


Organic Chemistry

Introduction

- * Organic compounds: contain carbon atoms bound to themselves, hydrogen, and sometimes other elements.**
- * Do not include CO, CO₂, and other ionic compounds containing carbon**
- * There are specific IUPAC rules for naming organic compounds**

- * Hydrocarbons: organic compounds that contain only hydrogen and carbon.**
- * Aliphatic Hydrocarbons: straight or branched chained hydrocarbons.**
- * Aromatic Hydrocarbons: Contain a benzene ring structure.**

Model	Example	Description
Empirical Molecular Formula	C_5H_{12}	<ul style="list-style-type: none"> -Shows the number and types of atoms present -Does not specify structure
Expanded Molecular Formula	$CH_3CH_2(CH_3)CH_2CH_3$	<ul style="list-style-type: none"> -Shows the grouping of atoms -Bonds are assumed
Structural Formula	<pre> H H H H H H-C-C-C-C-C-H H H H H H </pre>	<ul style="list-style-type: none"> -Clear picture of atoms -Accurate but requires space
Condensed Structural Formula	$CH_3 - CH_2 - CH_2 - CH_3$	<ul style="list-style-type: none"> -Still shows side chains but takes up less space
Line Structural Formula		<ul style="list-style-type: none"> -Uses a line to represent bonds