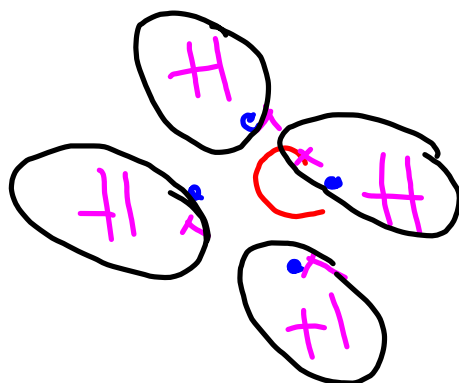


Organic Chemistry



Covalent bonding
Share e^- s
nonmetal / nonmetal covalent
bonding

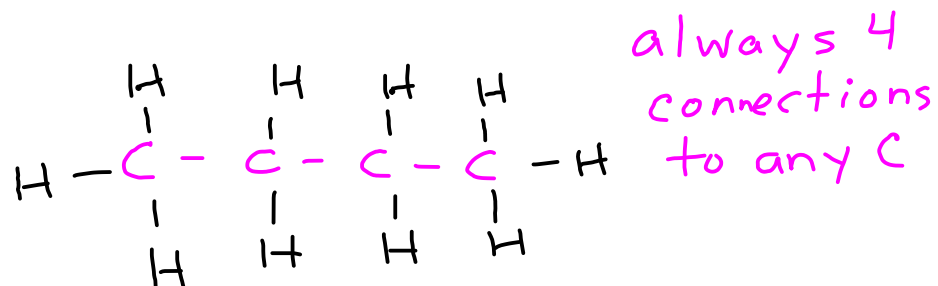


molecule made up of
hydrogen and carbon
only

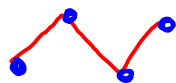
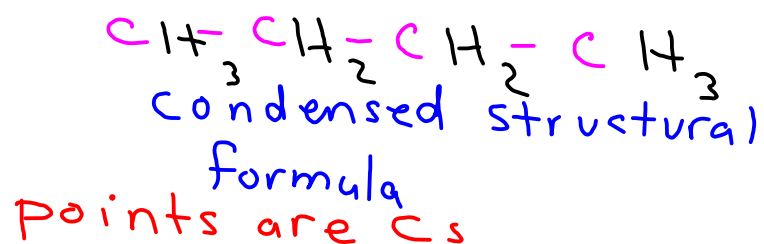
	molecule / compd <chem>CH4</chem>	compd <chem>NaCl</chem>
Bonding	covalent	ionic
Melting pt	usually low	usually high
Boiling pt	" "	" "
Flammability	high	low
Solubility in <chem>H2O</chem>	low	high
	usually depends on polarity of the molecule	

of Cs = prefixes

meth	1
eth	2
prop	3
but	4
pent	5
hex	6
hept	7
oct	8
non	9
dec	10



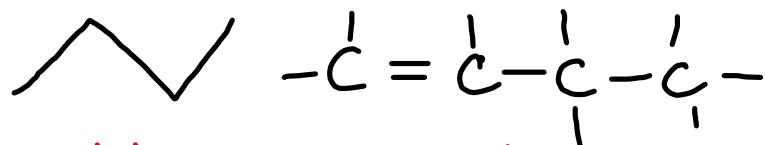
Structural formula -
how it is built



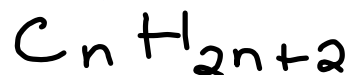
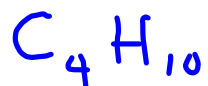
C_4H_{10} molecular formula

butane

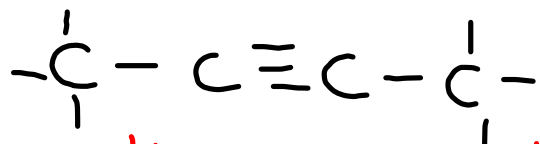
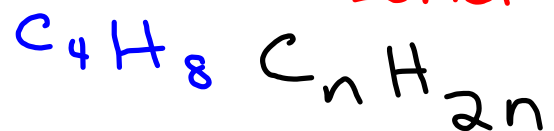
alkane - contains only single bonds to all the Cs.



