

HW Set #7

Due 11/02/2010 (at the beginning of class)

Work the following problems in chapter 6

52, 56, 68, 70

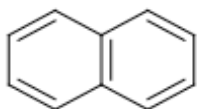
Work the following problems for chapter 7

8, 12 (for each give the hybridization of the carbons), 20, 40

More problems

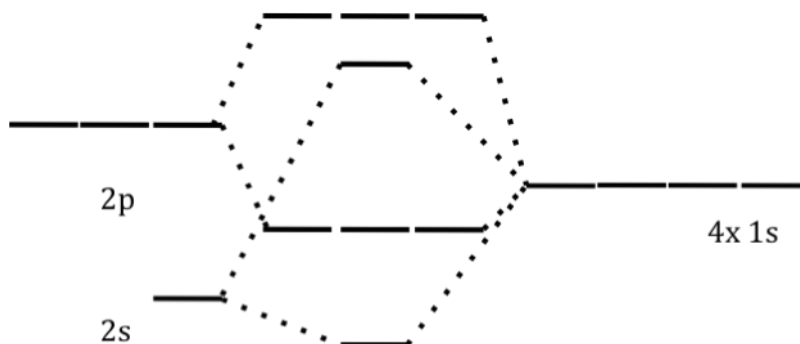
In the molecule,  $H - C \equiv N$ , the VB model would describe the sigma bond between the C and the N as a combination of

The molecule naphthalene is shown below. How would you describe the bonding in naphthalene using a mix of VB and MO?

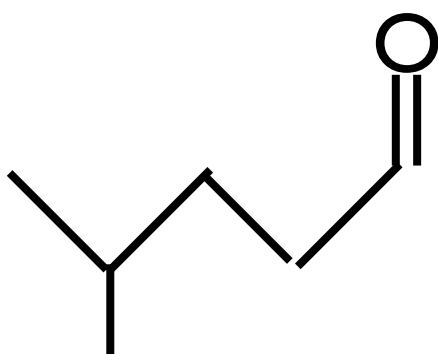
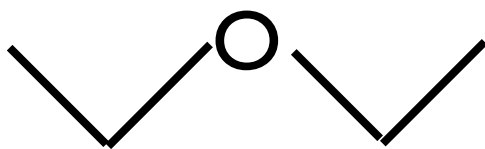


Why is there an energetic barrier to rotation of a C=C bond?

Below is a MO correlation diagram for  $CH_4$ . Which side is C? Which side is H? Which MO's do you think are bonding, antibonding (or non-bonding). How is this similar to the idea for  $CH_4$  bonding we get from VB theory? How is it different?



Name the following molecules



Draw the following

3,3,5-Triethylheptane

2-Methylcyclohexanone

5,5-Dimethyl-1-hexene

2,3,4-trimethyl-4,7-dipropylnonan-1-al

5-ethyl-1,3,6-heptatriene.