

inorganic
NaCl

Solid

ionic bonding

↑ mp and bp

Soluble in H2O

hard to burn

organic
CH4

gas

covalent bonding

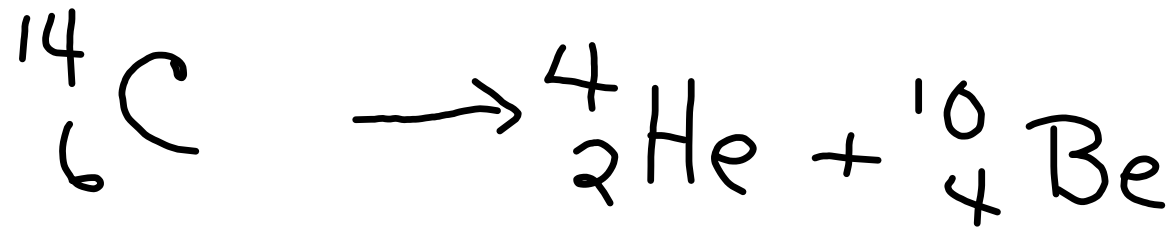
↓ mp and bp

insoluble in H2O
easy to burn

Quiz Thursday

① Half lives

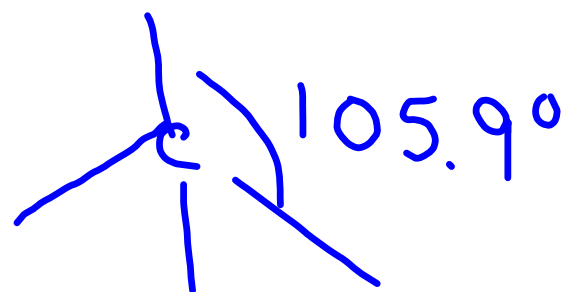
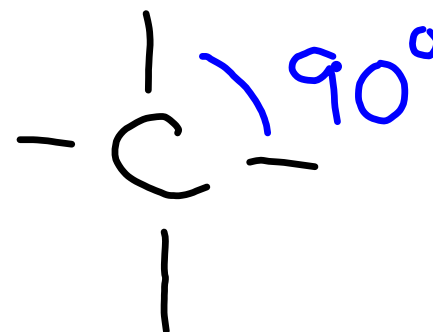
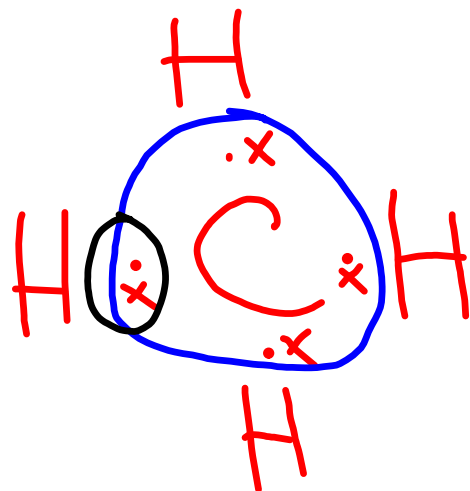
② C-14 emits α



· $\overset{\cdot}{\underset{\cdot}{\text{C}}}$ · 4 valence e⁻
bonds 4xs

H · 1 valence e⁻
H bonds once
known as the stopper.

Carbons can bond to
each other

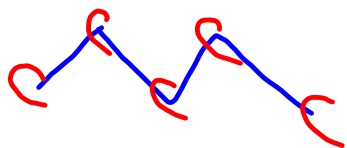
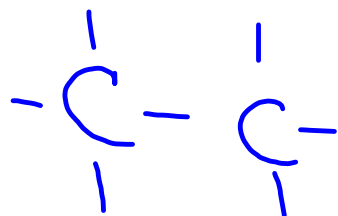