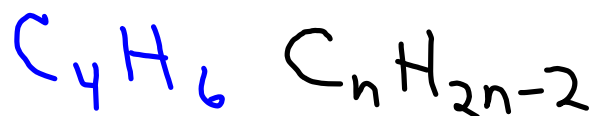
alkane



alkene - contains
one double bond



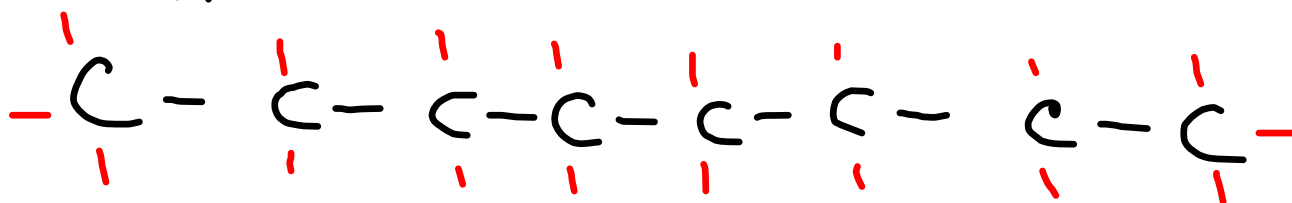
alkyne - contains
one triple bond



General formula - can easily
give you the # of Hs if you
know the # of Cs

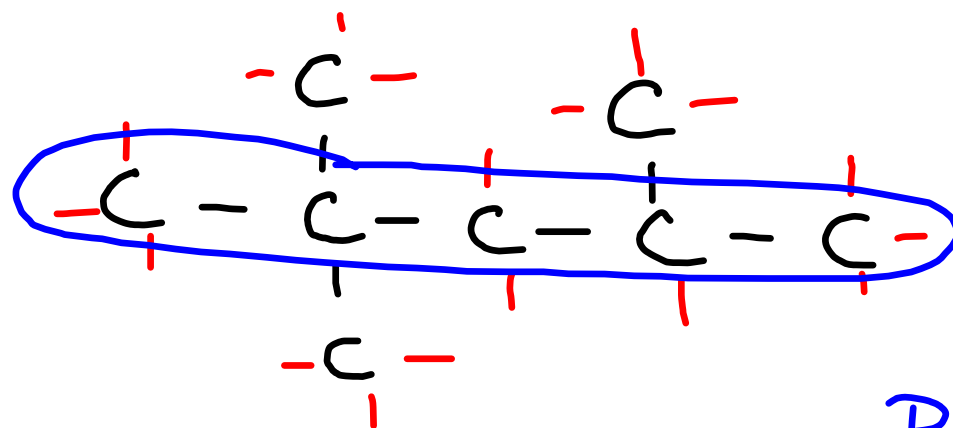
C_8H_{18} molecular formula

alkane



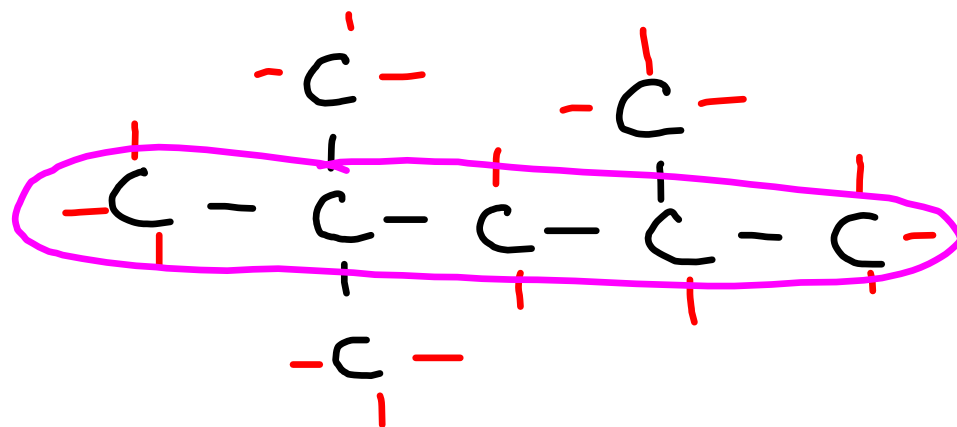
octane

C_8H_{18} alkane
molecular formula

