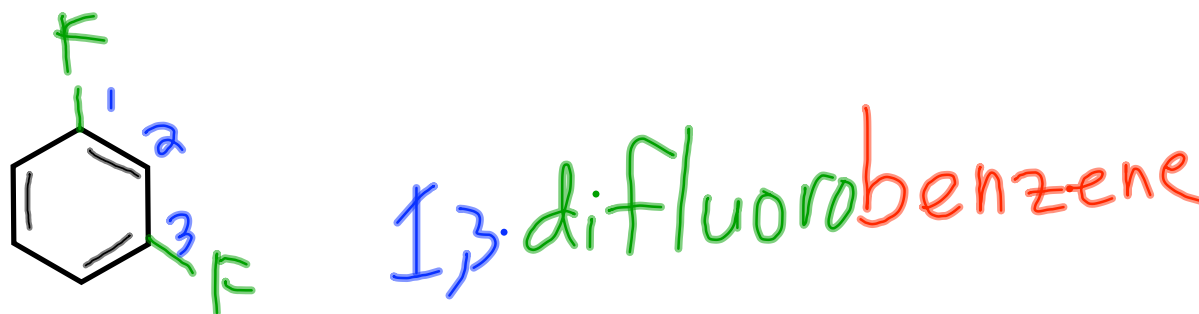
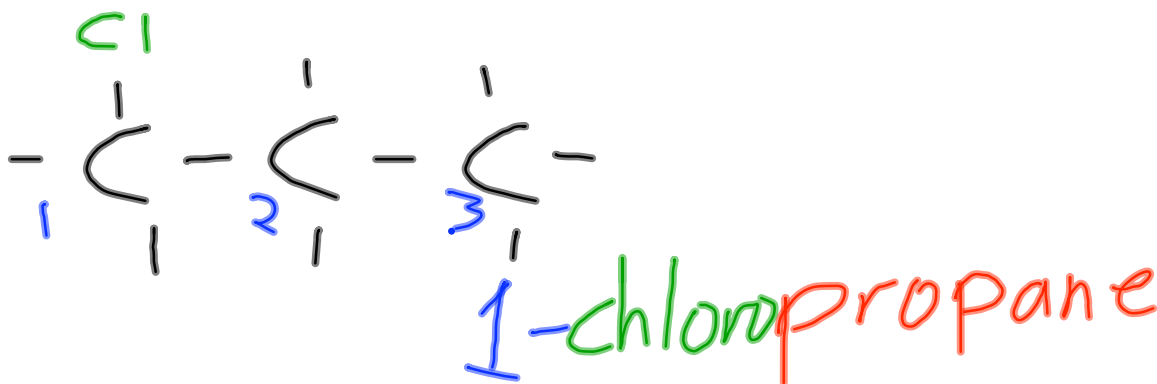


Functional Groups

- a group of atoms attached to a hydrocarbon chain
- usually O, N & H
- the number of atoms and their arrangement determine the chemical properties of the chain
- **R** and **R'** represent generic hydrocarbon chains

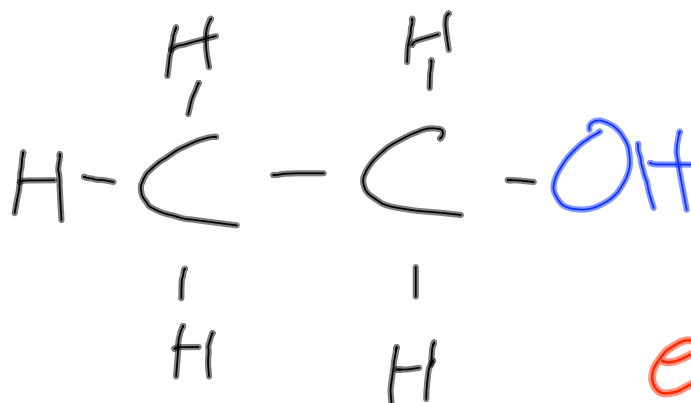
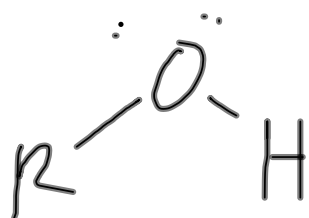
Halocarbon