tetrahedral

CH_4 molecular formula

C_2H_6

 structural formula



CH_3CH_3 condensed structural formula

P411

11.1, 11.5

Alkanes - all single bonds

prefix

1- meth

2- eth

3- prop

4- but

5- pent

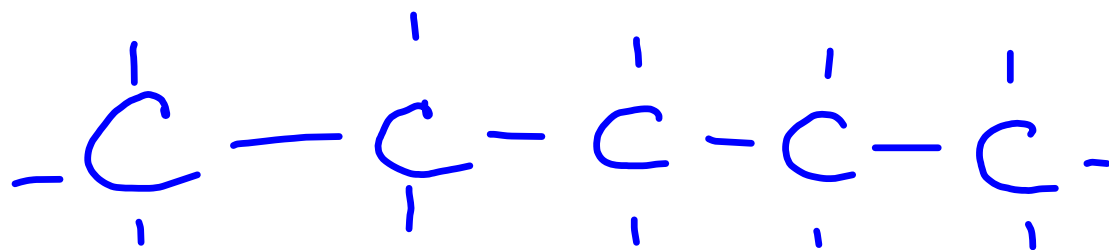
6- hex

7- hept

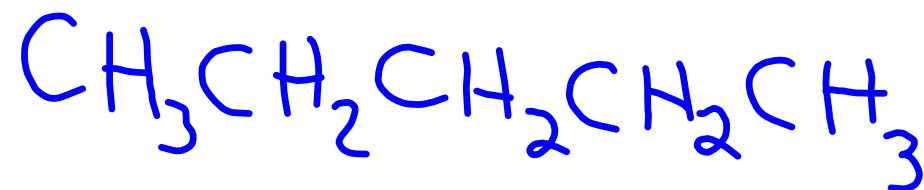
8- octa

9- nona

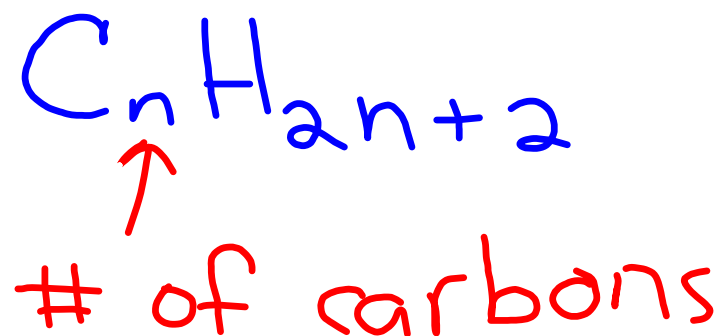
10- deca



pentane C_5H_{12}
5 carbons



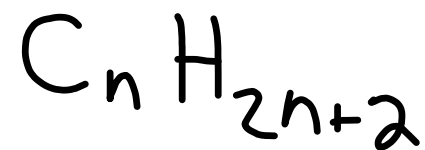
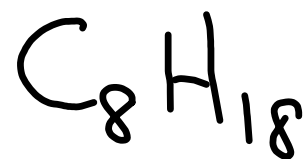
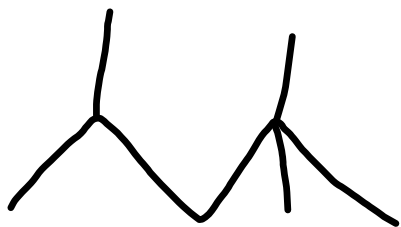
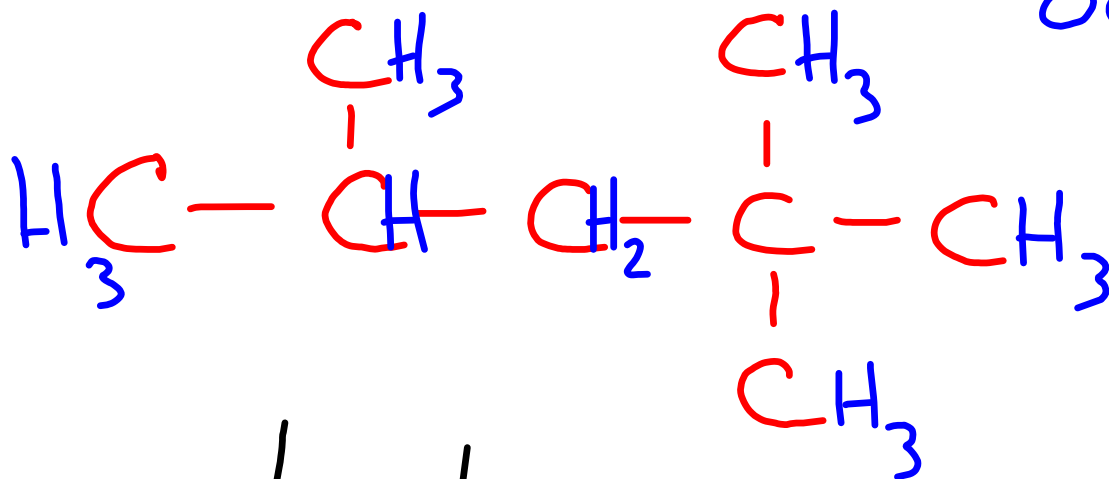
general formula for
alkanes



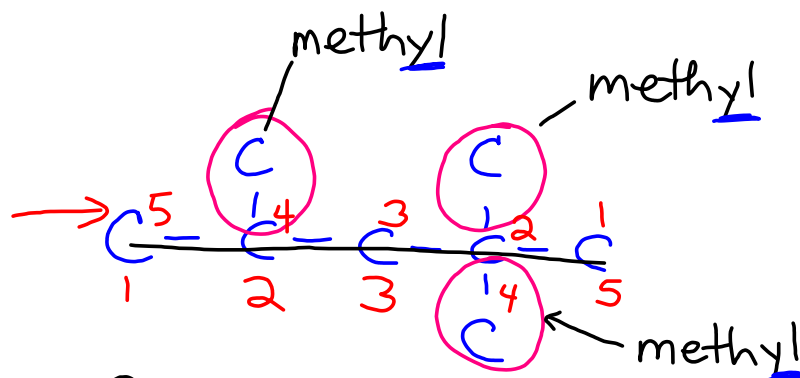


Octane C_8H_{18}

isomer of
octane



isomer - same # of C's
And H's but built differently
and having a different name.