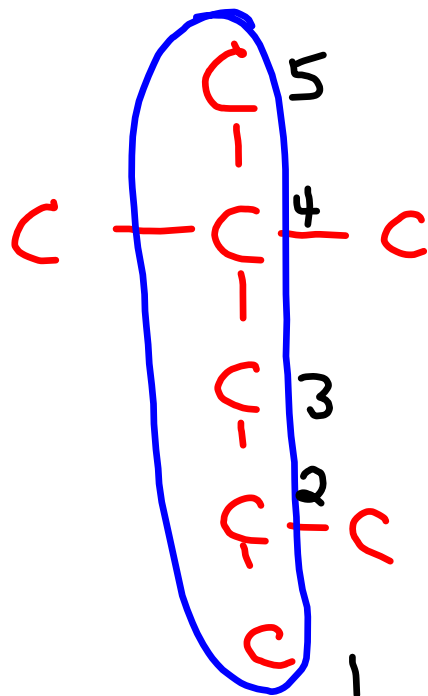


pentane

to find the longest chain w/o
lifting your pencil or
going backwards



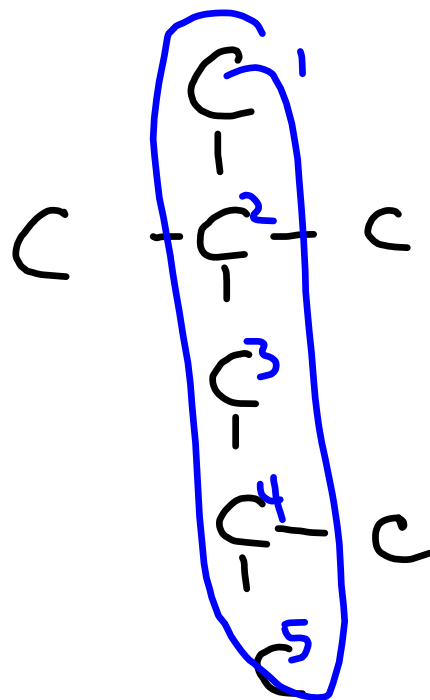
Number the carbons such that the branches have the lowest #s.



1 C = meth

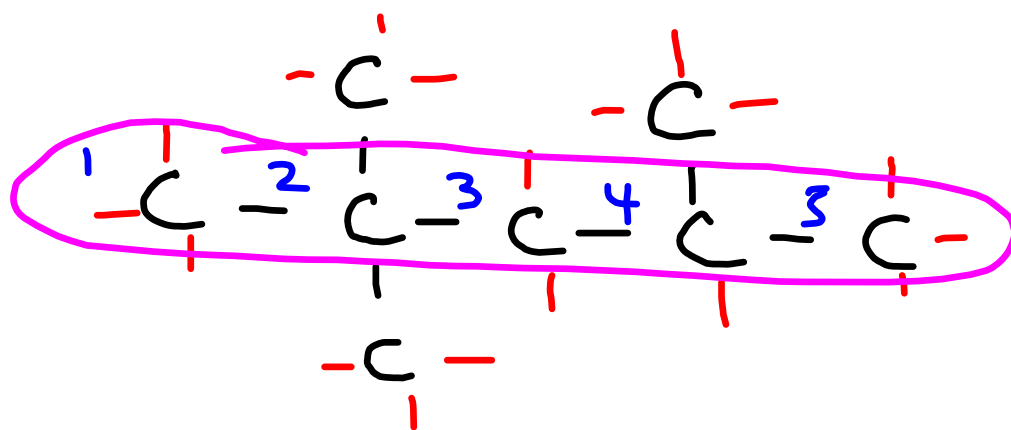
Pentane

4,4,2-trimethylpentane



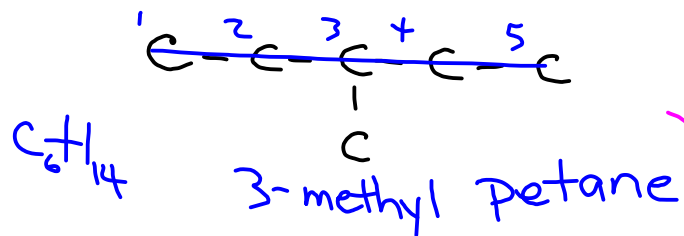
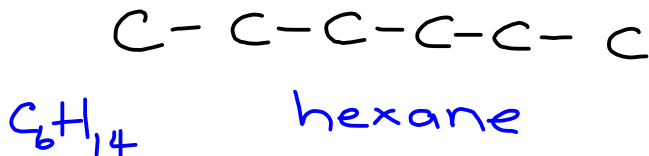
methyl-
branches

