VIDEO GUIDE FOR BOZEMAN BIOLOGY – MOLECULES OF CELLS

What is organic chemistry? Why do we study it?

What is a hydrocarbon? Give two examples

What is an isomer? Why were isomers significant in the history of thalidomide?

Functional groups are like the “alphabet” of biochemistry. Complete the alphabet soup below

|  |  |  |
| --- | --- | --- |
| Name of functional group | Draw structure of the functional group | What is the group’s function or consequence (what types of molecules is it found in or produces) |
| Hydroxyl |  |  |
| Carbonyl  Aldehyde  Ketone |  |  |
|  |  |
| Carboxyl |  |  |
| Amino |  |  |
| Phosphate |  |  |
| Methyl |  |  |

Monomers are joined together in polymers by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reactions

Polymers are broken down into monomers by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reactions

List the four types of macromolecules

Give an example of a monosaccharide, a disaccharide, and a polysaccharide.

Lipids store a lot of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is the difference between saturated and unsaturated fats?

Why are phospholipids important?

The amino acids in proteins are held together by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bonds

Describe the four levels of protein structure

What is the central dogma of biology?