① Find the longest chain

pentane

② Find the branches and name them.

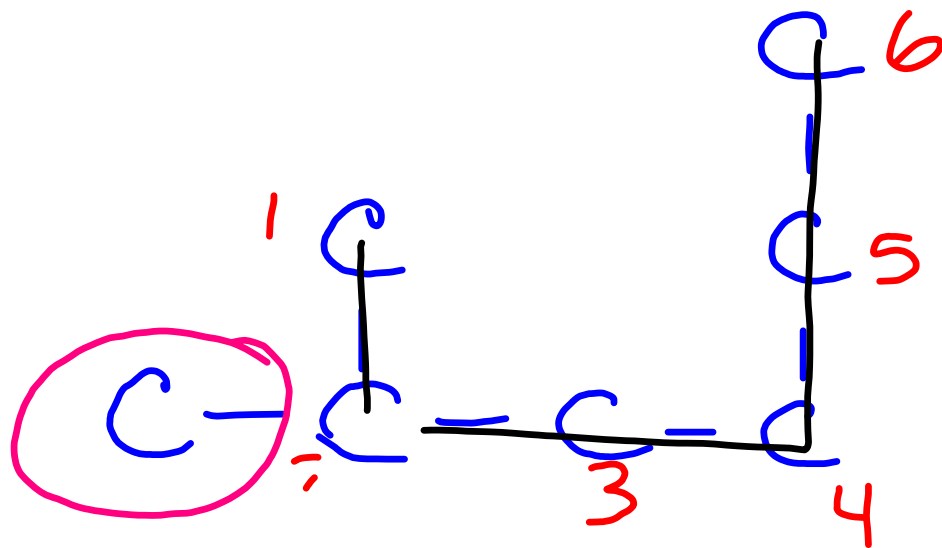
③ If more than one group with the same name, use di, tri, tetra, penta

trimethyl pentane

④ Number main chain such that the one with the most # of branches or largest in mass gets the lowest #.

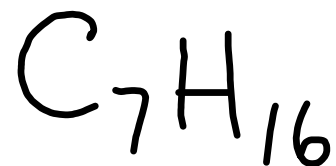
2,2,4-trimethyl pentane

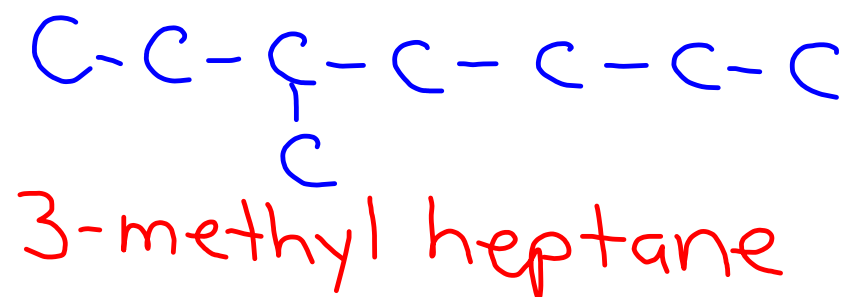
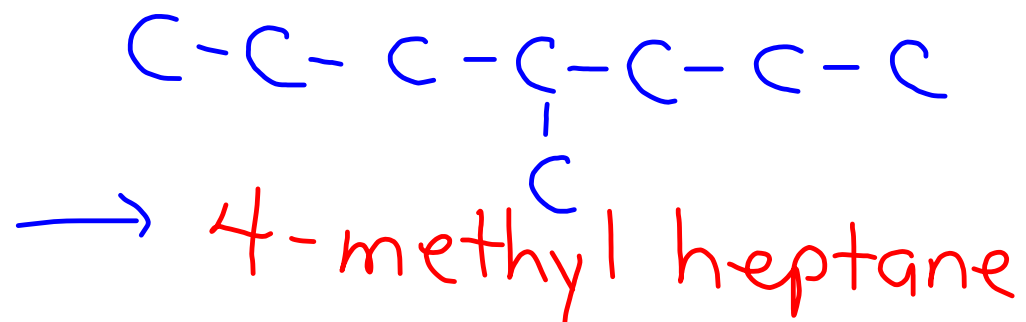
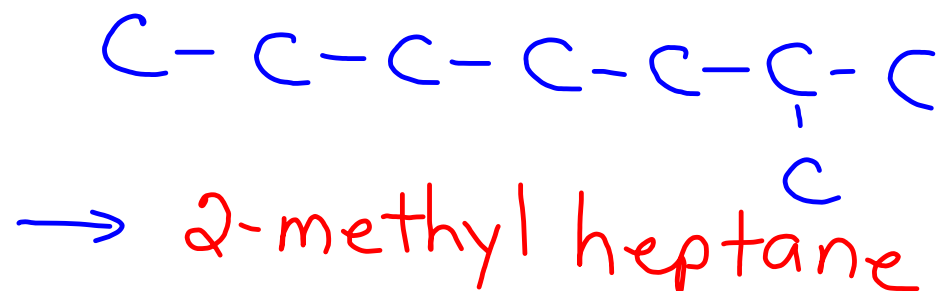
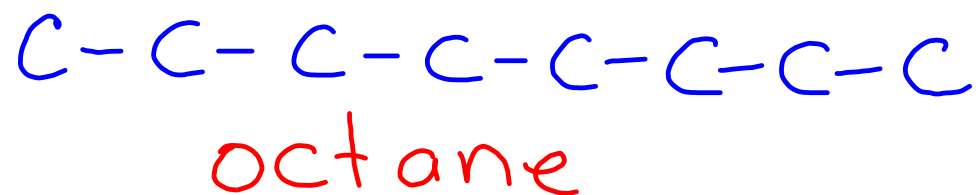
$$1 + 1 + 1 + 5 = 8$$

