Lecture 1  8/25/99

♦ What is Organic Chemistry?

♦ Organic (Webster’s Dictionary, 1913) - Pertaining to, or denoting, any one of the large series of substances which, in nature or origin, are connected with vital processes, and include many substances of artificial production which may or may not occur in animals or plants.

♦ Chemistry (Merriam-Webster WWW Dictionary) - a science that deals with the composition, structure, and properties of substances and with the transformations that they undergo.

♦ 18th Century - Compounds with the “vital force” from living organisms.

♦ 19th Century - Friedric Wöhler synthesized urea from ammonium cyanate demonstrating that organic compounds could be made from inorganic compounds.

♦ 20th Century - Since it has been discovered that most of the molecules from living natural sources are made up of carbon frameworks, Organic Chemistry today is the science dealing with the composition, structure, and properties of carbon compounds. A few other elements are also involved in organic chemistry - these include H, F, Cl, Br, O, N, P, and S. Most other elements are less abundant in organic molecules.

♦ Organic Molecules are all around and in us

♦ Natural organic molecules include DNA, proteins, sugars, etc.

♦ Unnatural organic molecules are everywhere - plastics (polymers), dyes, pharmaceuticals, etc.

polystyrene  acetaminophen