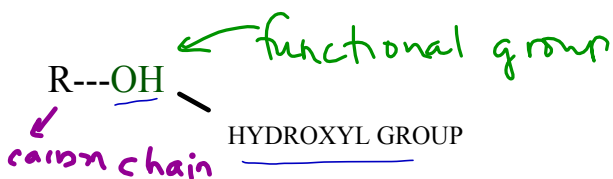
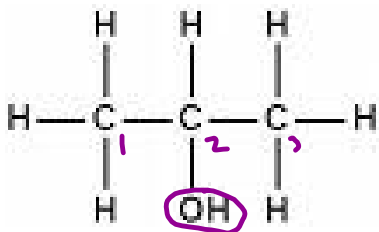


Organic Families

ALCOHOLS

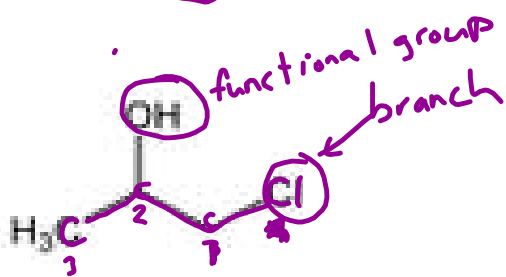


The suffix name is---ol

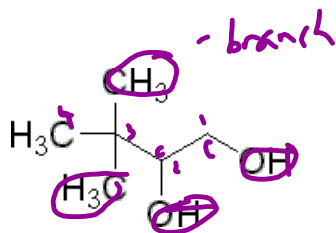


* propan-2-ol *

2- propanol becomes 2-propanol



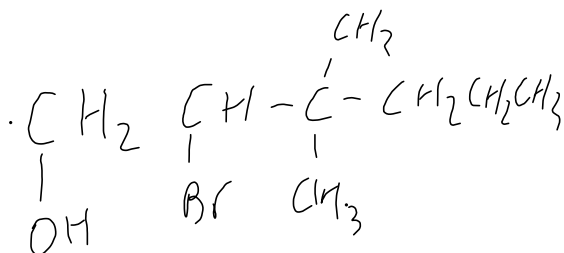
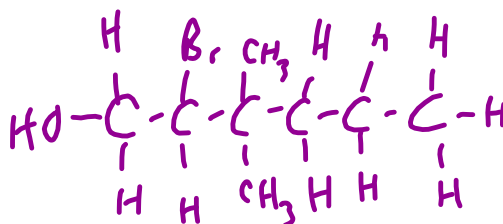
Name: 2-chloropropan-2-ol

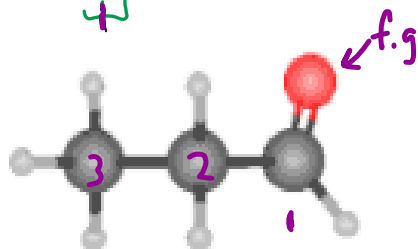
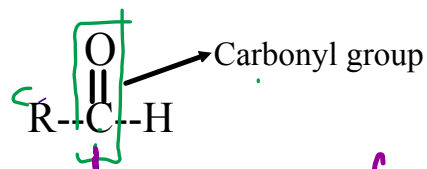


Name: 3,3-dimethylbutan-1,2-diol

2-bromo-3,3-dimethyl-1-hexanol

hexan-1-ol

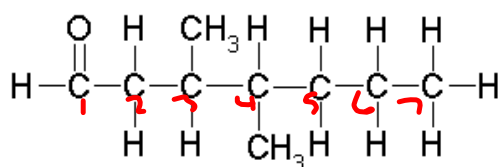


Aldehydes

The functional group is always C#1

Suffix _____al

Name: *propanal*



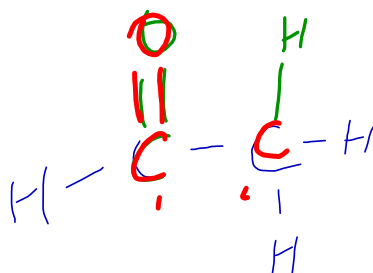
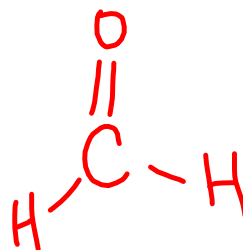
Name *3,4-dimethylheptanal*

Common Names

formaldehyde (an aldehyde with one carbon)

acetaldehyde (an aldehyde with two carbons)

acet = 2 C's



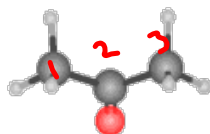
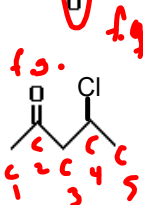
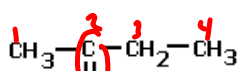
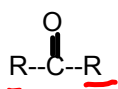
ethanal

↑
I.U.P.A.C

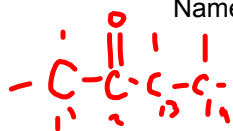
Ketones

Carbonyl group $\text{C}=\text{O}$ is on a middle carbon, not on the end.