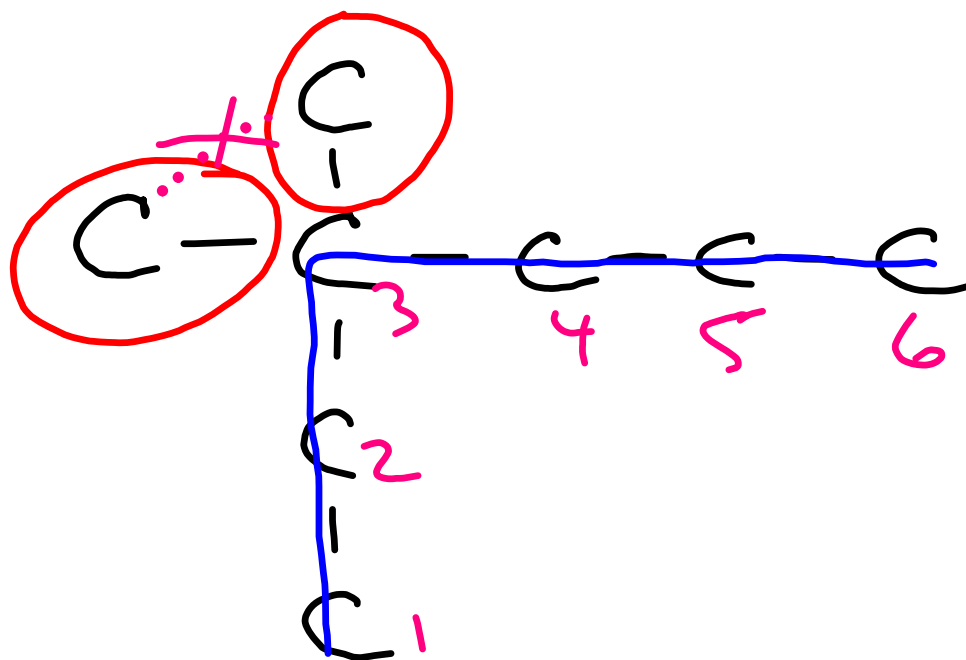


2-methyl hexane

$$1 + 6 = 7$$

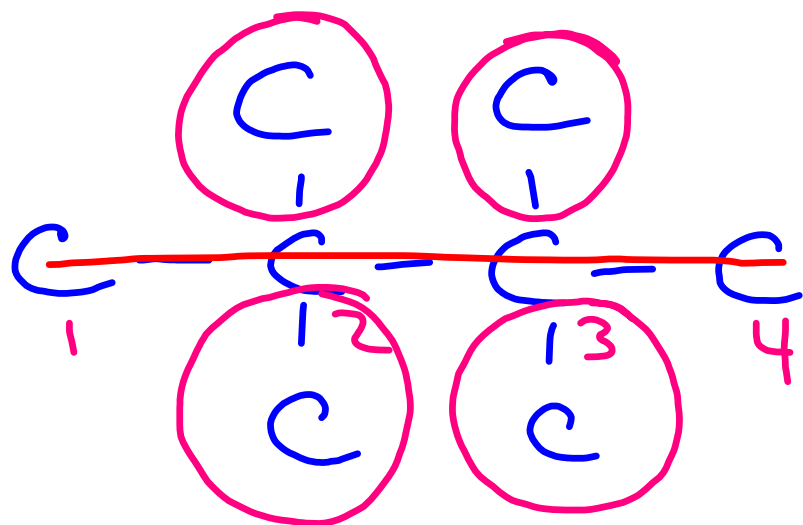




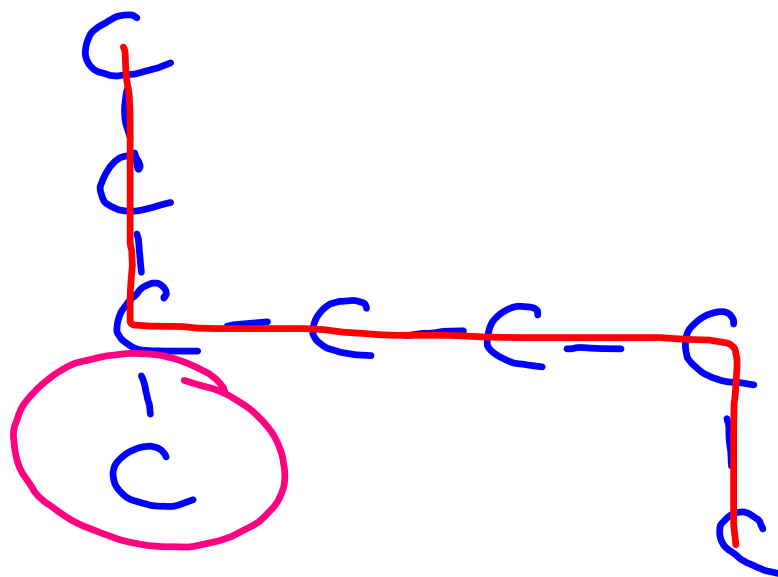


3,3-dimethyl
2 1 + 1