2,2,4-trimethylpentane

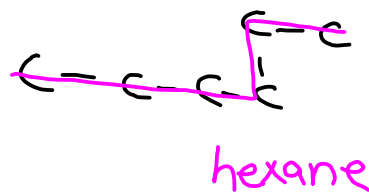
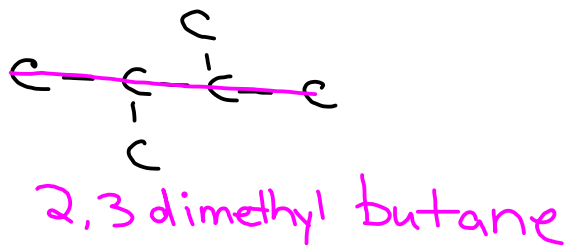
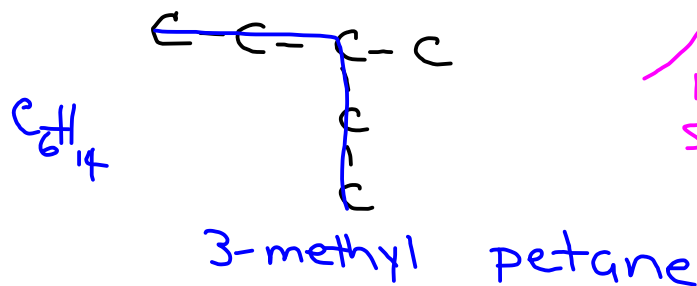


2,2,4-trimethyl pentane

isomers-have the same
molecular formula, but
different structural formulas

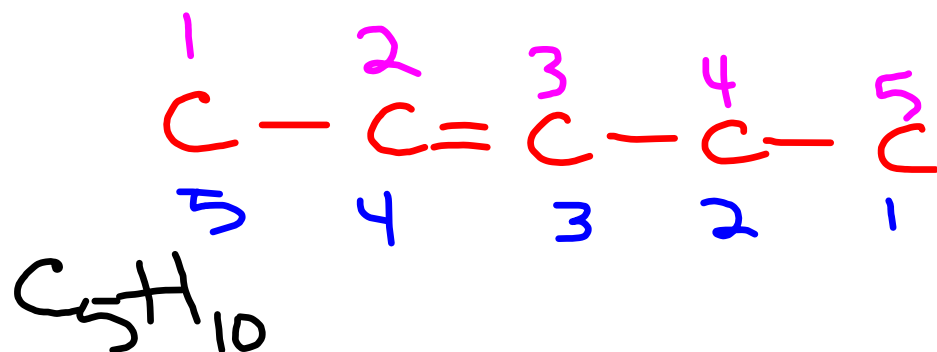


ne) not is ones
b/c they
have the
same name.



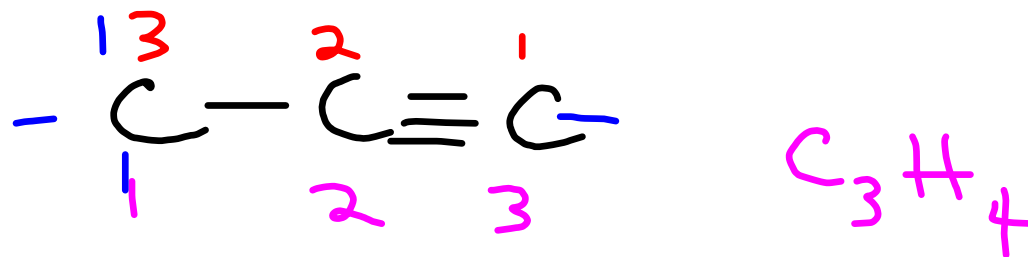
The larger the # of Cs
the more isomers.

alkenes-most include the
= when naming it.
Therefore, it must be in the
trunk of the tree.



