

Introduction to Organometallic Chemistry
A. G. Samuelson

V) Questions based on η^m (m=odd) ligands

22. Metal-allyls - η^3 complexes-synthesis, bonding

23. Metal-allyls - η^3 complexes-fluxionality, reactivity

24. C-C single bond forming reactions

1. Choose the right metal complex for making an allyl complex from the organic fragment.
 - a. allyl tosylate
 - b. allyl magnesium bromide
2. Number the carbon atoms and hydrogen atoms in an allyl complex and distinguish the various fluxional processes that are possible.
3. Why is the instructor comparing the allyl group to a chemical chameleon?
4. $C_4H_6 + Ni(C_3H_5)_2 + nPPh_3 \longrightarrow$
 - a. What is the product if no PPh_3 is present ?
 - b. Why does the product change when PPh_3 is introduced?