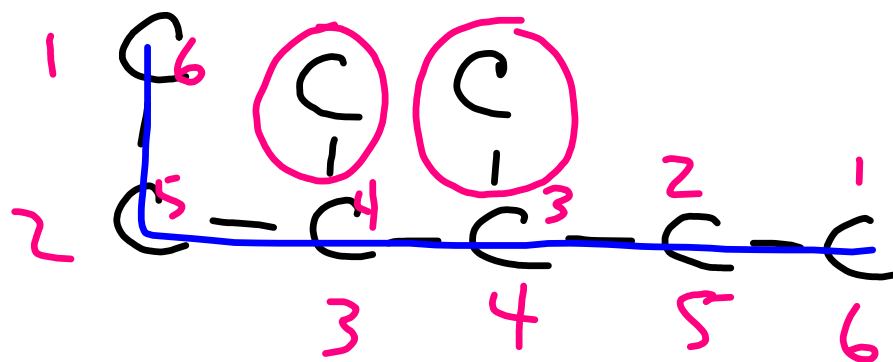
hexane
6



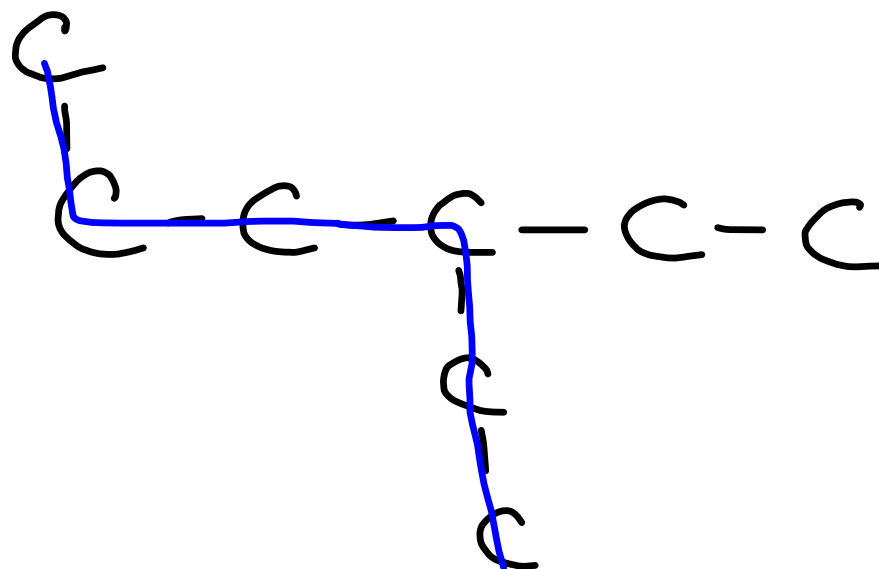
2,2,3,3-tetramethyl butane
 1+1+1+1
 4



3-methyl heptane

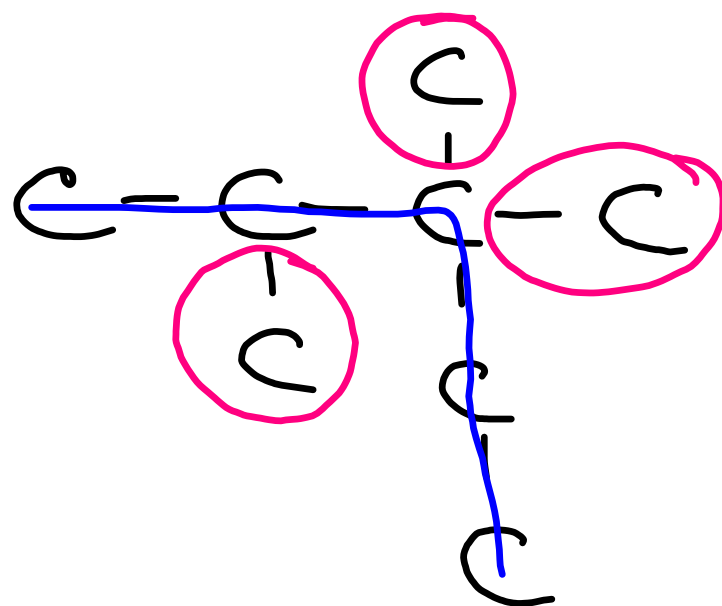


