



# A Level Organic Chemistry

## Carboxylic Acid Derivatives

Download slides at [ChemistryTuition.Net](http://ChemistryTuition.Net)

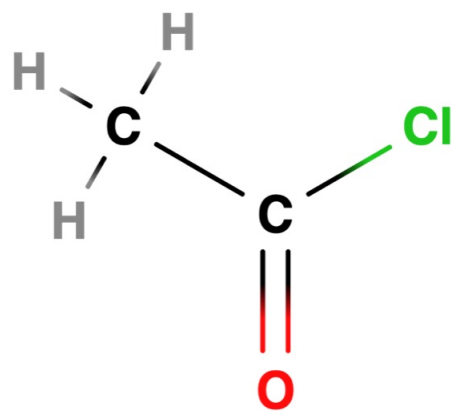
# Carboxylic Acid Derivatives

These are prepared by replacement of the hydroxyl group with other substituents. An ester is an example of a carboxylic acid derivative with O-H being replaced by O-R.

# Acyl Halides

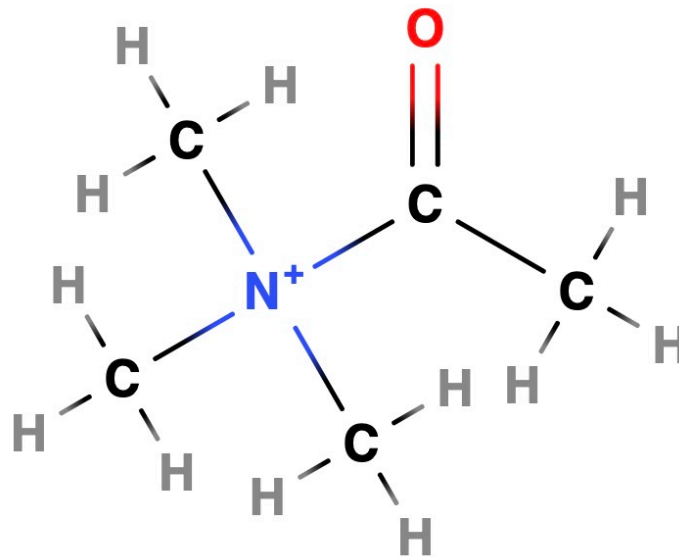
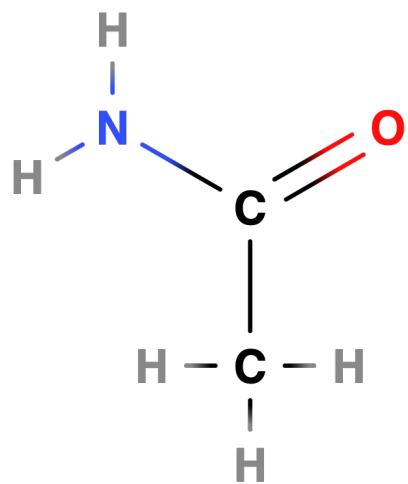
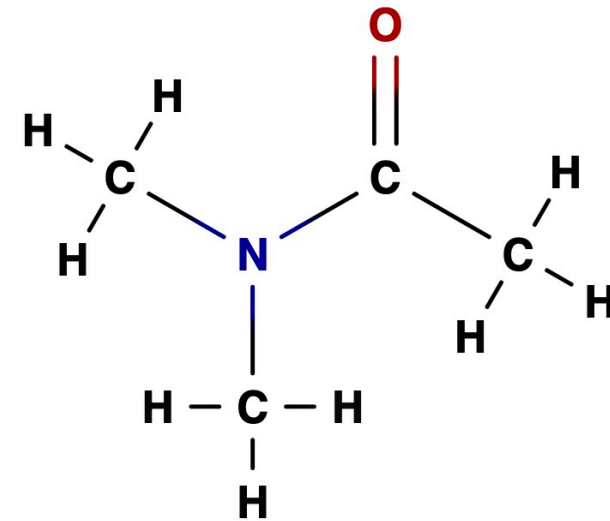
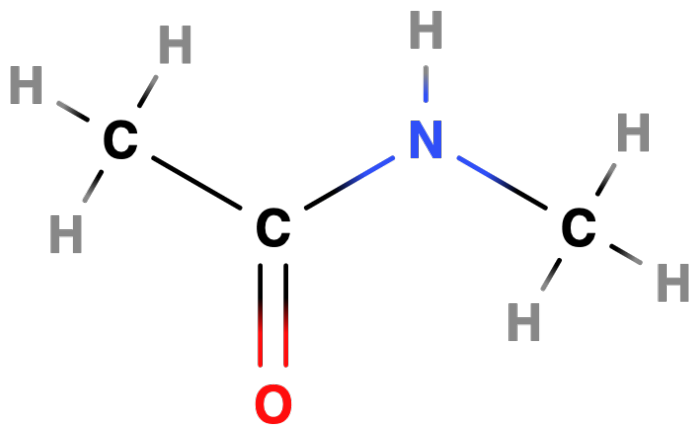
O-H replaced by a halogen

