

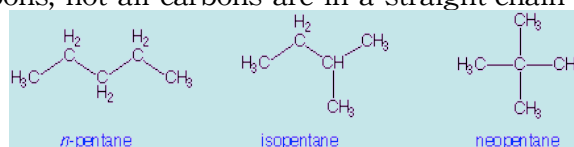
Organic Chemistry - Chapter 22-23

I. First, a bit about

- A. All organic compounds consist of
1. Because carbon is versatile in the way that it bonds.
 2. It can form
 3. It can form

II. The Most Basic of Compounds

- A.
1. Contains
 - a. They are
 - b. They have _____ points.
 - c. They are
 2. Carbon _____ in the hydrocarbon (can be _____)
 - a. _____ hydrocarbons are the simplest in structure
 - b. In _____ hydrocarbons, not all carbons are in a straight-chain



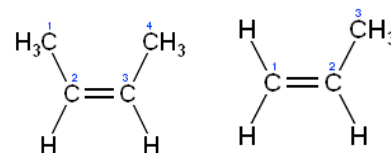
3. _____ Hydrocarbons
 - a. _____ : only _____ C-C bonds, therefore
 - b. _____ : contains at least one _____ C-C bond, therefore
 - c. This is how fats are designated.
4. _____ formulas - _____ , C & H are together
5. _____ Formula
 - a. C's are represented by a
 - b. Any element that is not C or H is written out.
 - c. Made to make things easier to write.
 - d. Example: C_3H_8 C_8H_{18} C_2H_5OH



- B. _____ - saturated hydrocarbons (_____)

1. General Formula:
 - a. What is the formula of:
 - i. an alkane with 3 carbons?
 - ii. an alkane with 32 carbons?

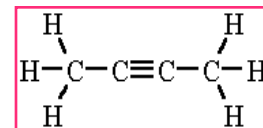
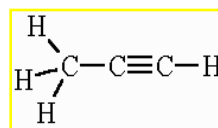
- C. _____ - have _____ in the backbone.
_____ because the double bonds are easier to break.



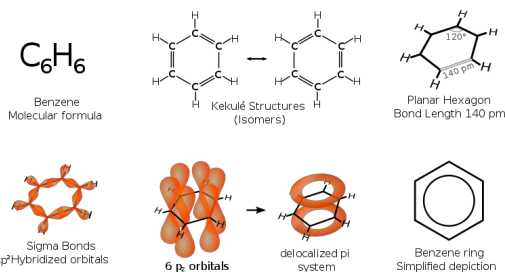
2. General Formula:
 - a. What is the formula of:
 - i. an alkene with 3 carbons?
 - ii. an alkene with 32 carbons?

- D. _____ - have _____ hydrocarbons.
1. They are the _____ hydrocarbons.

2. General Formula:
 - a. What is the formula of:
 - i. an alkyne with 3 carbons?
 - ii. an alkyne with 32 carbons?



- E. _____ Hydrocarbons
1. Some hydrocarbons form
 2. Benzene:



E. Summary:

1. Find backbone
2. Number carbons
3. Number and name branches (-yl)
4. Number bonds
5. Clean up multiples
6. Name the backbone and bonds

F. Drawing the structure from the name:

1. Draw the longest carbon chain with single bonds.
2. Number it from left to right.
3. If any, draw in any bonds, making sure to start the bond at the given number and draw it to the right (-ene=double, yne=triple).
4. If any, draw in branches, making sure that they are also the right length.

G. Examples:

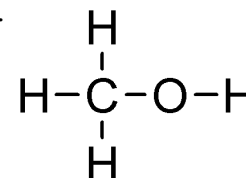
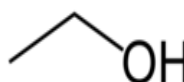
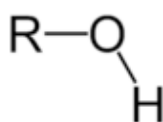
IV.

A. Organic compounds normally carry

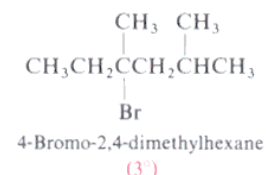
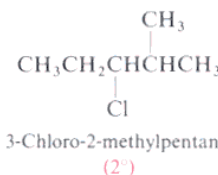
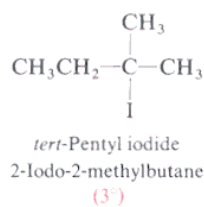
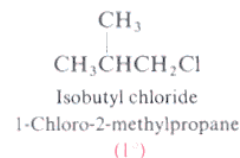
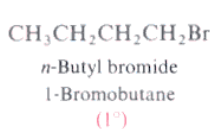
1. Functional (fxl) groups are _____ of an organic compound and determine its reactivity
2. _____ are used to designate the hydrocarbon chain attached to the fxl group.

B. The Functional Groups

1.
 - a.
 - b. Simplest alcohol is
 - c. Large alcohols are nonpolar.
- 2.



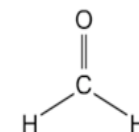
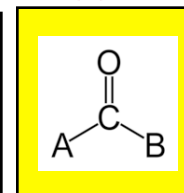
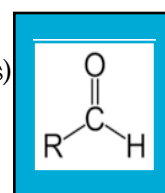
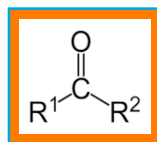
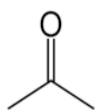
- a. Depending on structures, they can be reactive or unreactive.
- b. _____ deplete the ozone layer
- c. HCFC's are not as bad.
- d. HFC's do not affect the ozone.



3.
 - a. _____ with
 - b.

(This is NOT a functional group but a group of functional groups)

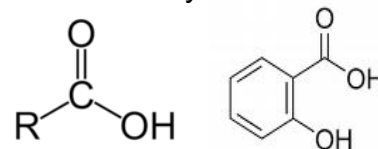
- c. Simplest aldehyde is



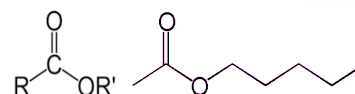
carbonyl

4.
 - a.
 - b. _____ is part of this group.

5.
 - a. weak acids with
- 6.



- a.
- b.



C. How to find functional groups

1. Cover up all carbons that are only bonded to other carbons or hydrogen.
2. Match whatever's left with the functional group that matches it.