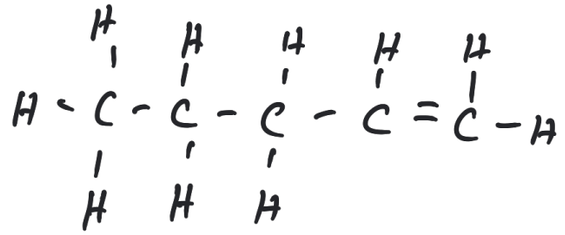
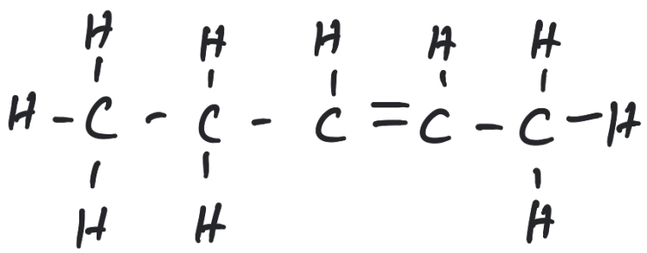
Alkenes C_nH_{2n} suffix -ene

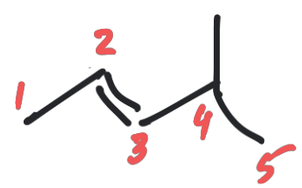
- contain at least one double bond
- naming: root must contain both C-atoms of the double bond, even if it is not the longest chain
- chain is numbered from the end closer to the double bond; position is indicated by first C-atom in it



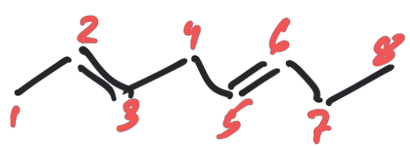
1-pentene



2-pentene



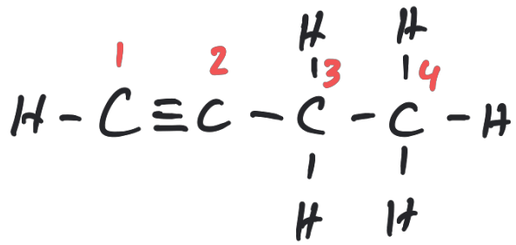
4-methyl-2-pentene



2,5-octadiene

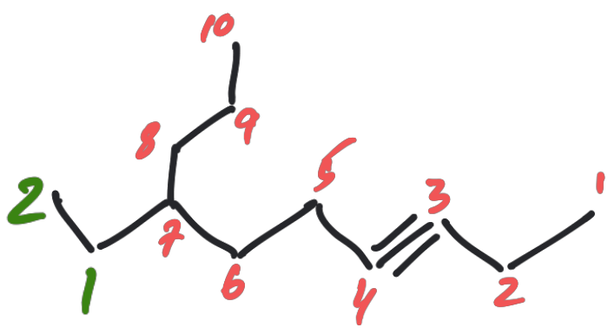
Alkynes C_nH_{2n-2} suffix -yne

- contain at least one triple bond
- named following the same rules as for alkenes except for the suffix



1-butyne

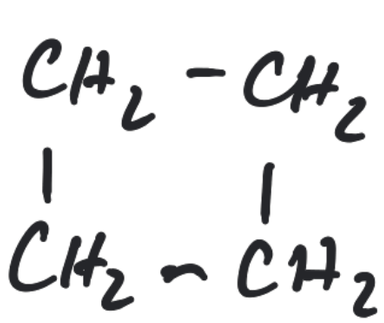
2-octyne



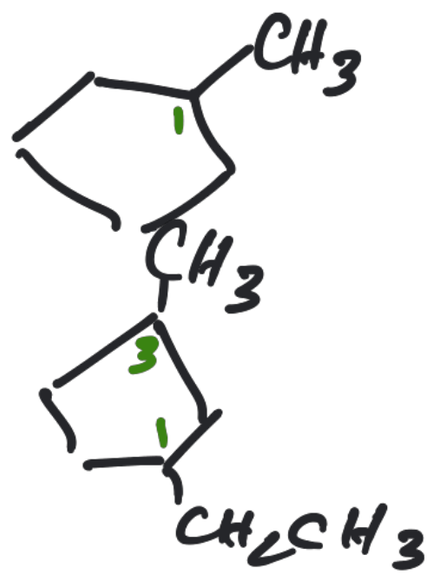
7-ethyl-3-decyne

Cycloalkanes C_nH_{2n}

- formed when straight chain hydrocarb. form a ring
- prefix - cyclo suffix - ane



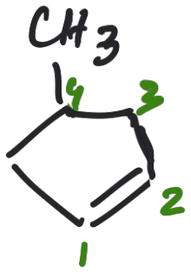
cyclobutane



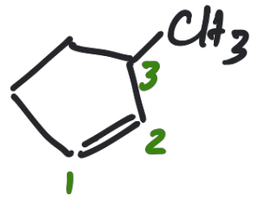
1-methyl-cyclopentane

1-ethyl-3-methyl cyclopentane

cyclopentene



4-methylcyclopentene



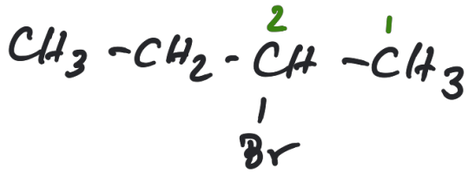
3-methylcyclopentene

Functional Groups

Halohydrocarbons -F, -Cl, -Br, -I

$CH_3CH_2CH_2-Cl$ propyl chloride

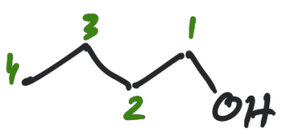
but:



