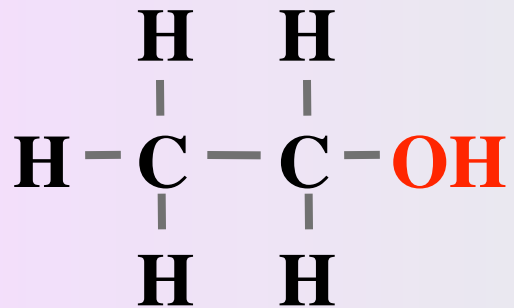


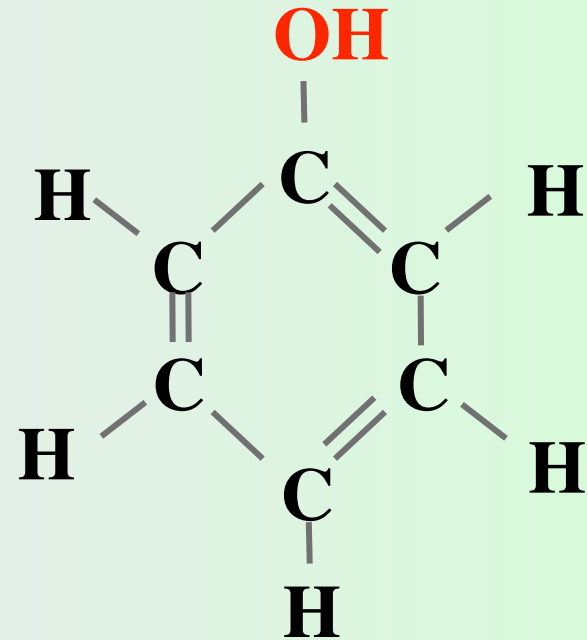
More Functional Groups

Alcohols

contain at least one **hydroxyl group (-OH)**



ethanol



benzenol

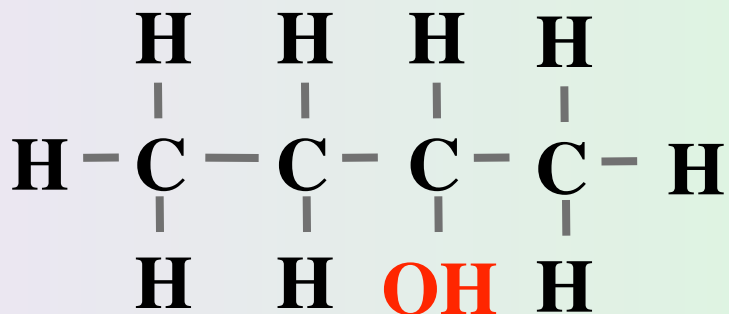
phenol

Alcohols

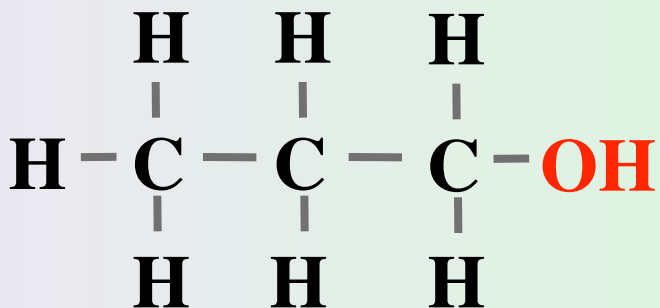
The systematic name for an alcohol is obtained by replacing the *-e* of the parent hydrocarbon with *-ol*.

The **-OH** group is specified by a number

2-butanol

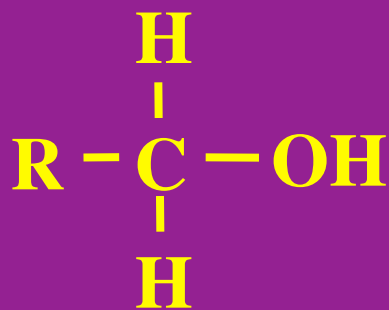


1-propanol

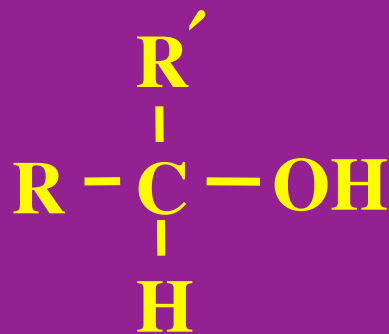


Alcohols

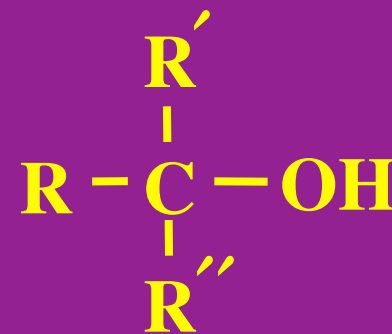
alcohol's are classified according to the number of hydrocarbon fragments bonded to the carbon where the -OH group is attached.