- a hydrocarbon chain with a halogen (F, Cl, Br, I) attached to a carbon
- named with appropriate prefix: "fluoro-", "chloro-", "bromo-", "iodo-"

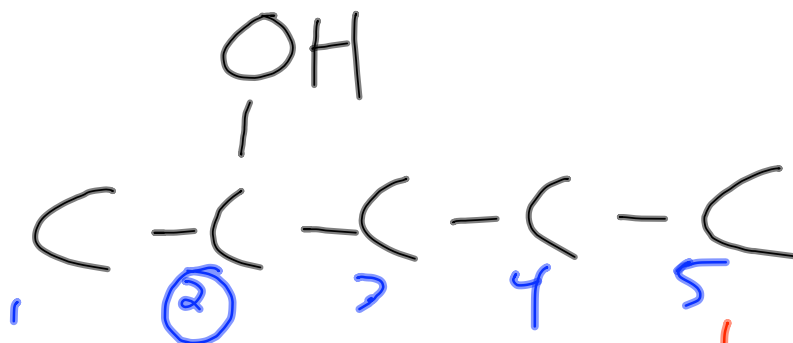


Alcohol

- a hydrocarbon chain with an -OH (hydroxyl) group attached to a carbon
- named with **-ol** suffix



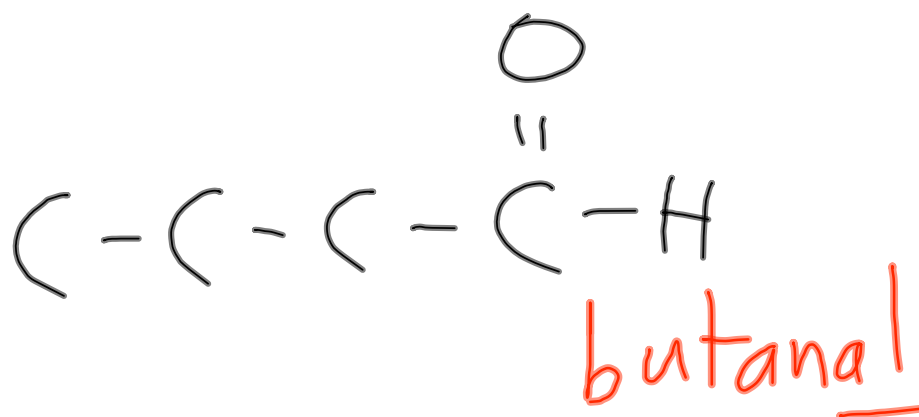
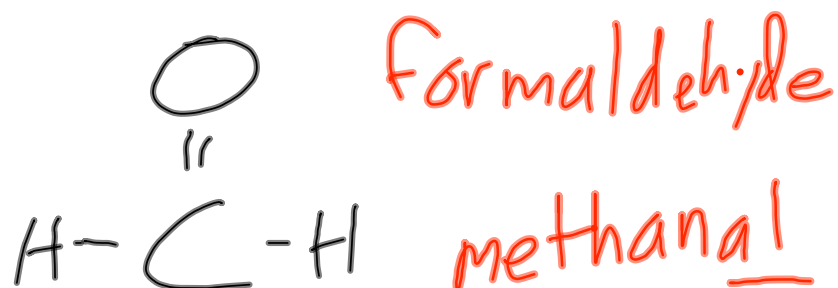
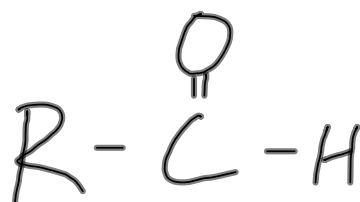
ethanol
(ethyl alcohol)