Suffix _____one



Name



Name

Name

2-butanone

butan-2-one

4-chloropentan-2-one

propan-2-one

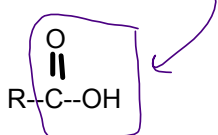
2-propanone

propanone

acetone

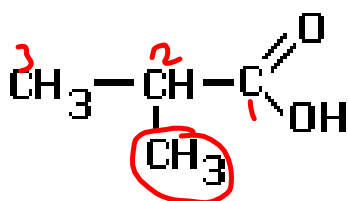
Carboxylic Acids

contain the carboxyl functional group

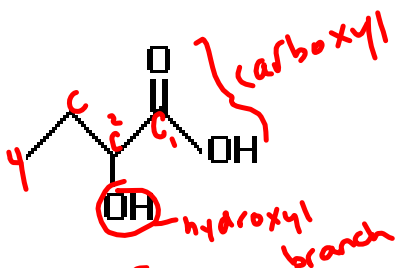


Carbonyl + hydroxyl = Carboxyl!

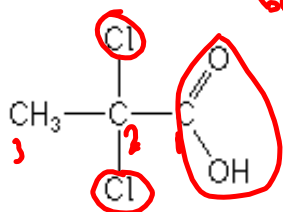
Suffix: _____ oic acid



Name: 2-methyl propanoic acid



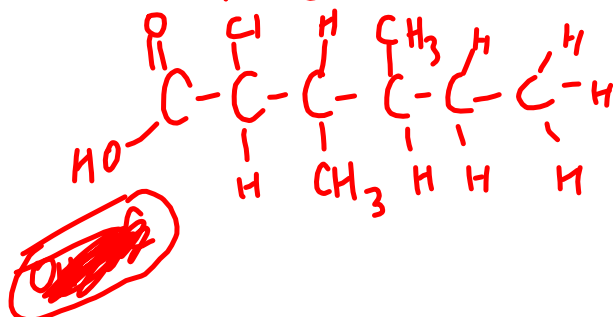
Name: 2-hydroxybutanoic acid



Name: 2,2-dichloropropanoic acid

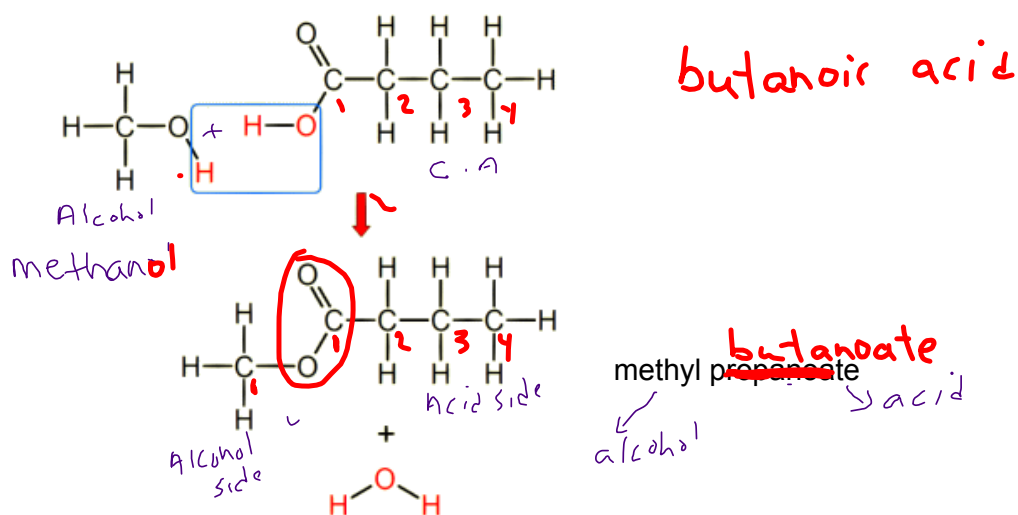
3,4-dimethyl-2-chlorohexanoic acid

2-chloro-3,4-dimethyl hexanoic acid



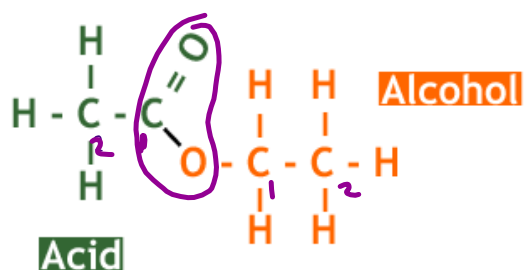
Esters

formed when a carboxylic acid reacts with an alcohol in the presence of a catalyst.
A condensation reaction occurs yielding an ester and water.



