OL Lab 9: Building models of organic

compounds Learning Objectives:

- Build virtual models to learn about the structure of organic compounds
- Draw extended structural formulas of organic compounds

Compounds that are based on the carbon atom are known as organic compounds. These compounds commonly contain, nitrogen, oxygen, and hydrogen in addition to carbon. Carbon forms a variety of covalent compounds with varied properties. Carbon containing compounds are formed by sharing electrons, covalent bonds, between atoms. Most biomolecules, as well as most drugs, are classified as organic compounds. In this laboratory exercise, you will build models of organic compounds virtually and draw the extended structural formula of organic compounds.

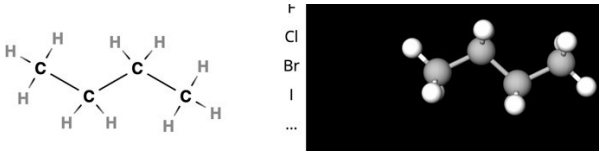
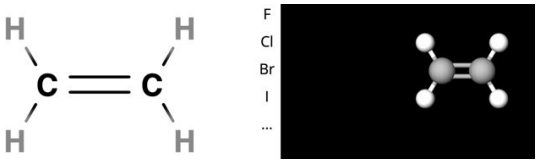
Online Modeling Resource: http://molview.org/

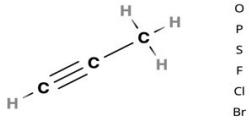
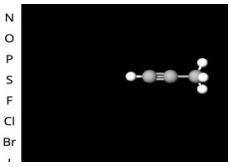
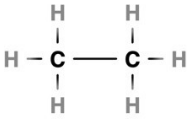
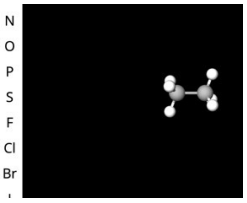
Note: Be sure to build each of the compounds as instructed using the online modeling resource kit. This hands-on experience is an important part of this lab. You will need to copy the models you build in the virtual modeling resource and paste the images into this document. Please take the time to explore the structures of these organic compounds.

Exploration 1: Building models of Hydrocarbons

Hydrocarbons are a diverse group of organic compounds containing carbon and hydrogen. Hydrocarbons can be linear, branched, or cyclic. Additionally, hydrocarbons can be saturated, unsaturated or aromatic.

Using the virtual resource build the extended structural formulas of the following compounds. Copy and paste the images into the space below. Additionally, type in the condensed structural formula.

Propane Virtual Model with Extended Structural Formula:  Condensed Structural Formula: CH3CH2CH3	Butane Virtual Model with Extended Structural Formula:  Condensed Structural Formula: C4H10
Ethylene Virtual Model with Extended Structural Formula:  Condensed Structural Formula: C2H4	Ethyne Virtual Model with Extended Structural Formula:  Condensed Structural Formula: C2H2

Propyne Virtual Model with Extended Structural Formula:   Condensed Structural Formula: C3H4	Ethane Virtual Model with Extended Structural Formula:   Condensed Structural Formula: CH3CH3