## Acyl Halides

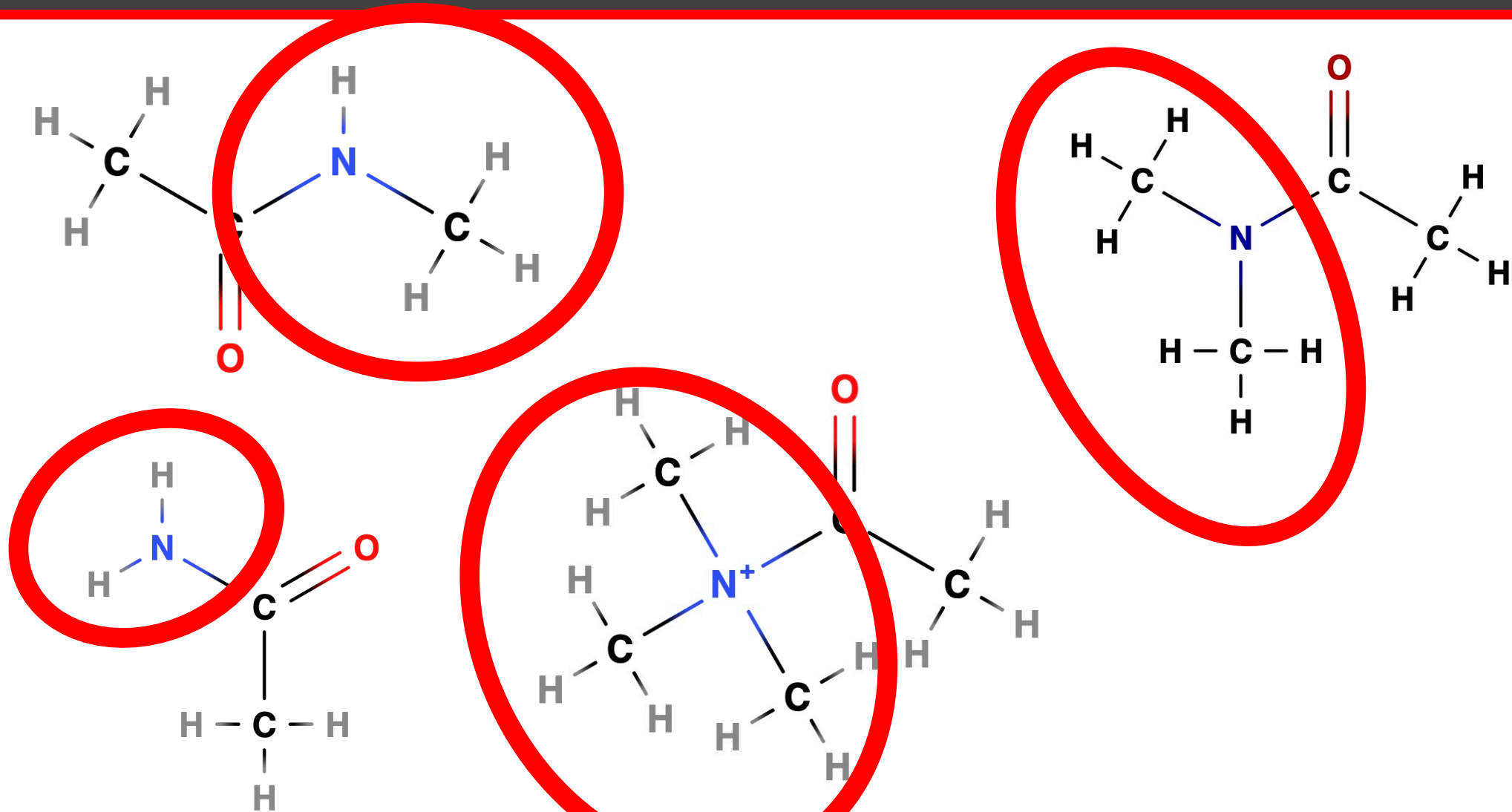


Ethanoyl chloride

# Amides (OH replaced by $\text{NH}_2$ , $\text{NHR}$ , $\text{NR}_2$ or $\text{NR}_3^+$ )



Amides (OH replaced by  $\text{NH}_2$ ,  $\text{NHR}$ ,  $\text{NR}_2$  or  $\text{NR}_3^+$ )



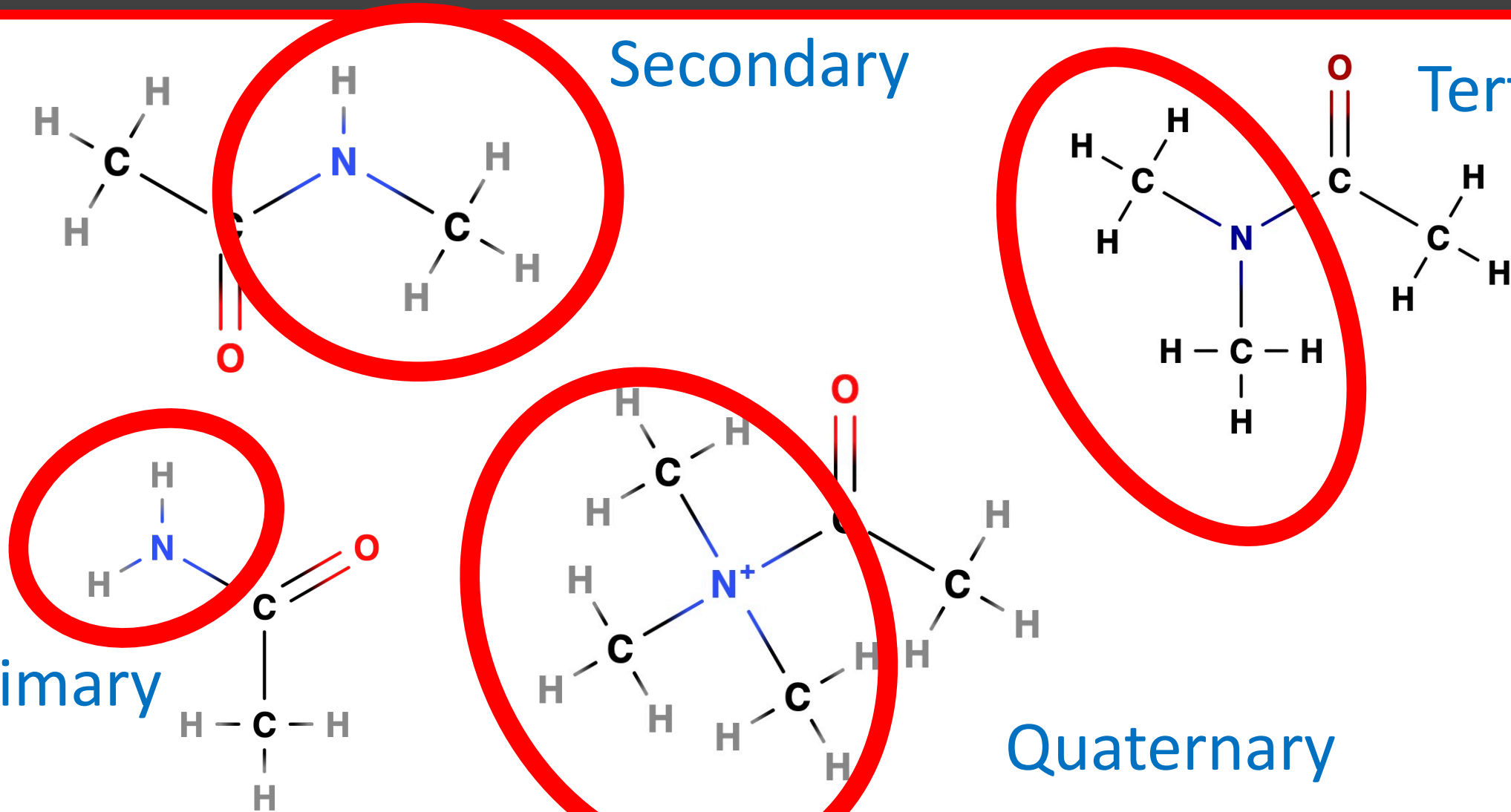
# Amides (OH replaced by $\text{NH}_2$ , $\text{NHR}$ , $\text{NR}_2$ or $\text{NR}_3^+$ )

