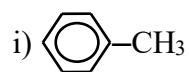
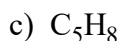
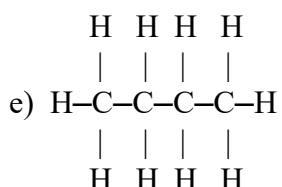
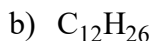
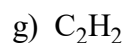
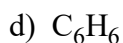
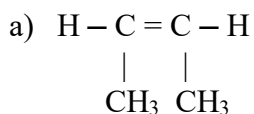
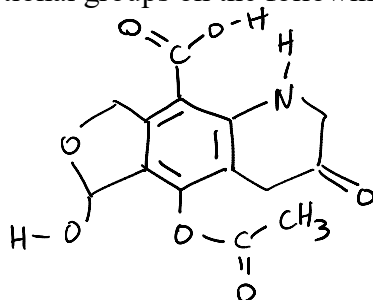


Chapter 22 Study Questions

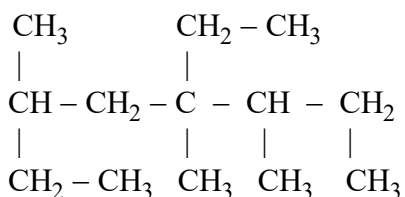
1. Identify each of the following as alkane, alkene, alkyne, or aromatic hydrocarbon. Indicate for each whether it is a saturated or unsaturated hydrocarbon.



2. Draw *and* name 3 isomers of C_5H_{12} .
3. Label at least 3 functional groups on the following molecule:



4. Name the following alkane:



5. Explain what is wrong with each of the following names of alkanes:

a) 3-methylbutane

b) 1,3-dimethylpentane

c) 2-dimethylbutane

d) 2-ethylpropane

6. Draw the structure of

a) hexane

b) methyl alcohol

c) formic acid

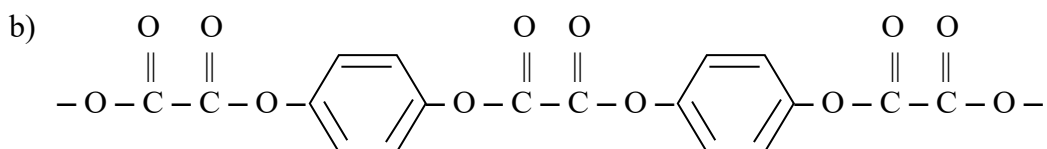
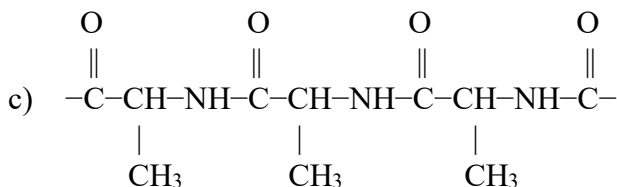
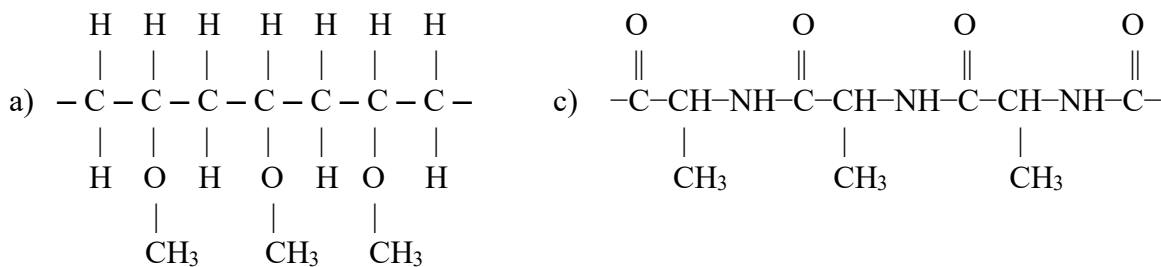
d) 1-butyne

e) a carboxylic acid with 4 carbon atoms

f) an amine with 5 hydrogen atoms

7. Draw an isomer of *6e* above and indicate what type of functional groups are in the compound.
8. Draw *and* name the ester formed by the reaction of propyl alcohol and acetic acid.

9. For each of the following polymers, indicate the type of polymer *and* draw the monomer(s) from which the polymers are made.

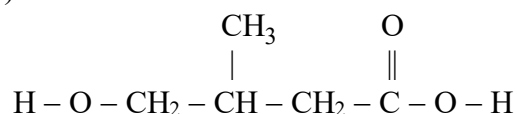


10. For each of the following fatty acids, indicate whether it is saturated or unsaturated. If it is unsaturated, indicate how many carbon-carbon double bonds it contains:



11. Draw the structure of 2,2,5-trimethyl-3,4-diethyl-4 propylheptane

12. Sketch a section of the polymer formed from the following monomer (include at least 3 monomers):



Summary of Chapter 22: Organic Chemistry

properties of organic compounds
 saturated and unsaturated hydrocarbons
 alkanes, alkenes, alkynes
 name alkanes
 prefixes for 1-10 carbons
 draw structures
 structural isomers
 aromatic hydrocarbons
 functional groups
 alcohols
 carboxylic acids
 formic acid, acetic acid

amines
 esters
 amides
 condensation reactions (formation of esters and amides)
 addition polymers
 condensation polymers
 polyesters and polyamides
 homopolymers & copolymers
 draw monomer from polymer and vice versa
 amino acids
 saturated and unsaturated fatty acids