## CH 223 Worksheet 9

- 1. The addition of HCl to an alkene produces 2-chloropropane. What is the alkene?
- 2. When cyclopropane is treated with HI, 1-iodopropane is formed. A similar type of reaction does not occur with cyclopentane or cyclohexane. How do you account for the reactivity of cyclopropane?
- 3. Which of the following molecules is unsaturated?

(a) 
$$CH_3CH_2CH_2CH_3$$
  $H_2C$   $CH_2$   $H_2C$   $CH_2$  (c)  $CH_2CH_2CH_3$   $CH_3CH=CHCH_3$ 

- 4. What are the characteristic hybrid orbitals employed by (a) carbon in an alkane, (b) carbon in a double bond in an alkene, (c) carbon in the benzene ring, (d) carbon in a triple bond in an alkyne?
- 5. Using condensed structural formulas, write a balanced chemical equation for the addition reaction of 2,4-dimethyl-2-pentene with bromine.
- 6. Give IUPAC names for the following:

(a) 
$$\begin{array}{c} \text{CH}_3\text{CHCH}_3\\ \text{CHCH}_2\text{CH}_2\text{CH}_3\\ \text{CH}_3 \end{array} \qquad \text{(b)} \qquad \begin{array}{c} \text{CH}_3\text{CH}_2\\ \text{CH}_2\text{CHCH}_2\text{CH}_2\text{CH}_2\\ \text{H} \end{array}$$