Secondary

Tertiary

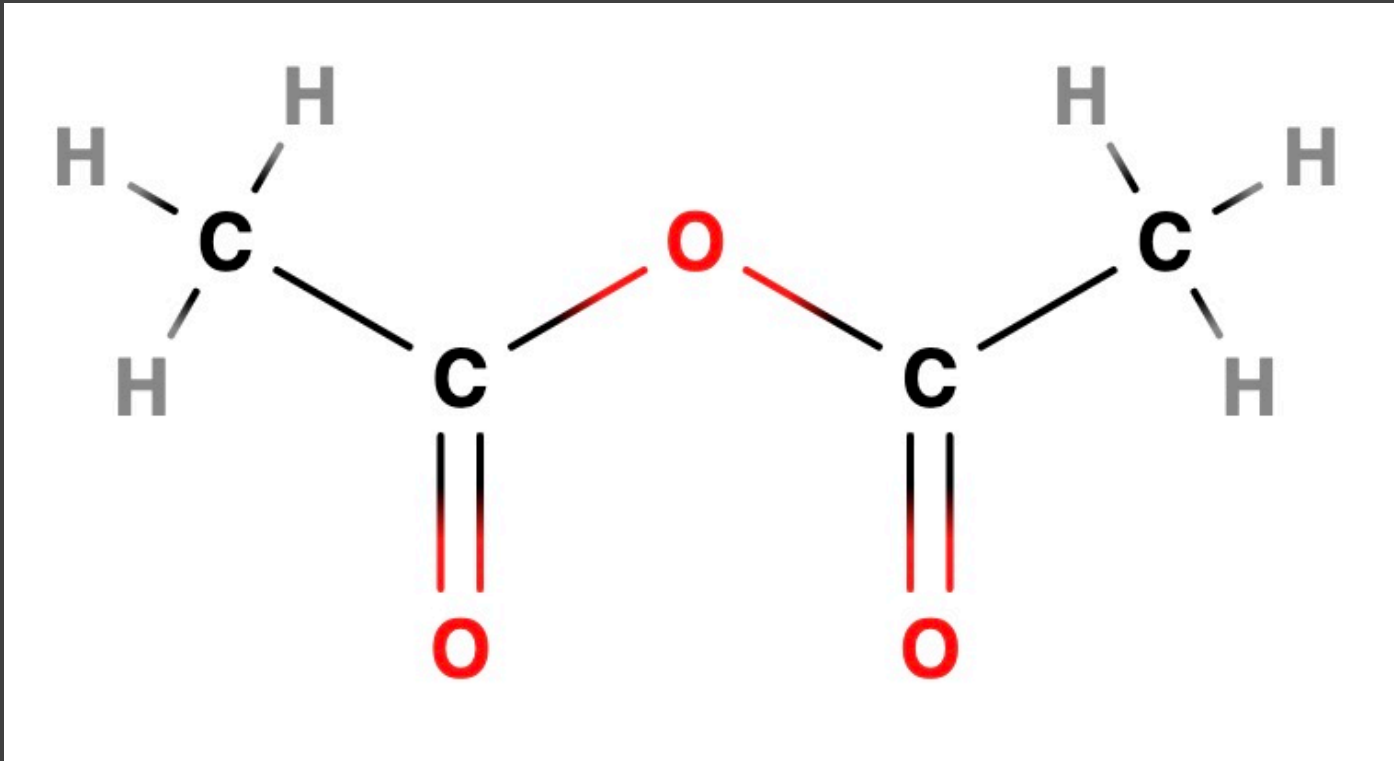
Primary

Quaternary



# Acid Anhydrides

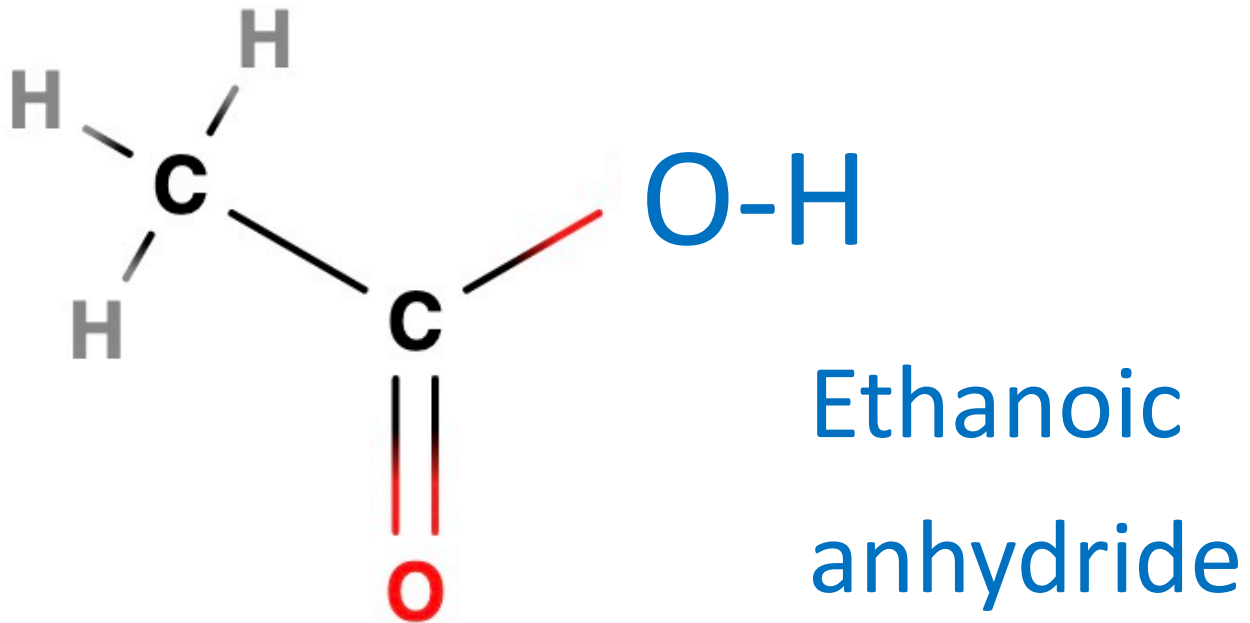