~~3-Pentene~~

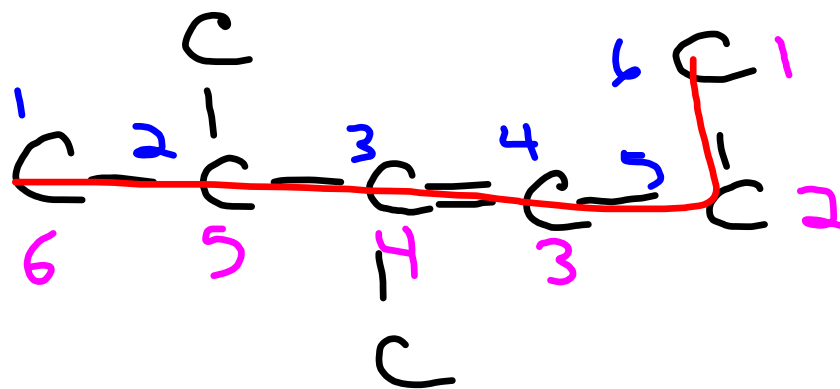
2-Pentene



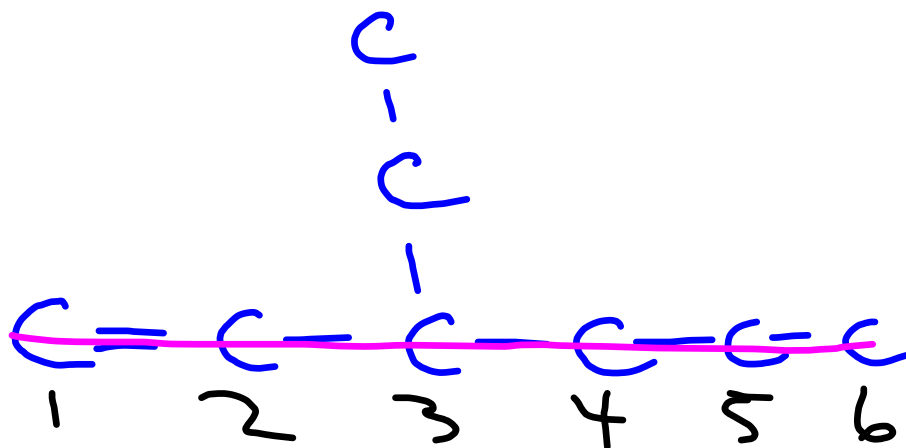
1 - Propyne

C_8H_{16}

alkene

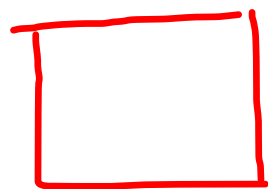


2,3-dimethyl-3-hexene

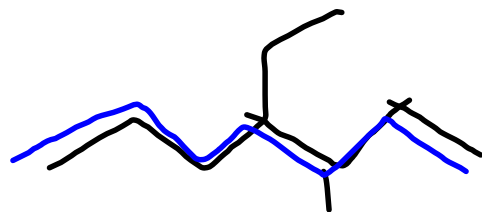


3 ethyl - 1 - hexene

11. d



cycloalkane
cyclobutane



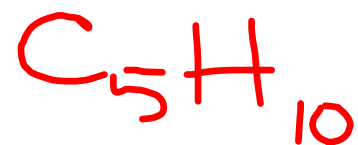
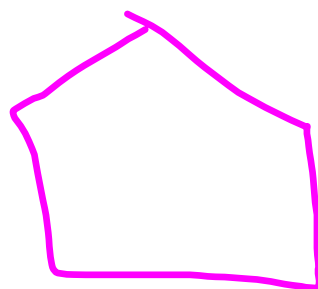
5-methyl
 3-methyl 4-ethyl heptane
 1 2 7

one that weighs the most has the lowest #.

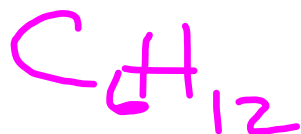
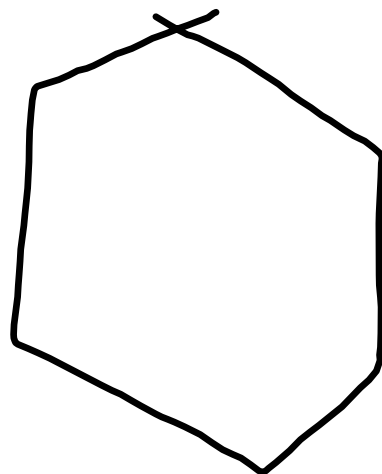
Once this happens the lowest #s for the other branches must be figured out