Primary alcohol



Secondary alcohol

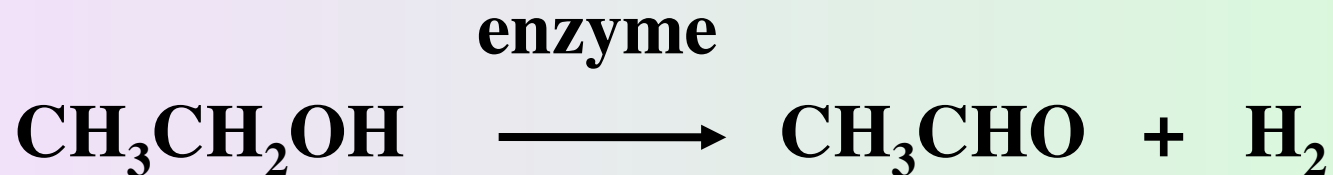


Tertiary alcohol

where R R' R'' represent hydrocarbon fragments

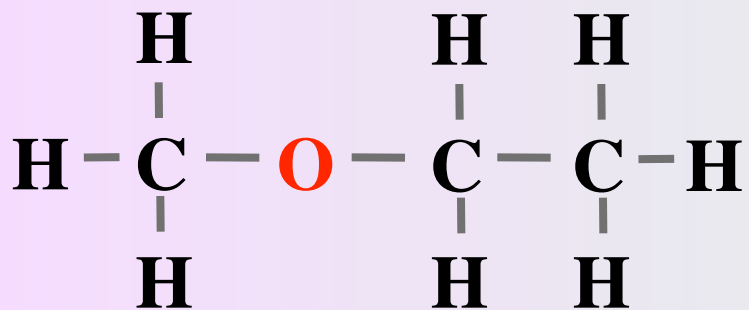
Ethanol

has countless applications as a solvent for organic chemicals and as a starting compound

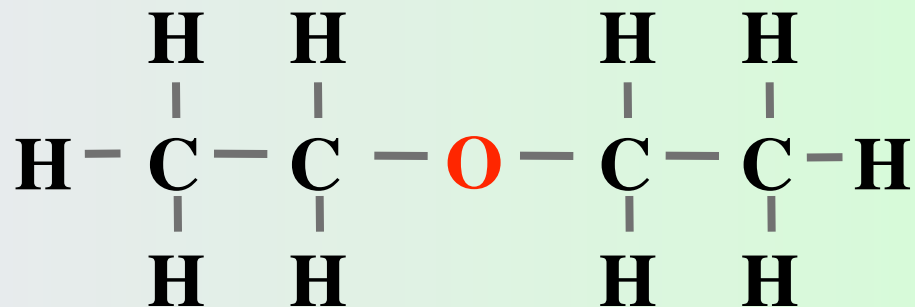


Ethers

contain the (**R-O-R'**) group



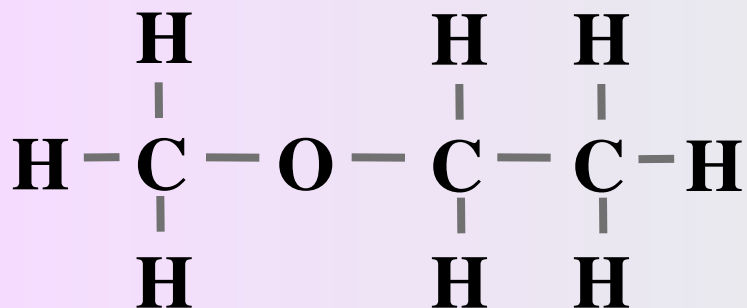
Ethyl methyl ether



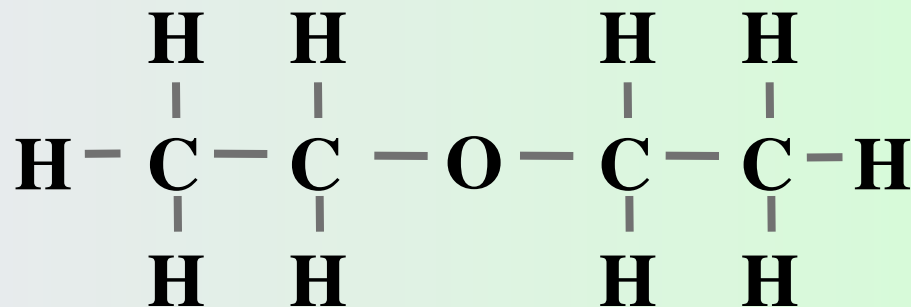
Diethyl ether

Ethers

Names of ethers are derived by listing the two alkyl groups in the general structure ROR' in alphabetical order as separate words, and then adding ether to the end.