3,4-dimethyl hexane



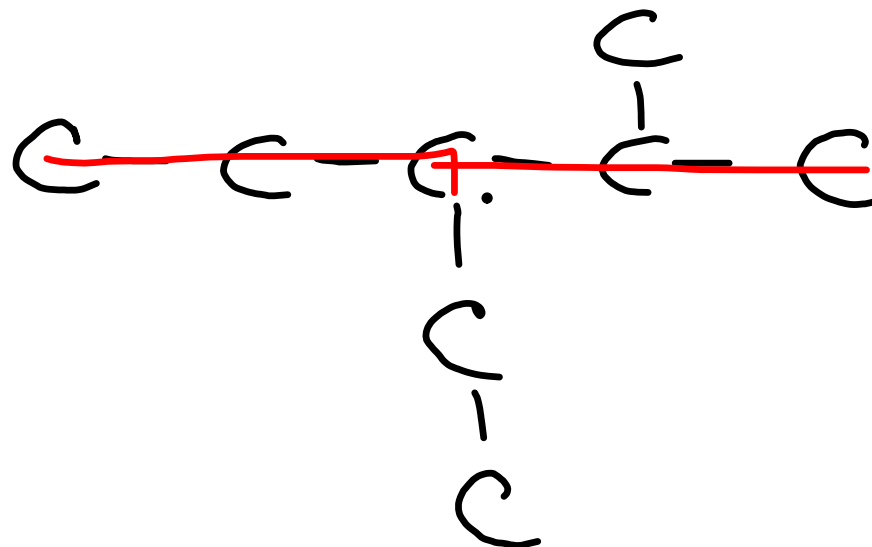
3-ethyl hexane

$$2 + 6 = 8$$

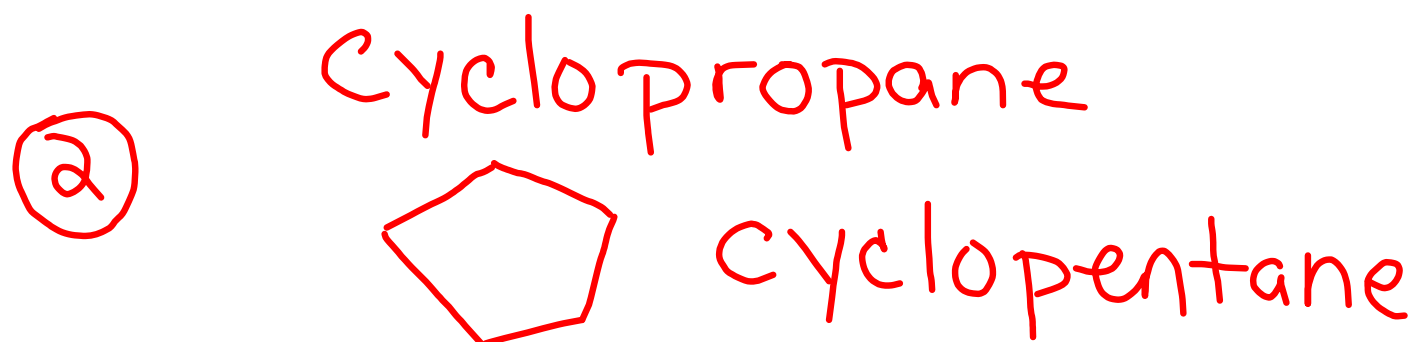
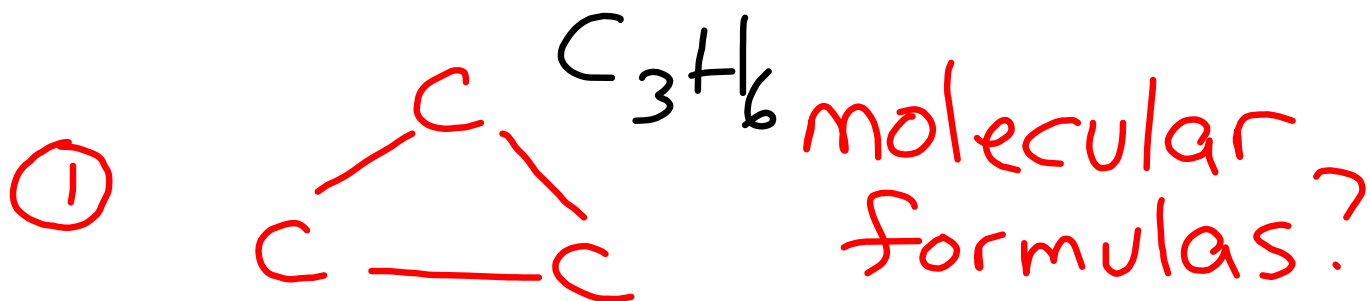


