

Group 8: Ruthenium and Osmium (& Hassium)

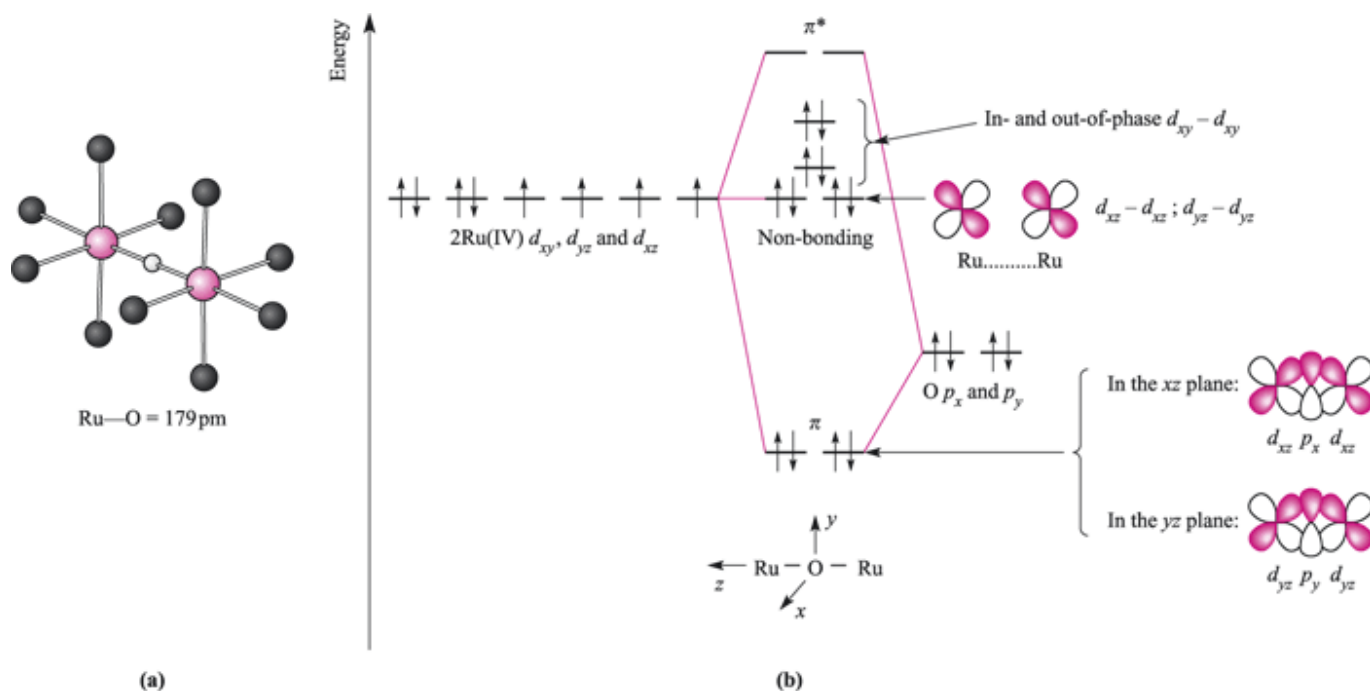
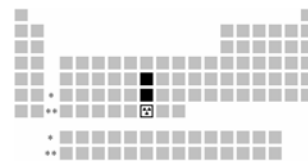
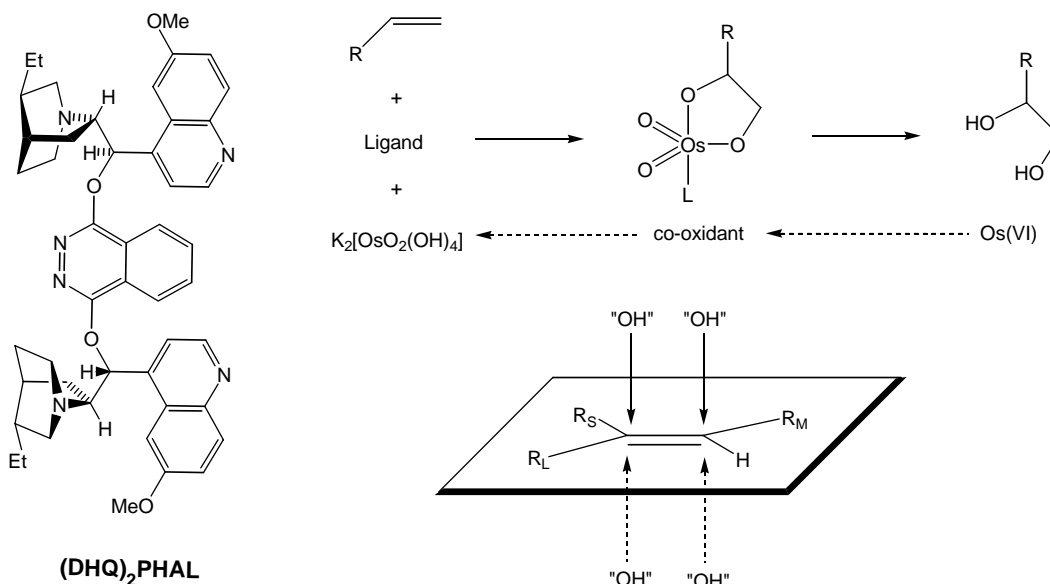


Figure 8.1 (a) the structure of $[\text{Ru}_2(\mu\text{-O})\text{Cl}_{10}]^{4-}$; (b) a partial MO diagram for the interaction between the Ru d_{xy} , d_{xz} and d_{yz} orbitals of the Ru^{IV} centers with the p_x and p_y orbitals of the O atom to give two bonding, two antibonding and four non-bonding orbitals.



Scheme 8.1 Sharpless asymmetric dihydroxylation. Depending on the chirality of the ligand (just one enantiomer is shown) different “faces” of the alkene are preferred.