O-H replaced by a -OCOR



These are usually symmetrical and are named from the parent acid

# Acid Anhydrides

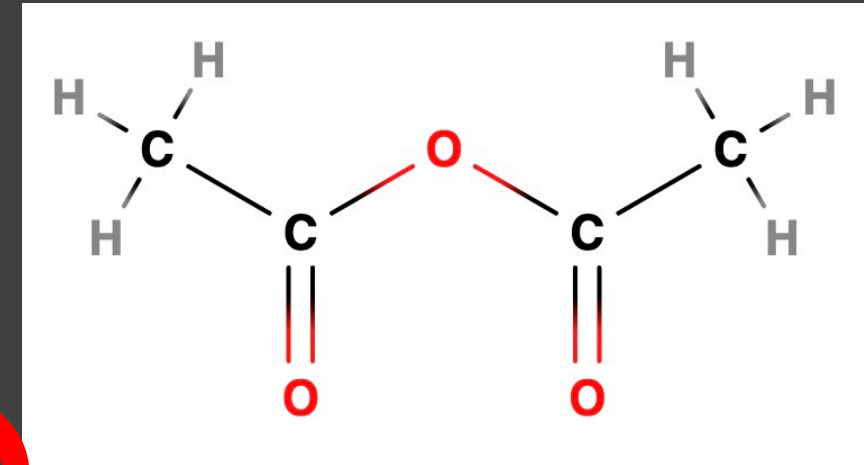
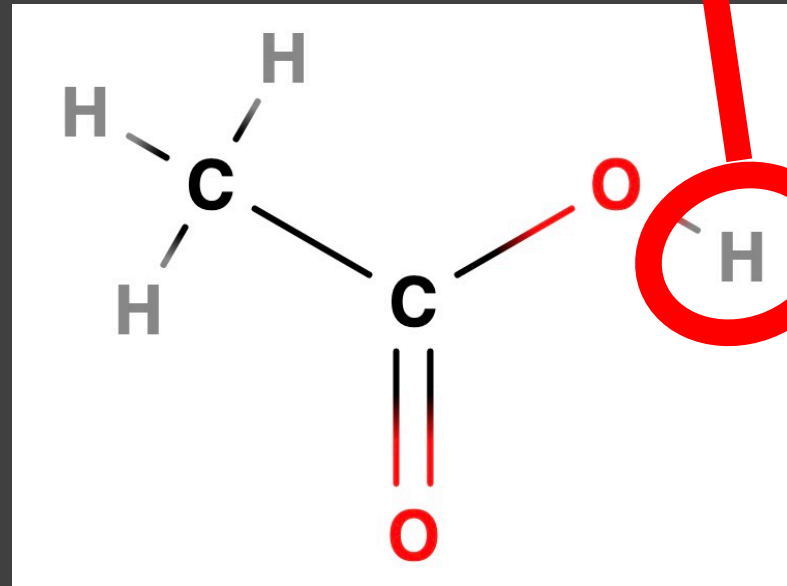
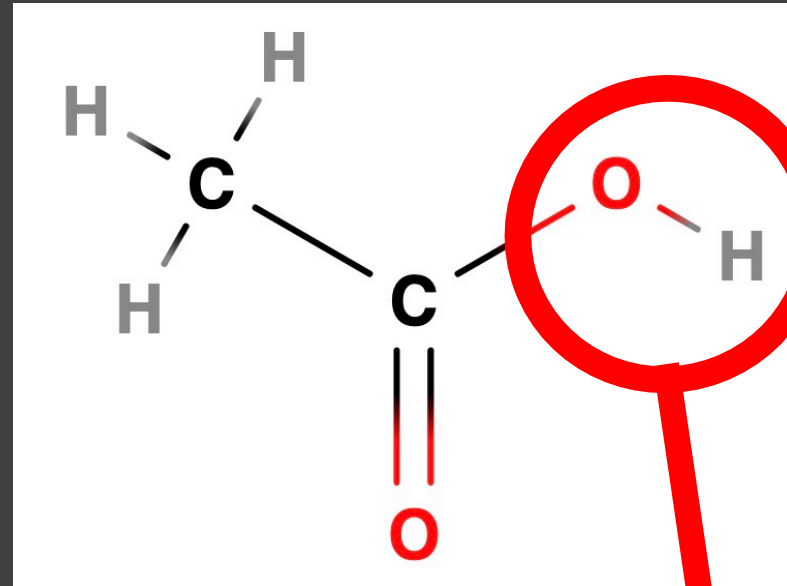
O-H replaced by a -OCOR



