

Chem. 1410, HW#9. Assigned 11/24; due 12/2

1. There are at least 5 isomers that one could envision for  $H_4$ . Sketch these structures and report the Huckel total energies for each.
2. What are the atomic coefficients of the  $\pi$  and  $\pi^*$  Huckel orbitals of hexatriene?
3. Explain using molecular orbitals why  $CO_2$  is linear but  $CO_2$  anion is bent.
4. Show how you can use symmetry to simplify calculation of the Huckel orbital energies for fulvene.