

Due February 25, 1999

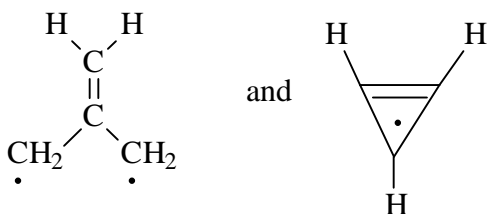
1. Give the term symbols and bond orders of the following molecules. If multiple states are possible, give the requested information for each state.

- a) C_2^{2+}
- b) Ne_2^+
- c) CO
- d) BN^+
- e) HCl^+
- f) C_2^-

2. Which do you expect to be more strongly bent?

- a) CO_2 or CO_2^-
- b) NO_2 or NO_2^+
- c) HCN or HCN^-
- d) CO_2^+ or CO_2^-
- e) NOF or NOF^+

3. Solve for the Hückel orbitals and orbital energies of :



Which molecule is more stable?