

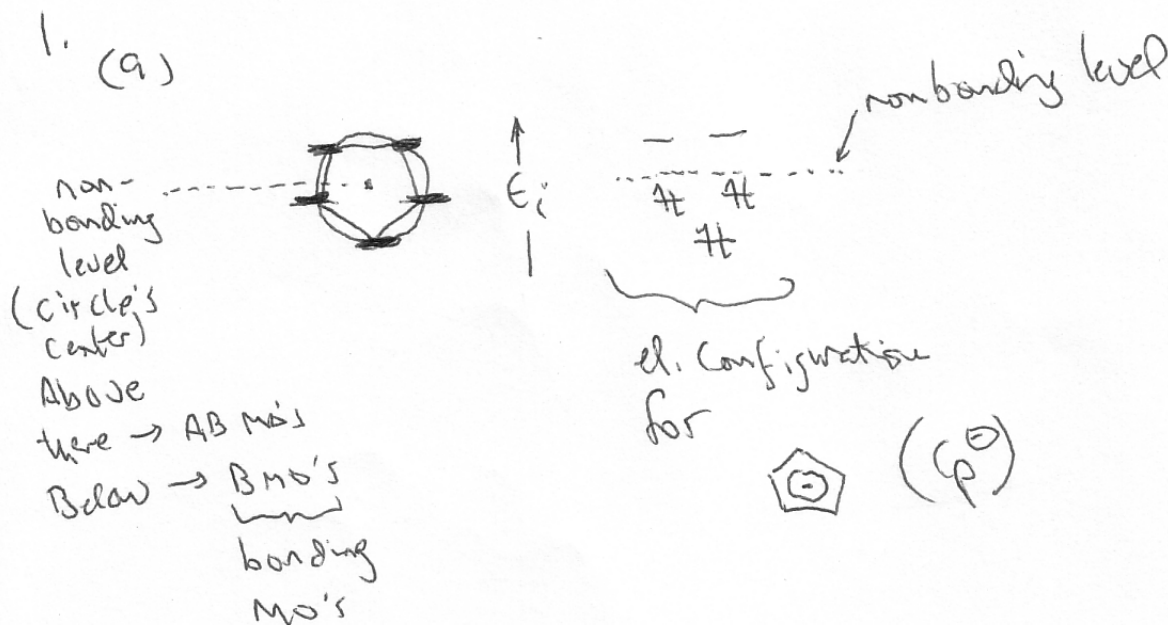
Solis

Problem set 8
Chem 131(231)A

1. [a] Use the circle mnemonic to determine the relative MO energy level distribution for the cyclopentadienyl anion.

[b] Why is the mnemonic not applicable to cyclooctatetraene?

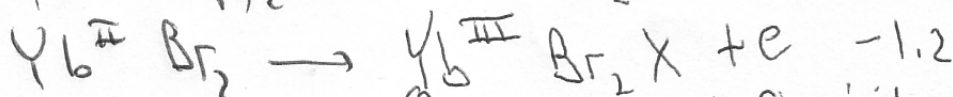
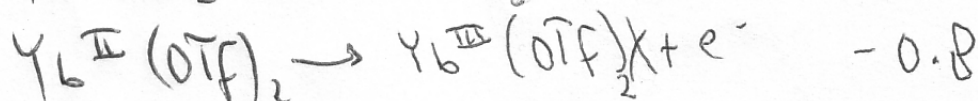
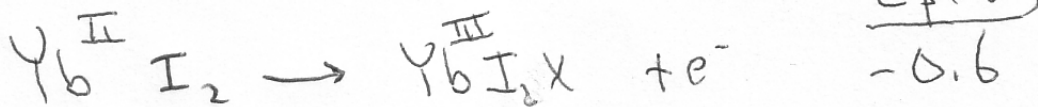
2. Examine the CV curves, shown as overhead projections, for the various ytterbium species illustrated there. Determine how effective each species would be as a reducing agent. What information did you use as the basis for your response?



(b) COT is not flat. Make a model. It has what folk refer to as a tub shape



2. Refer to the curves. One finds



$\therefore$, YbBr_2 ought to be more effective than $\text{Yb}(\text{OTf})_2$ if it more than YbI_2 as a reducing agent!