2-pentanol

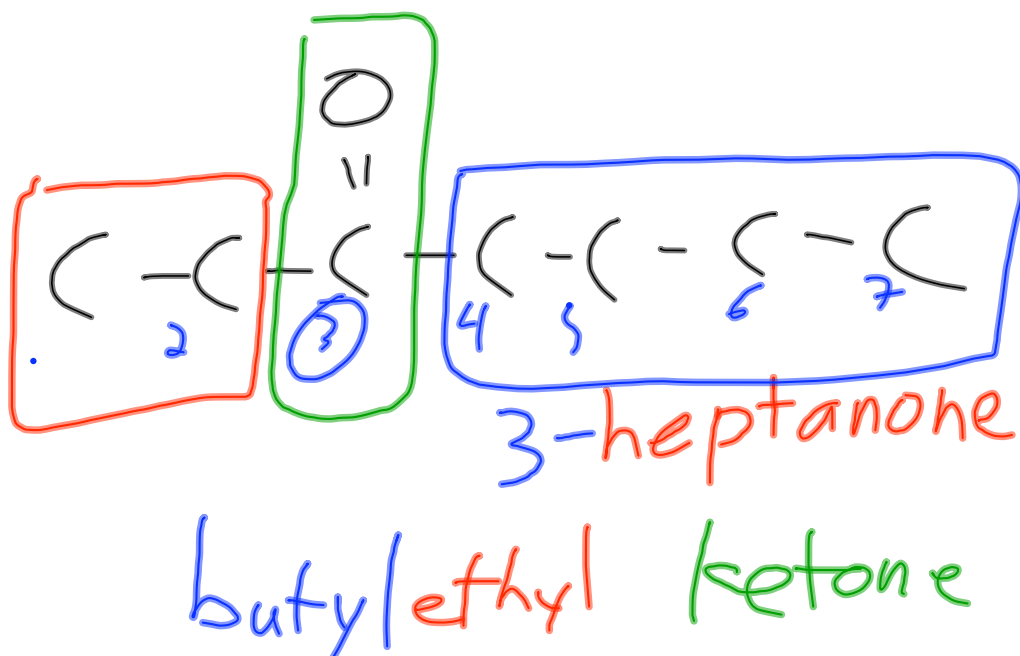
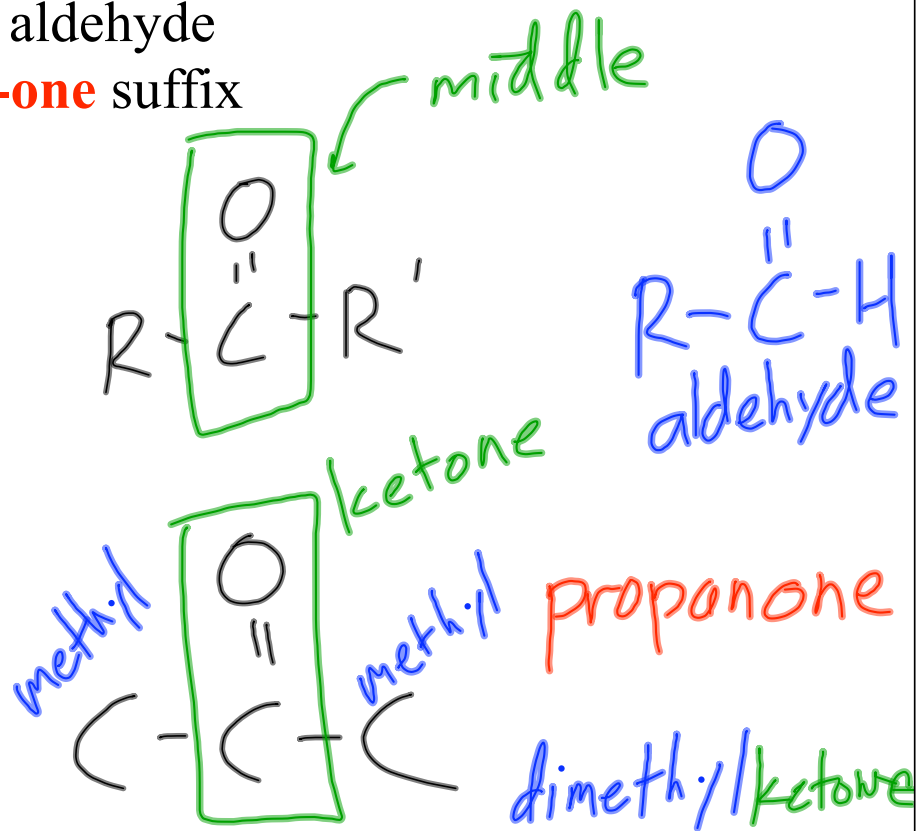
Aldehyde