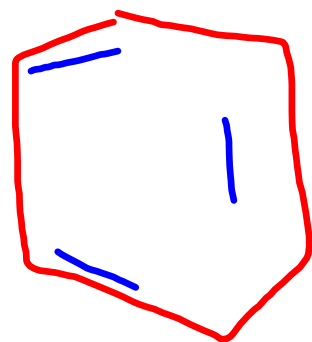
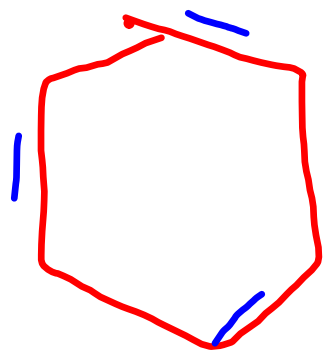
3-ethyl-6,6-dimethyl octane

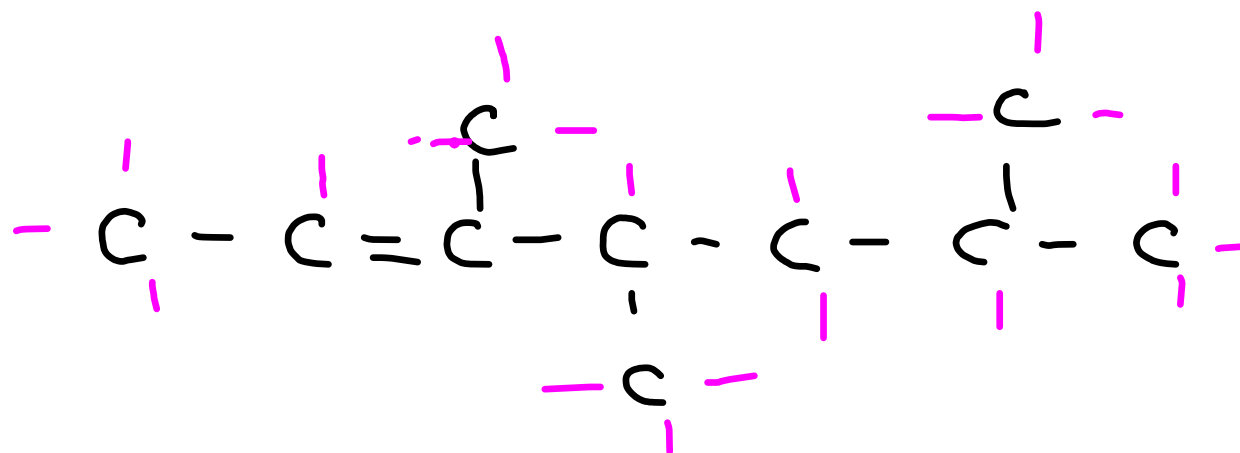


Cyclopentane



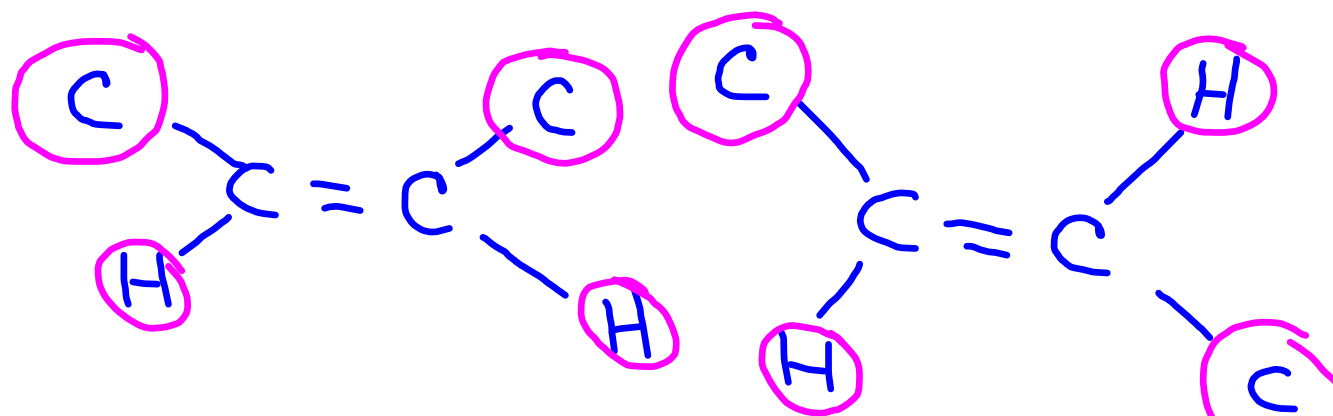
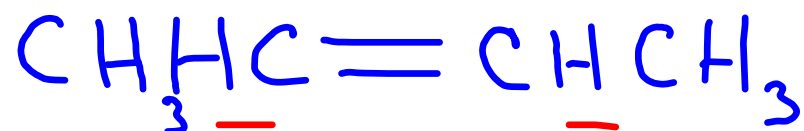
cyclo hexane