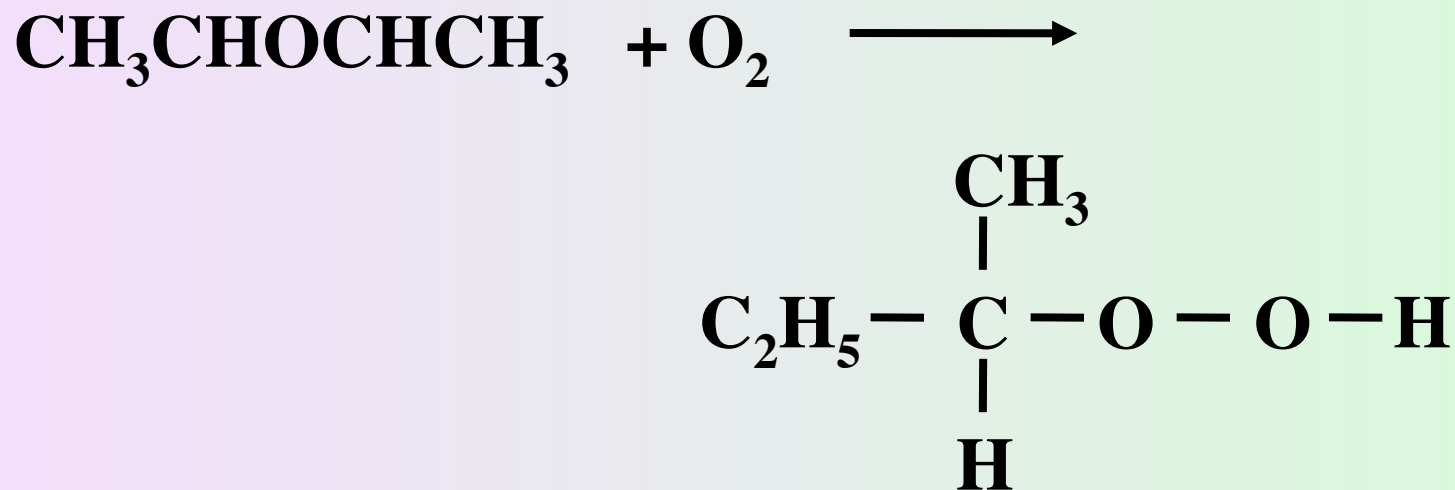
Ethyl methyl ether



Diethyl ether

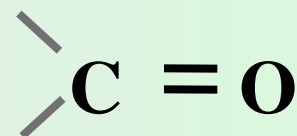
Ethers

Like alcohols ethers are extremely flammable. When left standing in air, they have a tendency to slowly form explosive peroxides