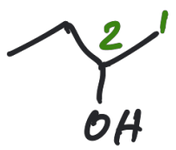
2-bromo butane

Alcohols -OH R-OH -ol

$CH_3CH_2CH_2-OH$ propanol



butanol



2-butanol

Ethers:

Functional group $-O-$

General Formula $R-O-R'$

Naming (R group 1)(R group 2) ether

$CH_3CH_2-O-CH_2CH_2-CH_3$ ethyl propyl ether

CH_3-O-CH_3 dimethyl ether

Aldehydes:

Functional group $-\overset{O}{\overset{\|}{C}}-H$

General Formula $R-\overset{O}{\overset{\|}{C}}-H$

Naming -al

$CH_3CH_2\overset{O}{\overset{\|}{C}}-H$ propanal

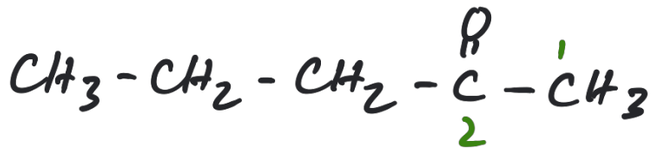
3-methylpentanal

Ketones:

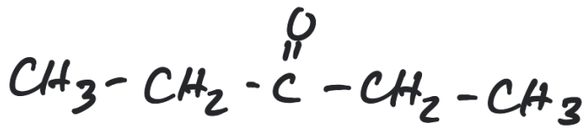
Functional group $-\overset{O}{\overset{\|}{C}}-$

General Formula $R-\overset{O}{\overset{\|}{C}}-R'$

Naming -one



2-pentanone

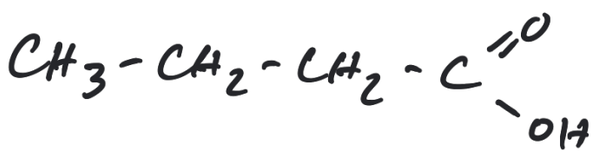


3-pentanone

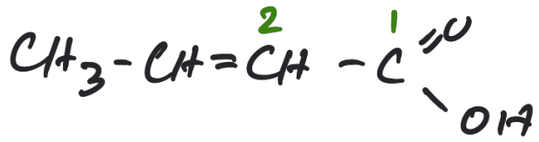
Carboxylic Acid

Functional group: $-\overset{O}{\overset{\|}{C}}-OH$

naming : -oic acid



butanoic acid

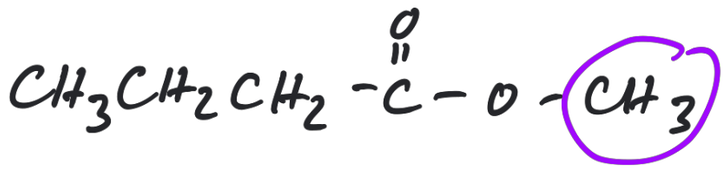


2-butenoic acid

3-methyl-pentanoic acid

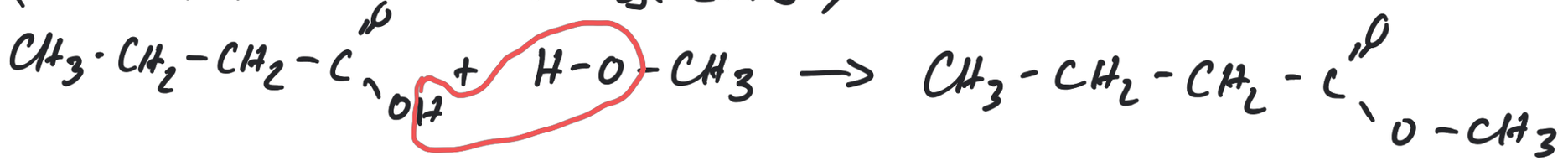
Ester

naming : oate



methyle butanoate

(butanoic acid methyle ester)

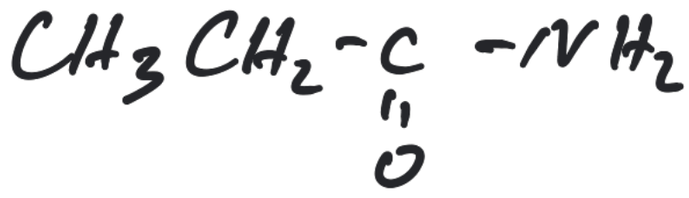


Amines: $-NH_2$

$CH_3CH_2-NH_2$ ethylamine

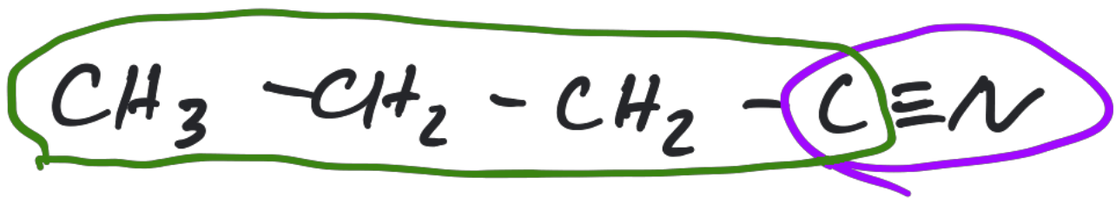
ethyle propyle amine

Amide



propanamide

Nitrile: $-C\equiv N$



butanenitrile

Amino Acids