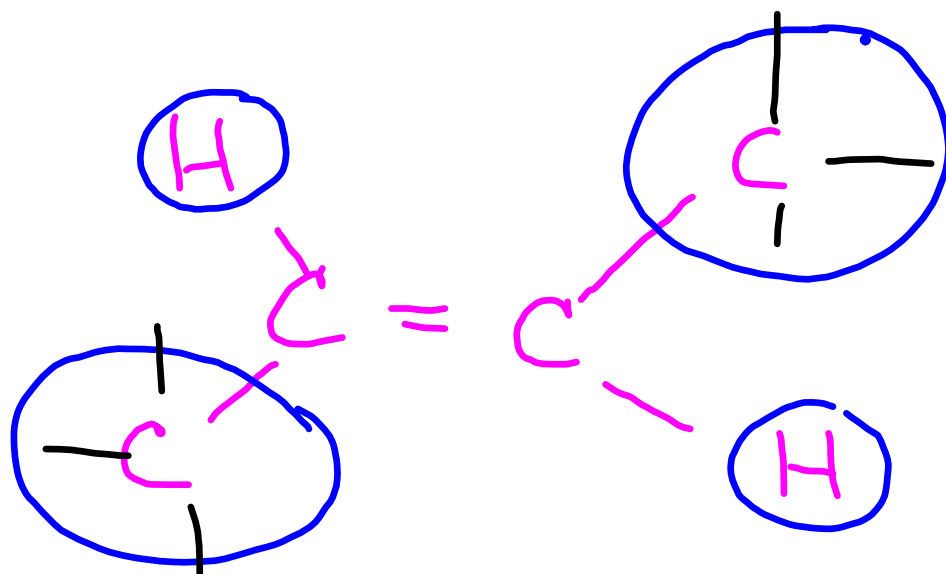


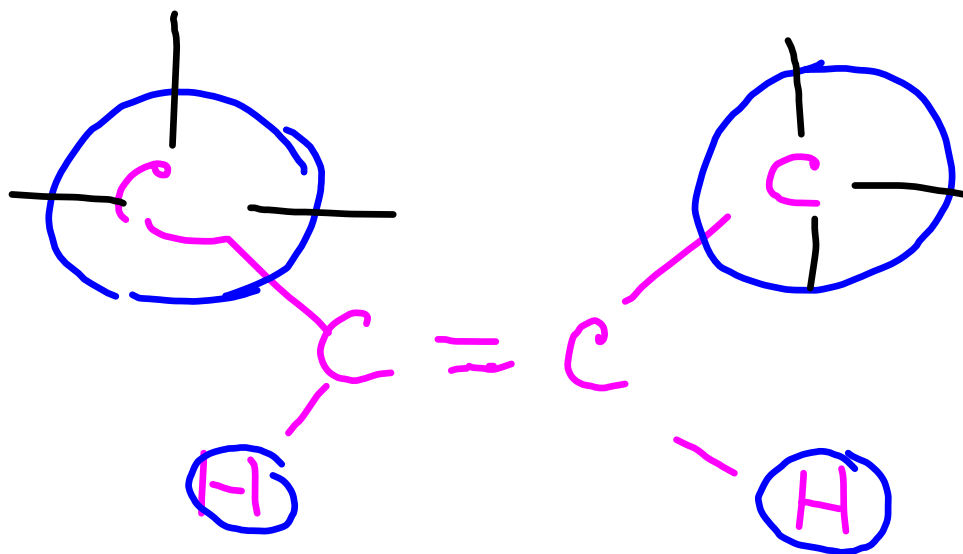
Double Bonds



cis
2-butene

trans
2-butene





Test Tuesday

1, 2, 5, 6, 11, 13, 14, 18
15, 16, 23

7-10, 12, 19-22, 24-25

18 $\text{pH} = \text{pK}_a + \log \frac{[\text{B}]}{[\text{A}]}$

Alkanes, Alkenes,
Alkynes

- naming and drawing
- isomers
- formulas (general, molecular, structural, condensed, lines)

