

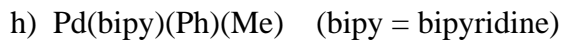
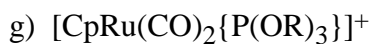
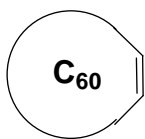
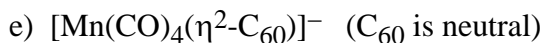
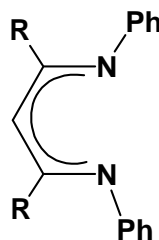
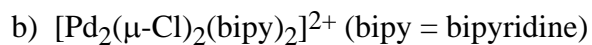
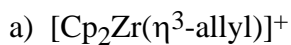
Organometallic Chemistry - 4571

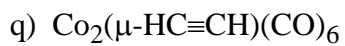
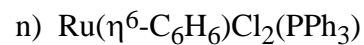
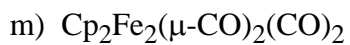
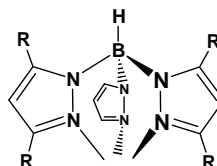
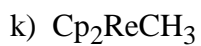
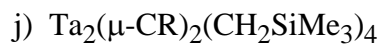
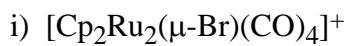
Name: _____

Homework # 1: Due: Sept 25, 2008

Group: _____

1. (38 pts) Sketch out a structure showing the geometry about the metal center as accurately as possible and clearly show the electron counting for the complexes below. Phosphine ligand abbreviations are defined in your notes (see the phosphine ligand section).





2. (12 pts) Propose an *18e- structure* for the following metal/ligand combinations. Use at least one of each metal and ligand listed. Complexes should be neutral. Don't use more than 2 metal centers. Show your electron counting. Ligands are shown without charges, please indicate the proper ligand charge in your electron counting. Draw a reasonable structure showing the geometry about the metal center(s).

a) Hf, Cp, H, PMe₃

b) Nb, O, OMe, NR, Me₂NCH₂CH₂NMe₂

c) Mo, Cp, CH₃

d) Re, Tp (tris(pyrazol)borate), allyl, NR₂