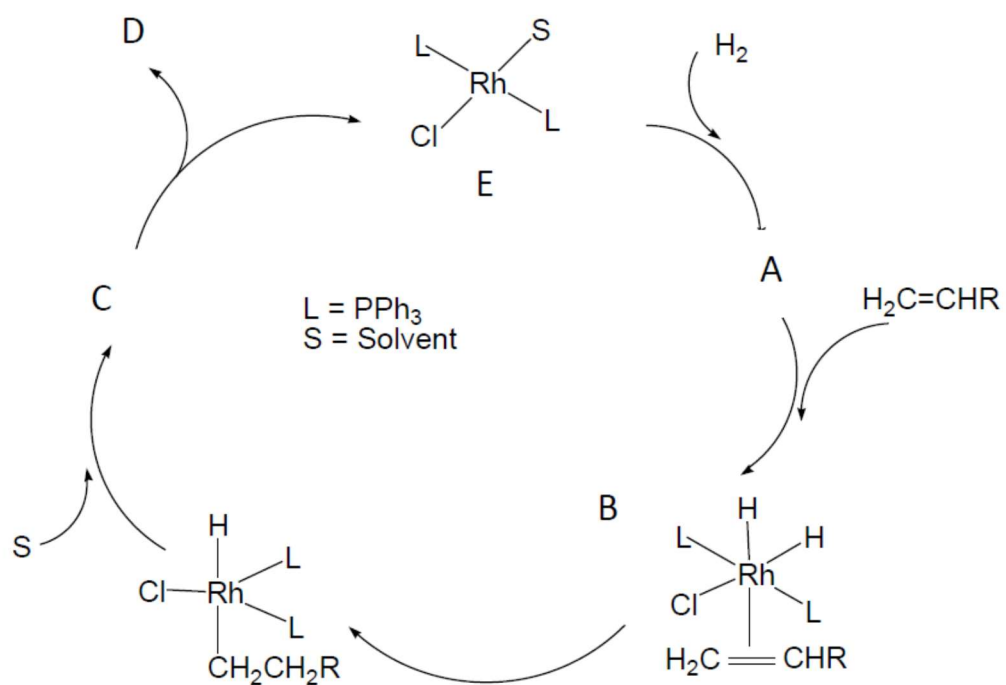
Q2. For each of the given complexes (a) determine the number of electrons; (b) Find out the oxidation state of the metal, (c) count the total electron present in each complex.

Q3. Write down the products of the following reactions (A and B) and calculate the EAN for the complexes (I and II).



Draw the structure of pre-catalyst used in Monsanto acetic acid process.

Q4. Identify the missing products with the structures A, C and D; and also count the EAN (effective atomic number) on the compound B.



Q5. Show the 'ligand association' and 'migration/insertion' catalytic steps of Wilkinson's catalyst. Calculate EAN for both the reactants and products.