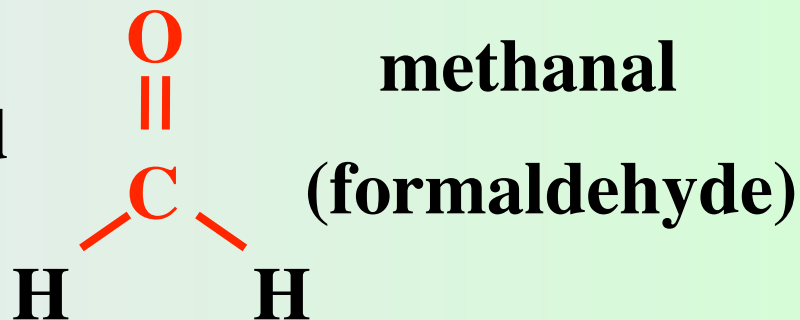
Aldehydes and Ketones

contain a carbonyl group



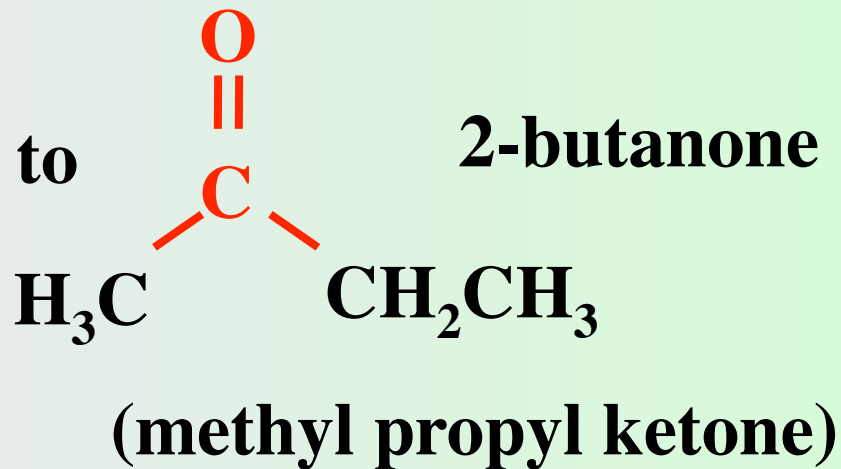
Aldehydes

at least one hydrogen is bonded to the carbonyl group



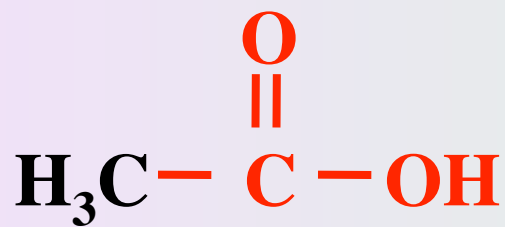
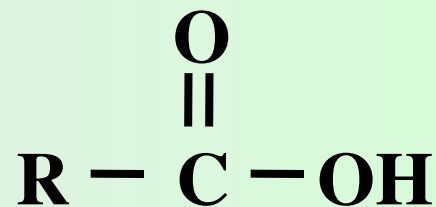
Ketones

no hydrogen atoms bonded to the carbonyl group

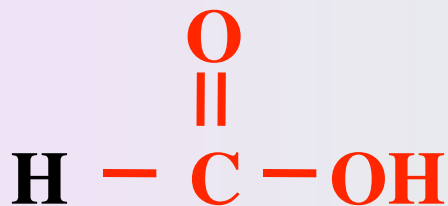


Carboxylic Acids

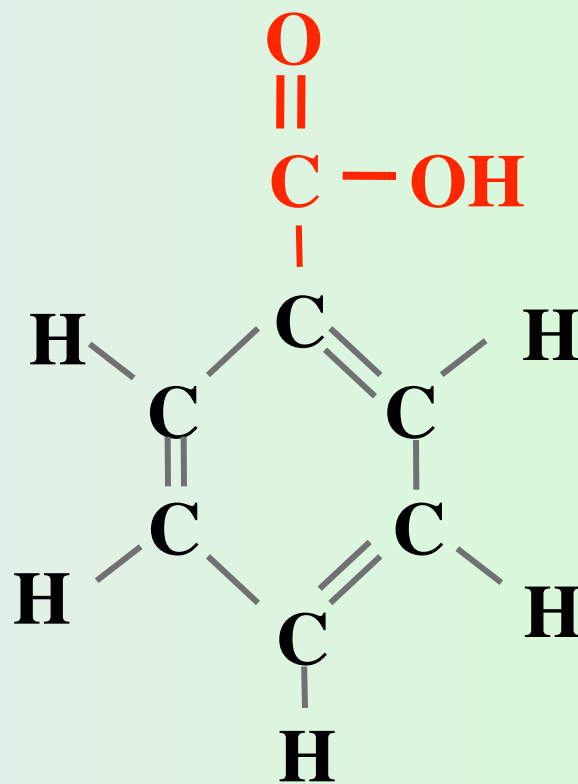
contain a carboxyl group



Acetic acid



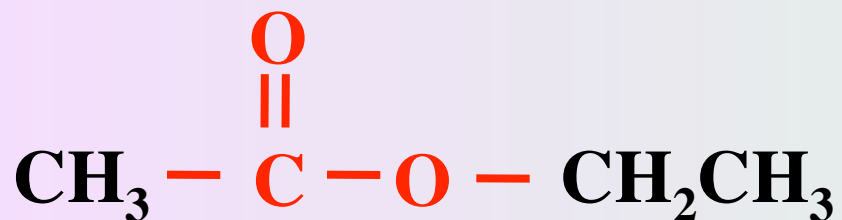
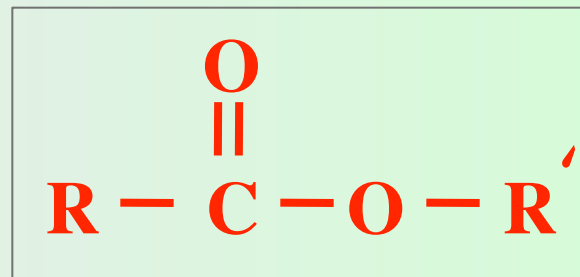
Formic acid



