

INTRODUCTION

1. Organic chemistry is the study of *the compounds of carbon*.
 2. The compounds of carbon are the central substances of which all living things on this planet are made.
 - 1) DNA: the giant molecules that contain all the genetic information for a given species.
 - 2) proteins: blood, muscle, and skin.
 - 3) enzymes: catalyze the reactions that occur in our bodies.
 - 4) furnish the energy that sustains life.
 3. Billion years ago most of the carbon atoms on the earth existed as CH₄:
 - 1) CH₄, H₂O, NH₃, H₂ were the main components of the primordial atmosphere.
 - 2) Electrical discharges and other forms of highly energetic radiation caused these simple compounds to fragment into highly reactive pieces which combine into more complex compounds such as amino acids, formaldehyde, hydrogen cyanide, purines, and pyrimidines.
 - 3) Amino acids reacted with each other to form the first protein.
 - 4) Formaldehyde reacted with each other to become sugars, and some of these sugars, together with inorganic phosphates, combined with purines and pyrimidines to become simple molecules of ribonucleic acids (RNAs) and DNA.
 4. We live in an *Age of Organic Chemistry*:
 - 1) clothing: natural or synthetic substance.
 - 2) household items:
 - 3) automobiles:
 - 4) medicines:
 - 5) pesticides:
 5. Pollutions:
 - 1) insecticides: natural or synthetic substance.
 - 2) PCBs:
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