

## Chapter 18

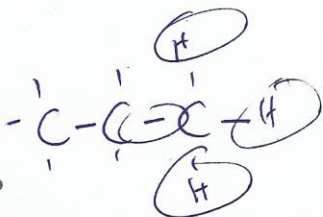
Warm-Up:

Solve the following riddle by matching the following:

Why can you not trust an atom?

They Make up E. V. E. R. Y. T. H. I. N.  
 G! 1. 2. 1. 3. 4. 5. 6. 7. 8.  
 9. 1. 2. 1. 3. 4. 5. 6.  
 7. 8. 9.

E. 1. Name the following hydrocarbon: Single bonds, 5 carbon atoms	r. alkene
V. 2. The study of carbon containing compounds and their reactions	e. Pentane
R. 3. Hydrocarbons which contain at least 1 double bond.	t. unsaturated
Y. 4. What prefix is used to name a hydrocarbon with 9 carbon atoms?	n. normal hydrocarbons
T. 5. Compounds with the same molecular formula, but a different structural formula	y. Non
H. 6. Alkanes are _____.	h. saturated hydrocarbons
I. 7. Alkenes and alkynes are _____.	v. Organic chemistry
N. 8. Composed of straight chain hydrocarbons	t. Isomers
G. 9. May have several different chains of carbons	G. branched hydrocarbons



1. What does saturated mean?

Every Carbon atom  
is bonded to 4 other Atoms  
> Single bonds Only.

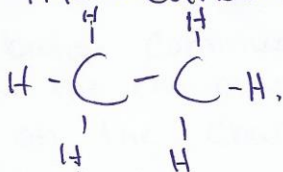
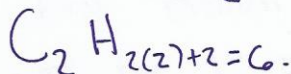
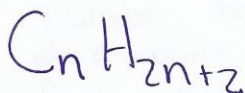
1. What does Unsaturated mean?

Has at least 1 double or  
triple bond.



2. Describe alkanes:

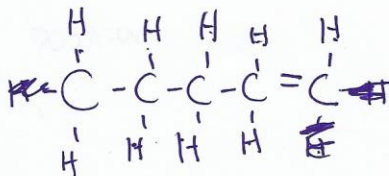
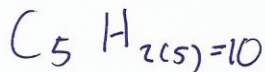
A Saturated Hydro Carbon-



3. Describe alkenes;

Contains at least 1 double bond  
between Carbons.

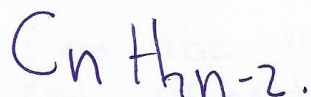
Pentene



4. Describe alkynes:

Contains at least 1 triple bond.

Unsaturated



5. What are the steps in naming alkane Hydrocarbons?

a. Determine the type of HydroCarbon.

b. Find the longest Continuous Carbon Chain.

c. Name the base chain. Using a Prefix.

d. Number the longest Continuous Chain of Carbons from the end closest to the first branch on the chain.

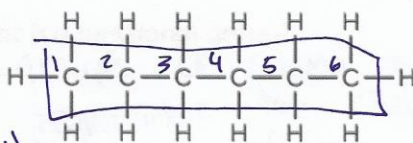
e. If the 1<sup>st</sup> substituent occurs equally close to the end of each chain, nearness of 2<sup>nd</sup> substituent to end is where you # from.

f. Indicate the position.

6. What are the steps used when naming alkene and alkyne hydrocarbons?

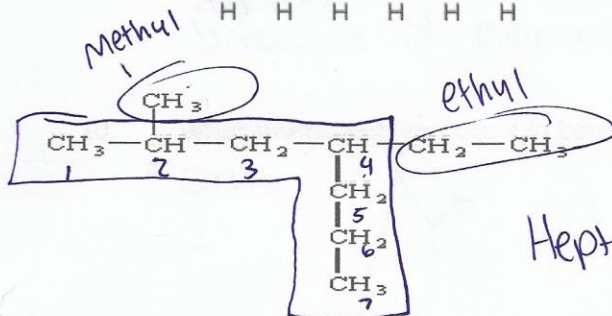
- Double / triple bond is the functional group
- Find the base chain + # from the end closest to triple or double bond.

7. Name the following hydrocarbons:



Alkane.

Hexane.



Methyl

ethyl

Alkane.

Hept

Heptane

~~4~~ 4-ethyl, 2-methyl Heptane

8. State the prefixes used to determine the number of Carbon atoms in a hydrocarbon:

- a. 1= Meth
- b. 2= eth
- c. 3= Prop
- d. 4= But
- e. 5= Pent
- f. 6= Hex
- g. 7= Hept
- h. 8= Oct
- i. 9= Non-

9. What is a functional group?

- a. groups of atoms or molecules responsible for characteristics / behaviors of molecules

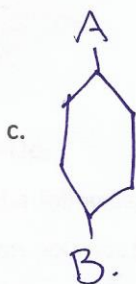
10. What substituents can occur in benzene rings? Draw them.

a. Ortho



b. Meta

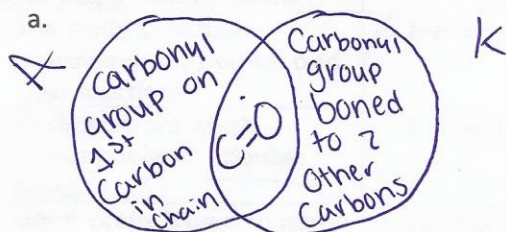




11. What is the functional group of alcohols?

a. Hydroxyl group - OH

12. What is the difference between aldehydes and ketones?



13. How are esters formed?

a. Carboxylic acids react w/ alcohols.

14. What are polymers?

a. long Chain like molecules  
Composed of repeating units.