2,3,3-trimethylpentane

2-methy-3-ethyl pentane



Cycloalkanes C_nH_{2n}



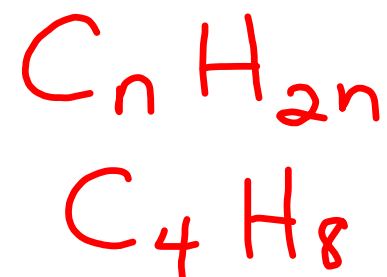
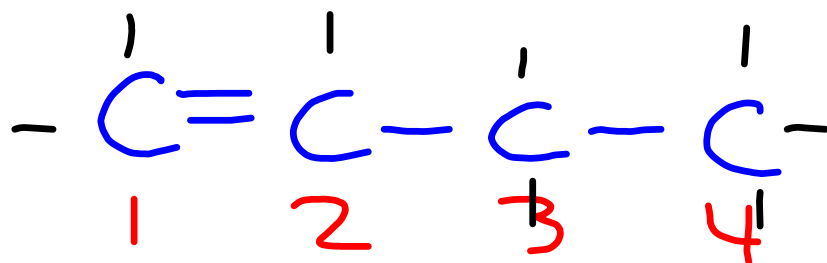
Put Hs on them. C_5H_{10}

alkenes contain one double bond which must be in the main chain and receiving the lowest #.

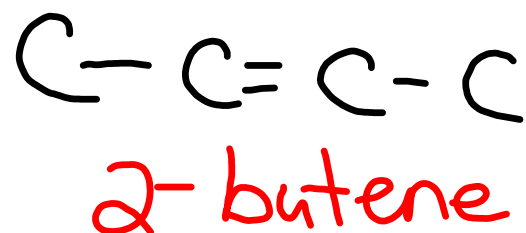
alkynes contain one triple bond which ...

alkenes $C_n H_{2n}$
cycloalkenes $C_n H_{2n-2}$
alkynes $C_n H_{2n-2}$

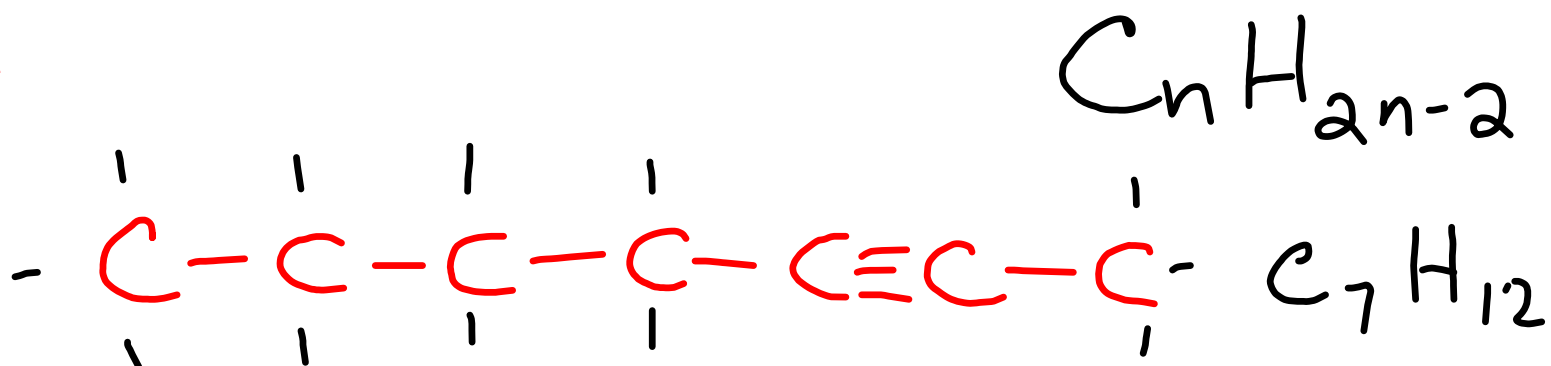
1.



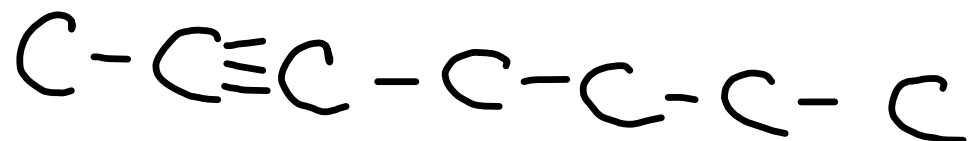
isomer of butene



4.