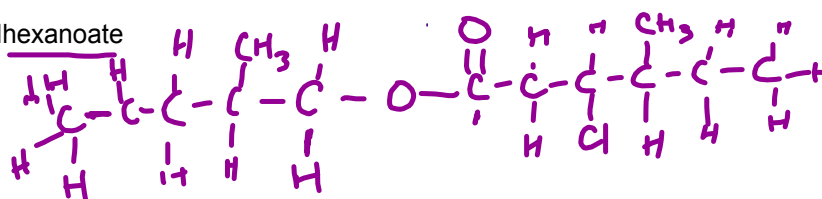
How to Name an Ester:

1. Name the alcohol first.
2. Change the "ol" ending to "yl"
3. Change acid name from "oic acid" to "oate"



ethyl ethanoate

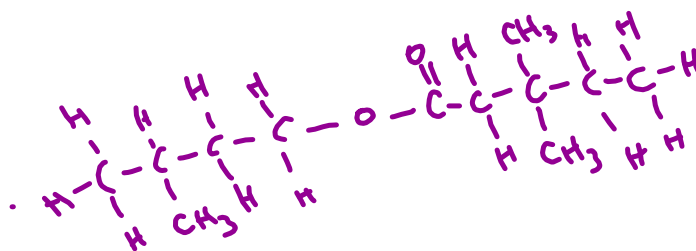
2-methylpentyl-3-chloro-4-methylhexanoate



3-methyl butyl-3,3-dimethylpentanoate

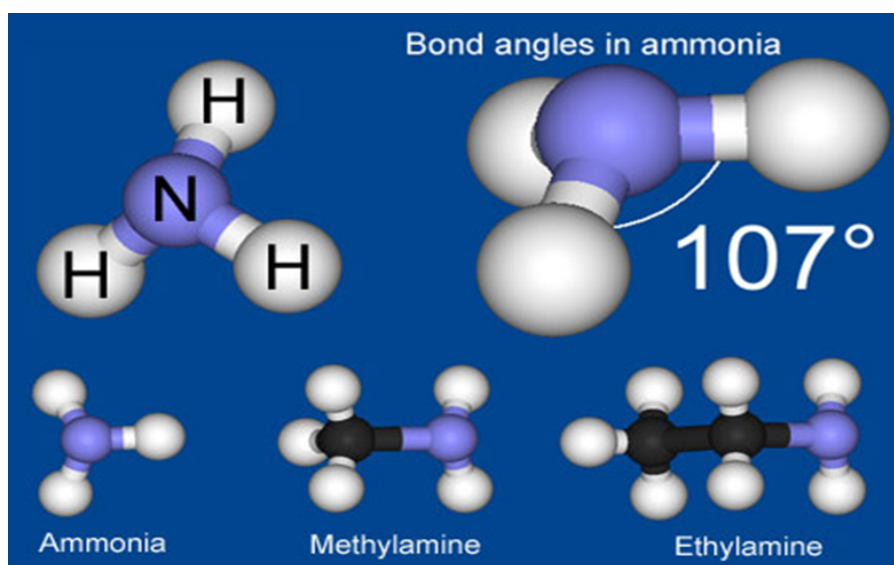
alcohol

acid



Amines

- Characterized by ---NH_2 attached to a carbon atom. An ammonia molecule that attaches to a carbon chain.

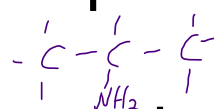
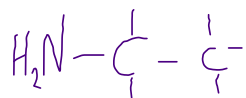


Naming Amines

There are two ways:

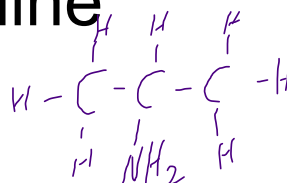
Treat the --NH₂ as a branch called amino.

1-aminoethane, 2-amino propane



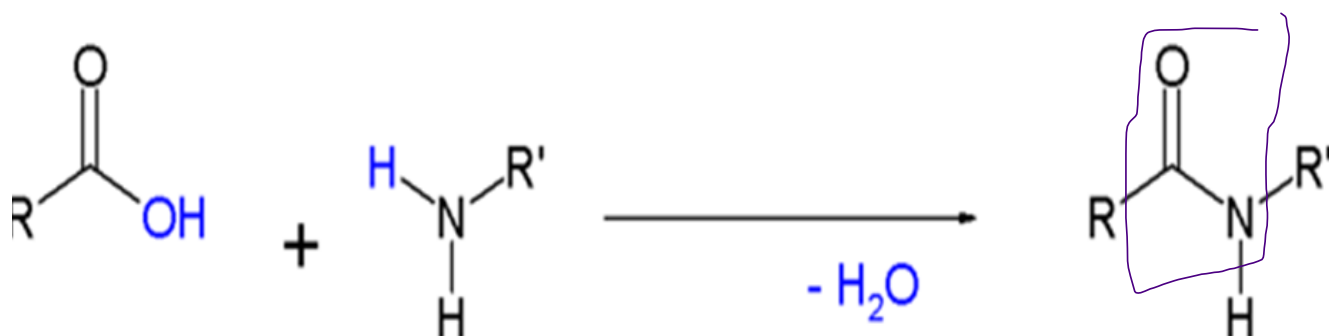
Or, name the longest carbon chain, drop the e, and add *amine* to the ending.

Ethanamine, 2-propanamine



Amides

Amines react with carboxylic acids to form amides. This is similar to an esterification reaction where water is produced.



Naming Amides

Same rule as naming esters. Esters end in *oate*, where amides end in *amide*.

Butanoic acid + methylamine
methylbutanamide + water

