

Sept. 12th Worksheet—Tolman Parameters and predictions.

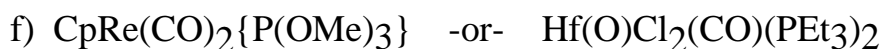
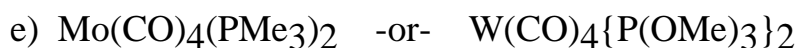
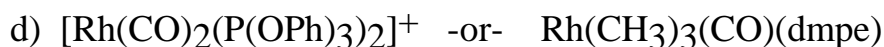
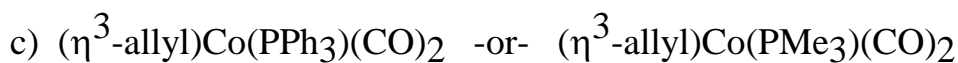
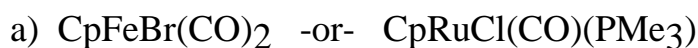
1. Order the following phosphines from largest to smallest:



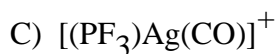
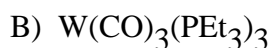
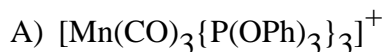
2. Order the following phosphines from best π -acceptor to worst π -acceptor:



3. For each of the following pairs of metal complexes, which should have the *highest* average carbonyl IR stretching frequency. **Why?**



4. Which of the following complexes will have the *highest* ν_{CO} stretching frequency in the IR? Why?



5. Which of the following complexes will have the *lowest* ν_{CO} stretching frequency in the IR? Why? A) $\text{Ni(CO)(PMe}_3)_3$ B) $\text{Fe(CO)}_4(\text{PPh}_3)$ C)