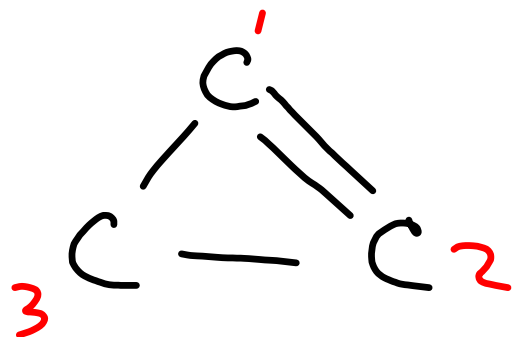


2-heptyne



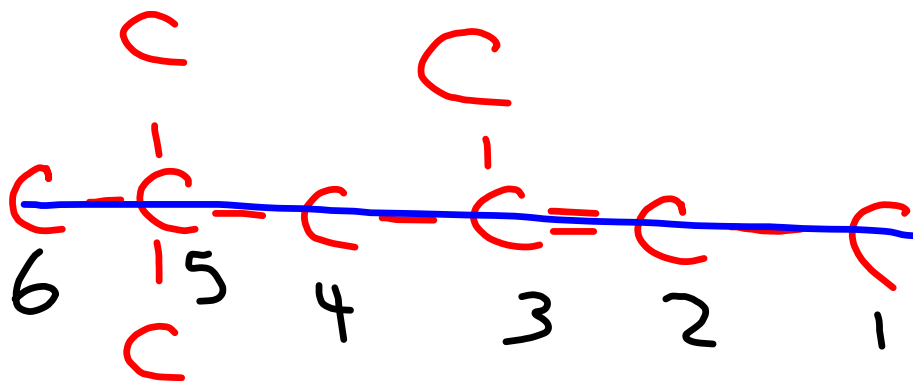
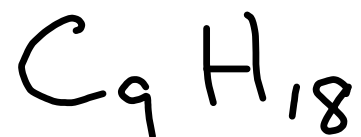
2-heptyne

6.



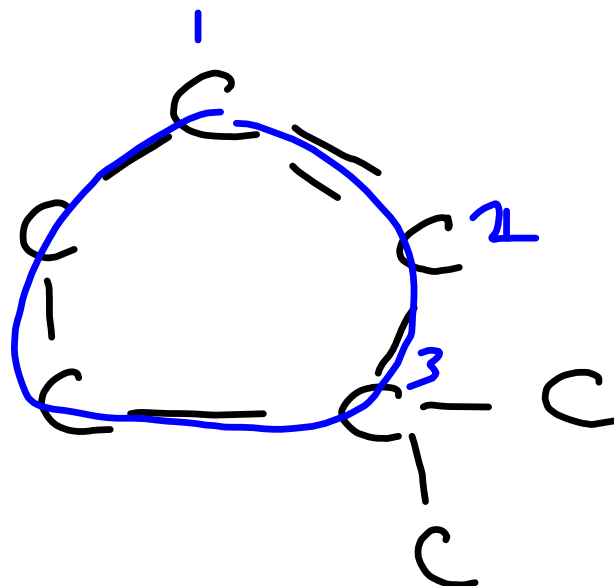
1- Cyclopropene

8.



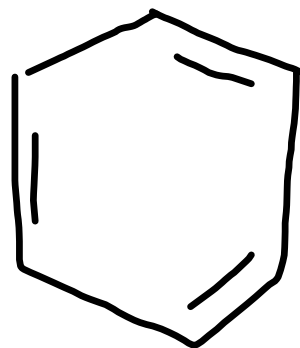
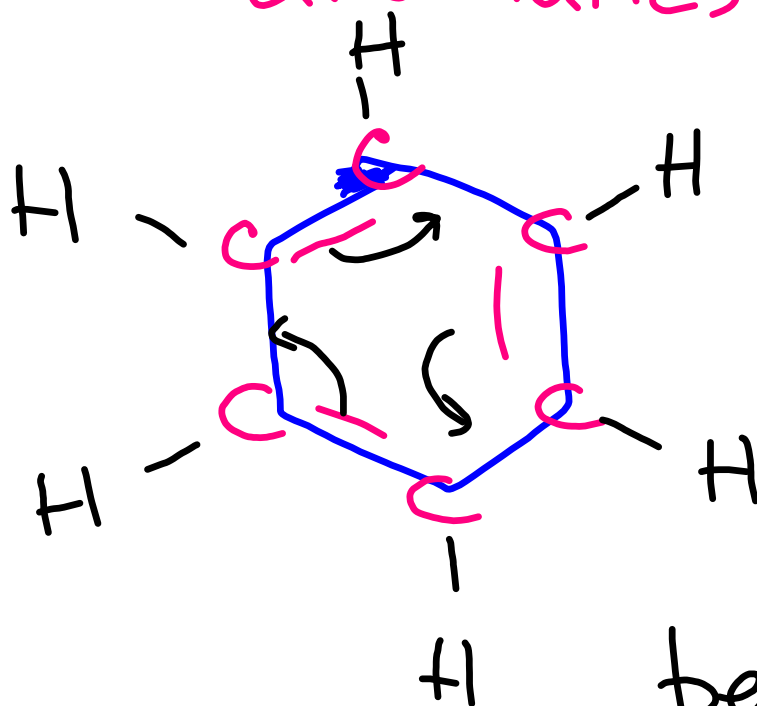
3,5,5-trimethyl 2-hexene
1 + 1 + 1 + 6

12.



3,3-dimethyl-1-cyclopentene

aromatics



benzene