- a hydrocarbon chain with an oxygen double-bonded to the last carbon
- named with **-al** suffix



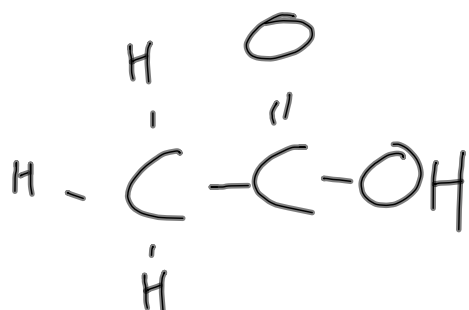
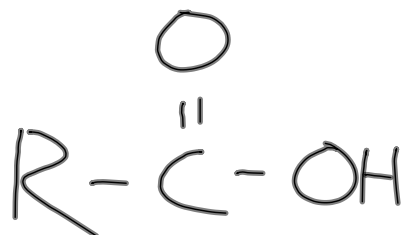
Ketone

- a hydrocarbon chain with an oxygen double-bonded to a carbon somewhere on the chain
- similar to an aldehyde
- named with **-one** suffix

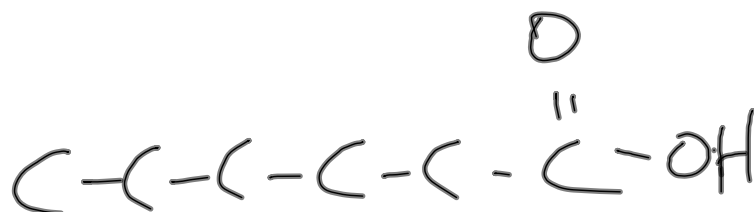
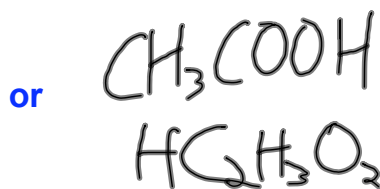


Carboxylic Acid

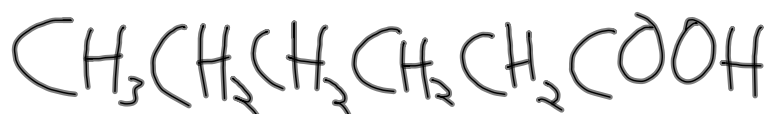
- a hydrocarbon chain with an oxygen double-bonded to the last carbon AND an -OH (hydroxyl) group also attached to the last carbon
- similar to a combination of aldehyde & alcohol
- named with **-oic acid** suffix



