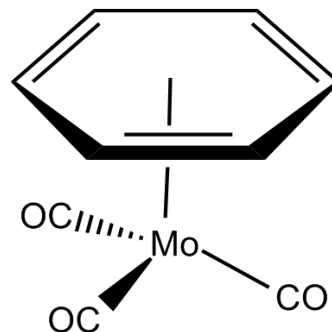


Chem531

Prelab 7 – Metal Arene Complex

1. What is the geometry around the central Molybdenum atom in the complex below? Justify your answer. (2 pts)



2. Determine the point group for the molybdenum complex above. (2 pts)
3. Describe how the orientation of carbonyls about a central metal (M) can influence the IR spectrum in the $\sim 2000\text{ cm}^{-1}$ region for a square planar $L_2M(CO)_2$ complex. (3 pts)

4. Rank the complexes below in order of **decreasing** $\nu_{\text{sym}(\text{CO})}$. Rationalize your rankings. (3 pts)

