4C Organic chemistry review

1. Define organic chemistry. What are the properties of organic chemicals?

2. What are the unique properties of carbon?

3. What is the name of a 3 carbon side chain? A 4 carbon side chain?

4. Name the following

 

 

5. Draw 7-methyl-4-propyl-3-octene, 4-butyl-5-ethyl-7-methyl-2-nonyne.

6. What is the atomic mass of octane?

7. What is benzene?

8. What is a non-polar covalent bond? Example?

9. What is a polar covalent bond? Example?

10. Draw H2S showing electronegativities. (δ) What are the pauling’s numbers for this compound?

11. Why do non-polar compounds not dissolve in polar compounds?

12. Why do polar compounds dissolve in polar compounds?

14. What is a functional group?

15. Circle and name the functional group. Name the family as well.

    

16. Which functional groups are soluble in water? Why:

17. How does soap work?

19. What is saponification?

20. What is esterification? Write the chemical reaction for the esterification of :

+  ->

21. What is a polymer? Show the chemical reaction to make a polymer using :

 +  ->

22. What is a cross-linker?

23. What is complete, incomplete and very incomplete combustion? What conditions are required for each?

24. Complete the following and balance: Complete combustion of C6H12

 Incomplete combustion of C6H12

 Very incomplete combustion of C6H12

25. What is a structural isomer. Draw 2 structural isomers of a 5 carbon compound.

Lab Book

\*Fractional Distillation and Cracking

\*Functional Groups

\*Refining and Using Hydrocarbons

\*Safe Use of Organic Solvents

\*Vulcanized Rubber

\*Water Bottles BPA

\*Saponification (Soap Making)

\*Bath Bomb

\*Synthesis of Esters

\*Slime (Cross-linking Polymers)

\*Let Me Count the Ways (Isomers)