ethanoic acid

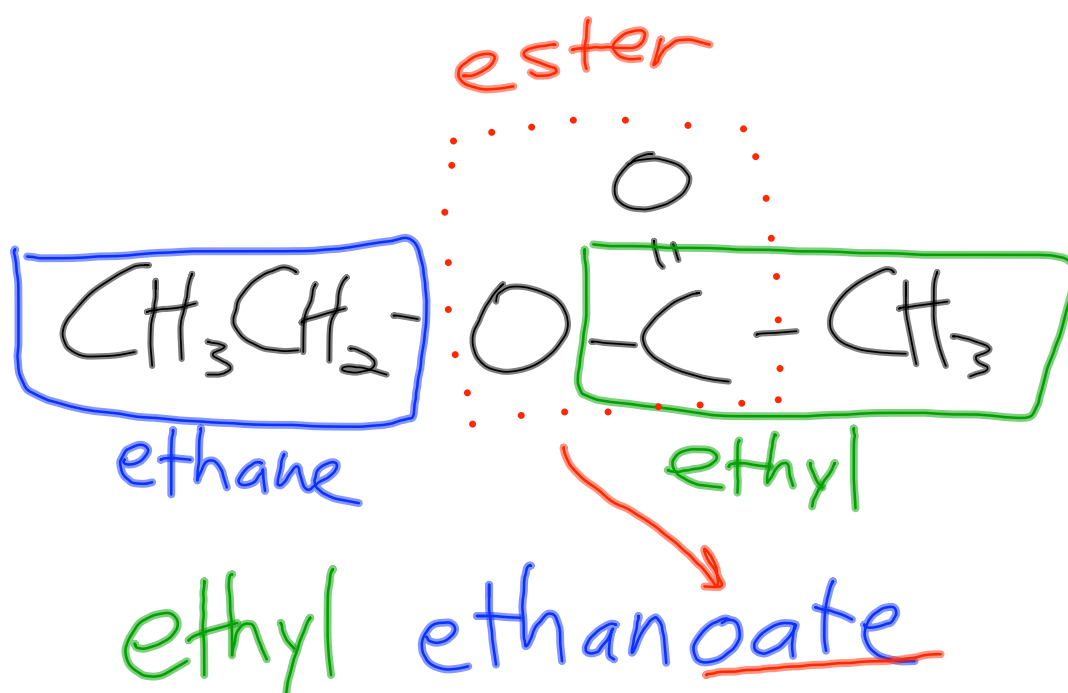
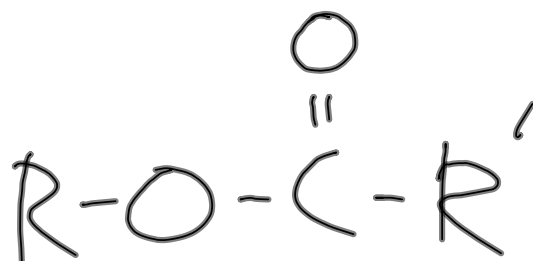


