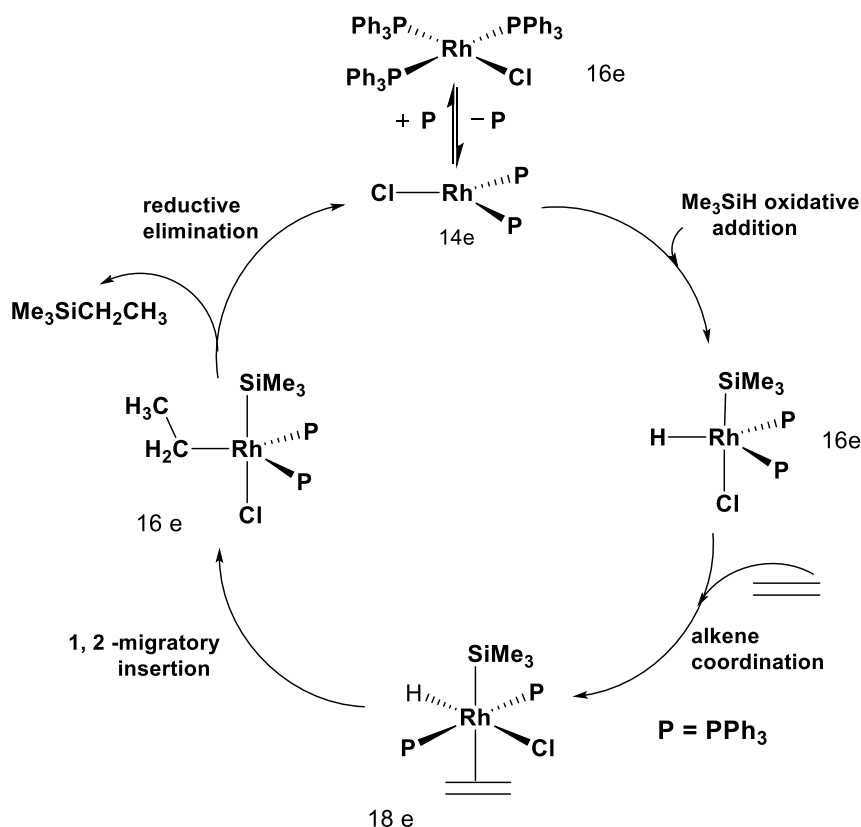
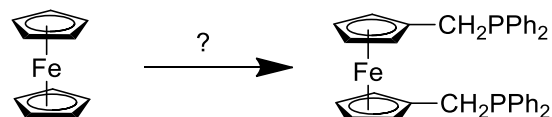


Final Exam: Fall-2017; Inorg (10 marks)

- Which one of the given complex (a) and (b) will undergo ligand substitution faster with PPh_3 ? Explain why? (1+2)
 a) $\text{V}(\text{CO})_6$ b) $[\text{V}(\text{CO})_6]^-$
- Wilkinson's catalyst catalyses the reaction of trimethylsilyl hydride (Me_3SiH) with ethylene to give ethyltrimethylsilane (Me_3SiEt). Show the steps involved in the catalytic cycle and also mark the electron count and type of the reactions at each step. (2+1+1)



- Bis(diphenylphosphinomethyl)ferrocene) is a useful chelating biphosphine ligand. Suggest a synthetic scheme for the preparation of this compound using ferrocene as the starting material. (3)



A.