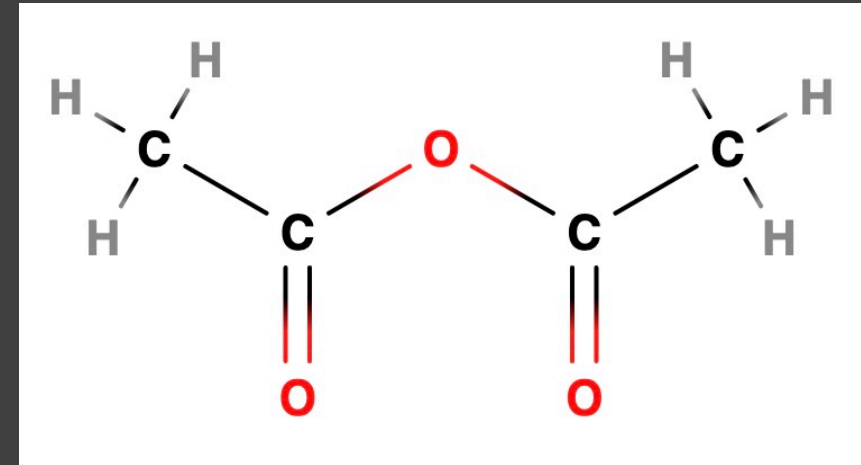
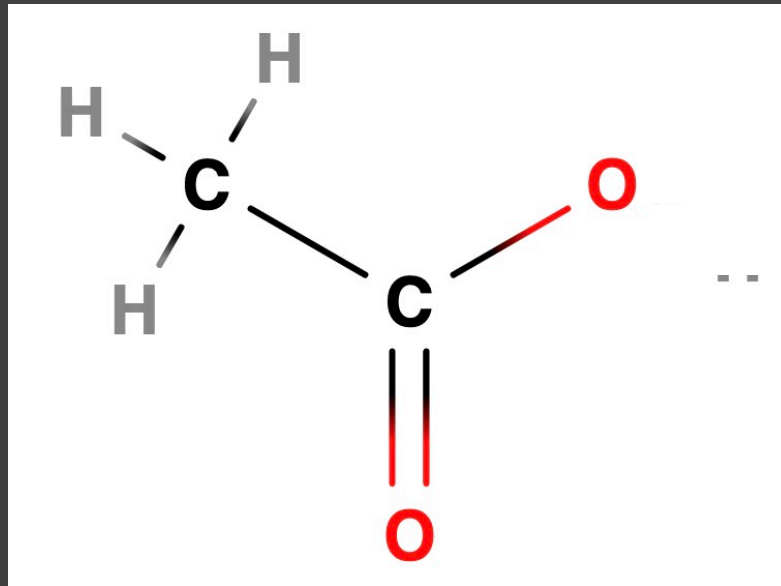
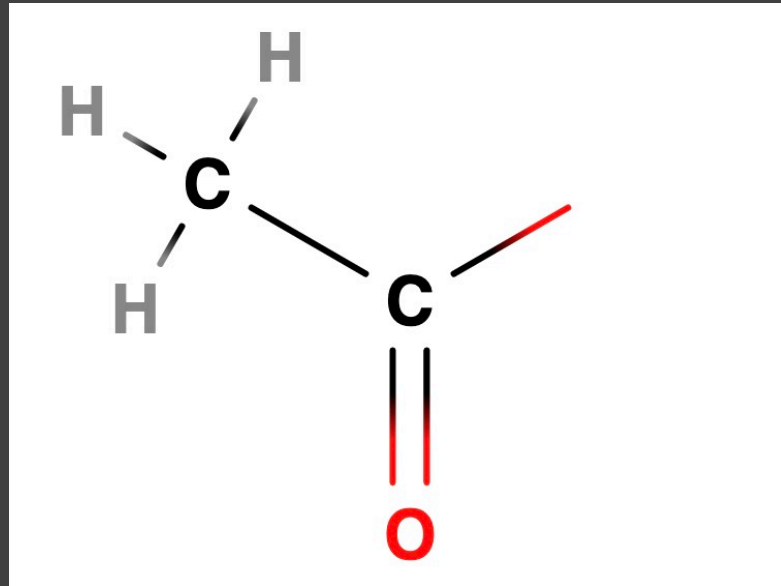
These are usually symmetrical and are named from the parent acid