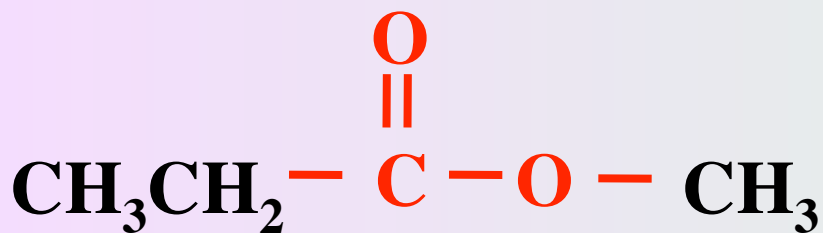
Benzoic acid

Esters

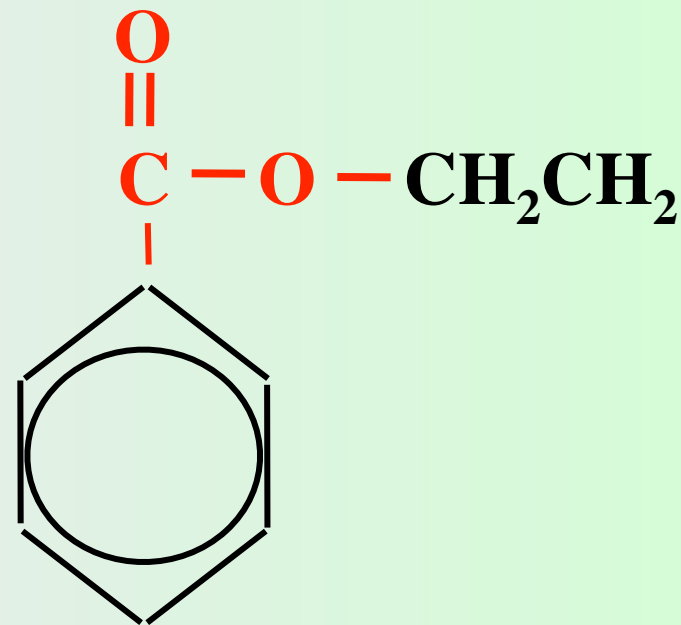
Have the general formula $R'COOR$



Ethyl acetate



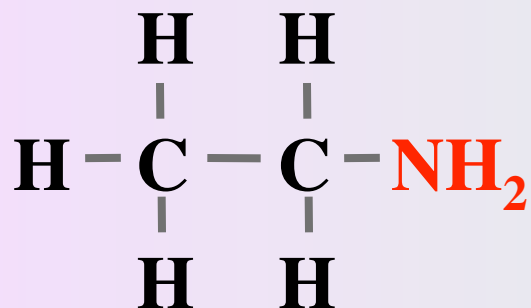
Methyl propanoate



Ethyl benzoate

Amines

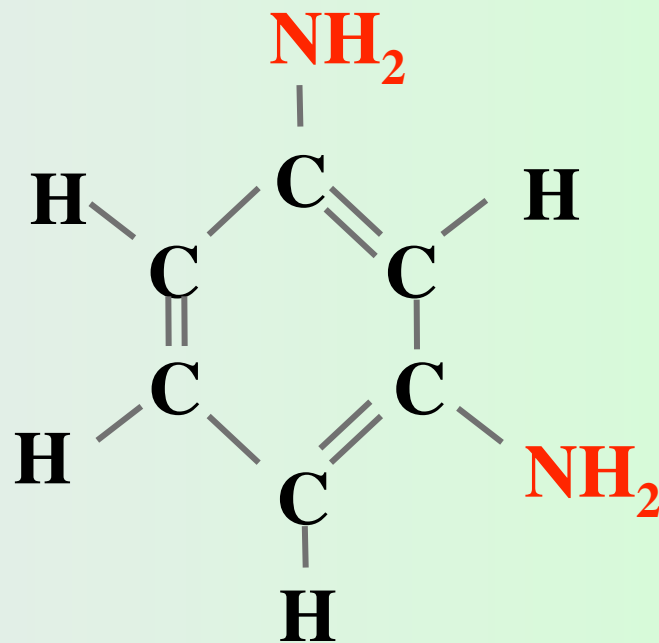
contain at least one amine group ($-\text{NH}_2$)



ethylamine



butylamine



1,3-benzenediamine