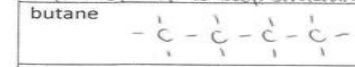
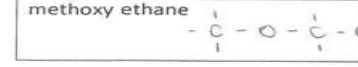
Alkanes

- All C-C single bonds
- General Formula C_nH_{2n+2}, where "n" is the carbon atoms in the chain

Naming (basic)

1. use correct prefix to indicate number of carbons
2. ending "-ane"

Drawing Organic Compounds

Structural Diagram	Condensed Diagram	Line Diagram
shows all bonds in the molecule (H's left off to keep structures clean)	no bonds, all atoms shown, in sequence (except cyclic)	carbon atoms are implied by the vertices (including ends) in structure, (H's not shown)
butane 	$CH_3(CH_2)_2CH_3$ $CH_3CH_2CH_2CH_3$	
1-propanol 	$HOCH_2CH_2CH_3$ $CH_2(OH)CH_2CH_3$ (O is attached carbon, ∴ placed next to it)	
methoxy ethane 	$CH_3OCH_2CH_3$ $H_3CO\,CH_2\,CH_3$	

Naming Branched Molecules

1. Identify the longest continuous chain or ring of carbon atoms.
2. Number the carbons from the end that gives the lowest sum for the numbers of the branches.
3. Name each branch and indicate its location with a number. commas separate numbers
4. List the branches in alpha order before the prefix for the number of carbons.

Common Branches

Branch	Name	Branch	Name
-Br	bromo	H_3C>CH— H_3C	isopropyl
-Cl	chloro		
-F	fluoro	H_3C H_3C—C— CH_3	tert-butyl t-butyl
-I	iodo		
$-CH_3$	methyl		
$-CH_2CH_3$	ethyl	$-NH_2$	amino
-OH	hydroxy	$-NO_2$ $-N\overset{O}{\underset{O}{\geq}}$	nitro

(iso - attached to the middle).

Alkenes

- Contain 1 or more C=C double bond.
- When naming use the suffix "ene".
- The position of the double bond is indicated for alkenes with 4 or more carbons.

Alkynes

- Contain at least 1 C≡C bond.
- When naming use the suffix "yne".
- The position of the triple bond is indicated for alkynes with 4 or more carbons.

Types of Isomers

- Molecules within the same formula but different structures

Structural	Functional	Geometric
-same organic family but different arrangement of atoms (i.e. 2 alkenes)	-same formula but in different organic families (i.e. an alcohol and ether)	-differ in placement of groups around a double bond (i.e cis-trans isomers) -Cis-trans goes with the bond, not the group - Cis groups attached to group are on the same side as double bond - Trans - different sides