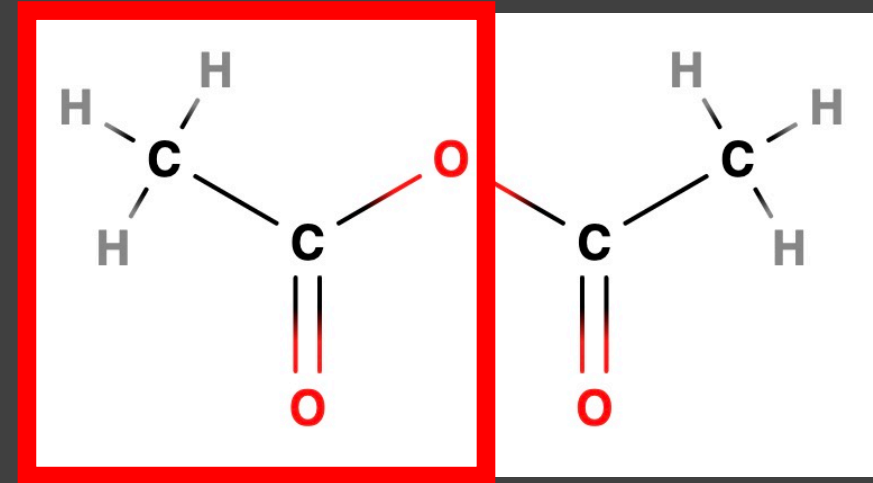
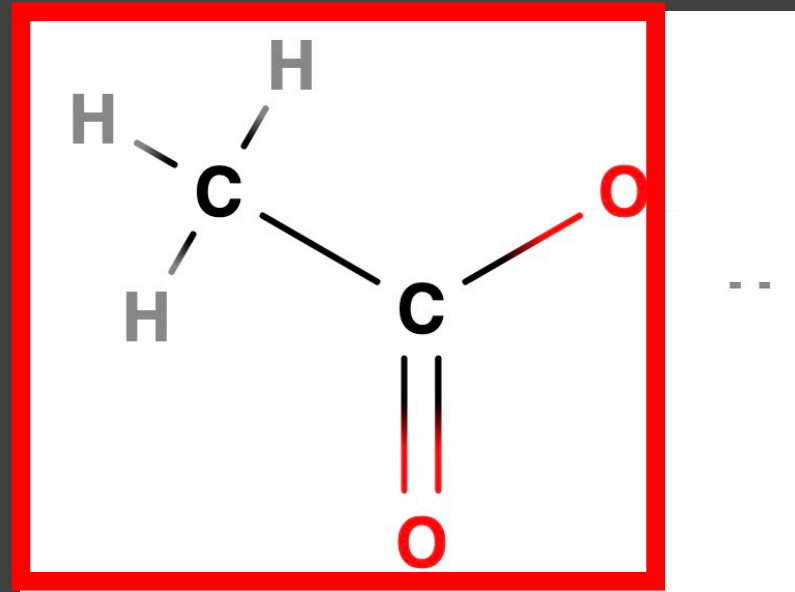
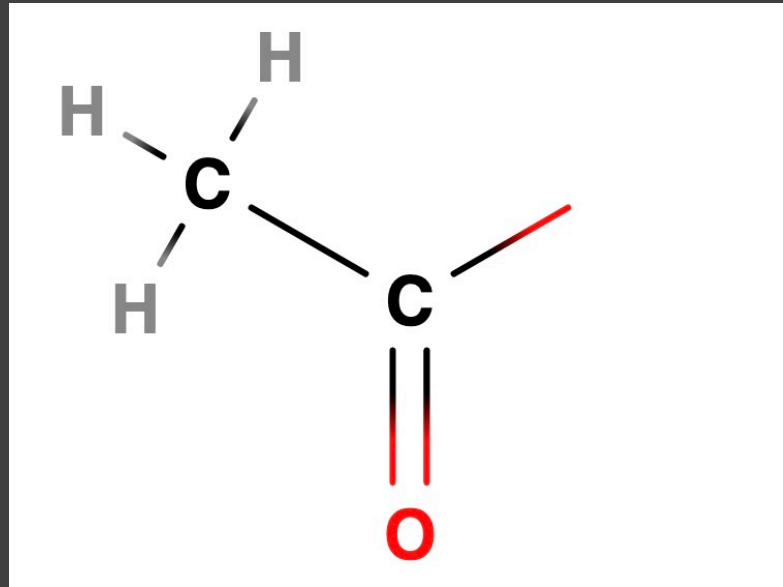
Anhydride means without water – acid anhydrides may be thought as two carboxylic acid molecules combining through a dehydration reaction.



Anhydride means without water – acid anhydrides may be thought as two carboxylic acid molecules combining through a dehydration reaction.



Anhydride means without water – acid anhydrides may be thought as two carboxylic acid molecules combining through a dehydration reaction.



Anhydride means without water – acid anhydrides may be thought as two carboxylic acid molecules combining through a dehydration reaction.

