

Session 12 - Organic Chemistry

1) What is organic chemistry?

the chemistry of carbon compounds

2) What is catenation?

This ability of atoms of the same element to bond in a chain or series. Carbon has this ability.

3) What is a hydrocarbon?

Any compound that only contains Carbon & hydrogen

4) What would you call a carbon compound with only single bonds between the carbons?

Alkane (saturated)

a) What bond angles do these compounds have?

109.5° (tetrahedral)

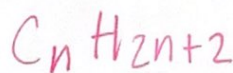
5) What are the names for carbon compounds from 1 carbon to 10 carbons?

1 carbon = methane
2 carbons = ethane
3 carbons = propane
4 carbons = butane
5 carbons = pentane

6 = hexane
7 = heptane
8 = octane
9 = nonane
10 = decane

6) What is the general formula for saturated hydrocarbons?

Ex: nonane
 C_9H_{20}



7) What are isomers?

different compounds w/ the same chemical formula
(C_xH_y)

8) What are structural isomers?

different bonding

9) What are the IUPAC steps for naming these compounds?

- 1) Determine the longest chain (parent chain)
- 2) Start #ing at the end closest to any substituents
- 3) Name & # each substituent
- 4) Throw it all together
- put the substituents ^{in alphabetical} order (ignoring any prefixes)

10) Draw out the structural formulas of the following compounds and name them according to IUPAC nomenclature rules.