hexanoic acid



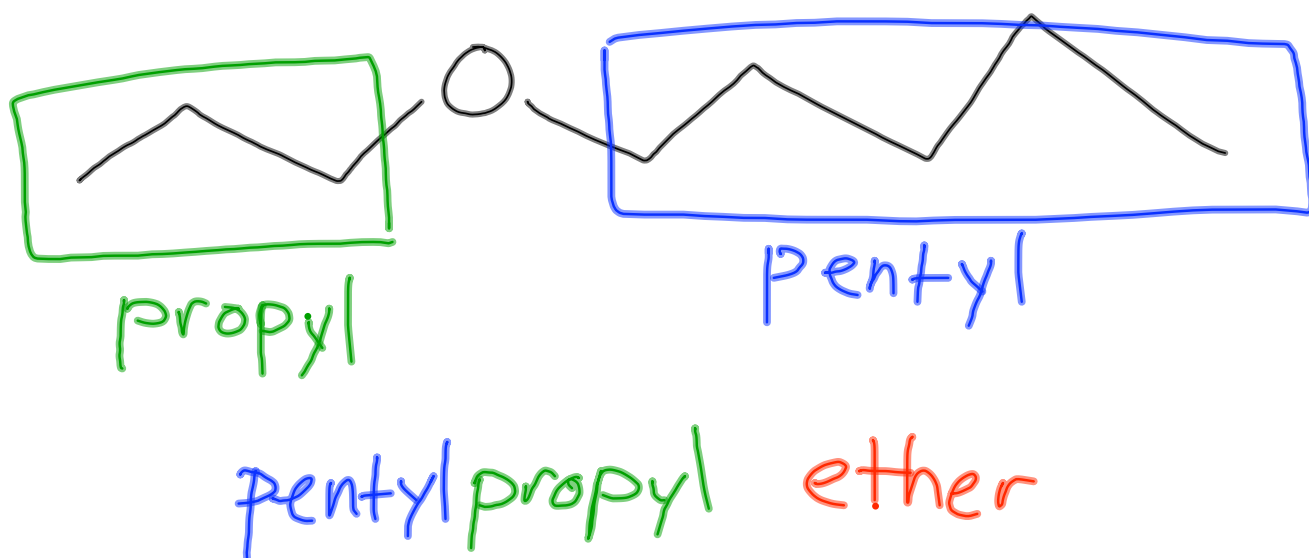
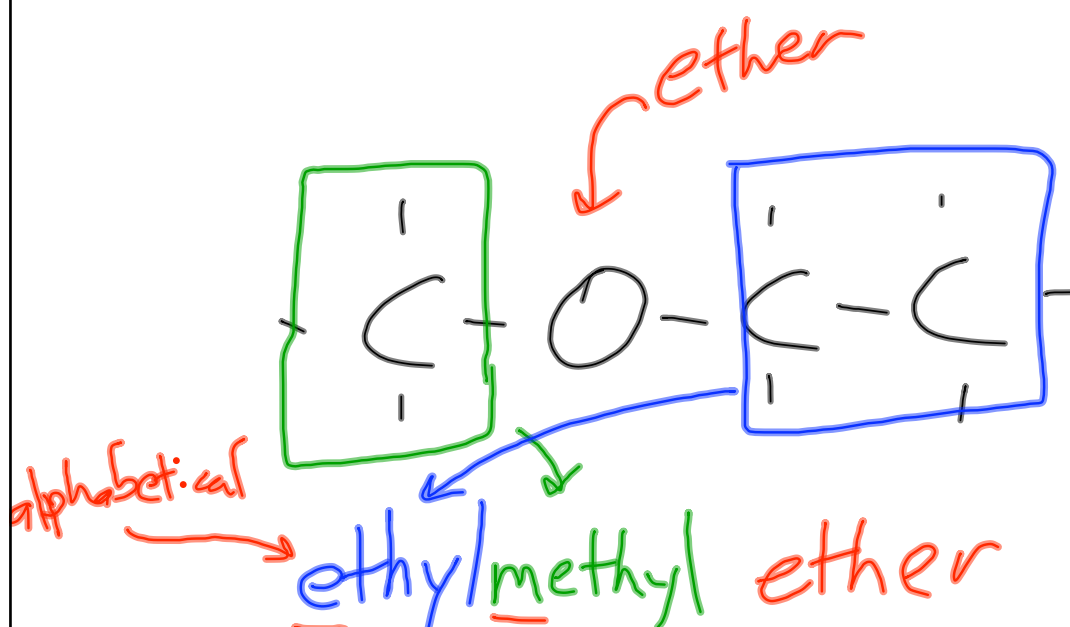
Ester

- a hydrocarbon chain with a carbon somewhere in the chain with both a double-bonded oxygen and a single-bonded oxygen
- the chain continues off the single-bonded oxygen
- responsible for many fragrances and odors
- named with **-oate** suffix



Ether

- a hydrocarbon chain with an oxygen in the middle of the chain
- named with "**ether**" suffix



Amine

- a hydrocarbon chain with a nitrogen at the end or in the middle of the chain
- named with **"-amine"** suffix or **"amino-"** prefix

Amide

- a hydrocarbon chain with a nitrogen and ketone group in the middle of the chain
- named with "**amide**" suffix
- named similarly to carboxylic acids; cross out "-oic acid" and replace with "-amide"