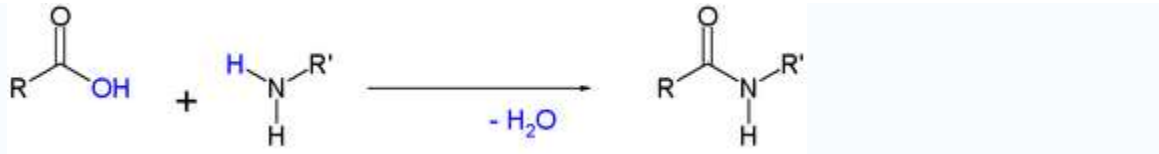
Reactions of Carboxylic Acids

Reaction with strong bases to form acid salts (described below in preparation of acid salts)

Reaction with strong alcohols to form esters (described below in preparation of esters-esterification)

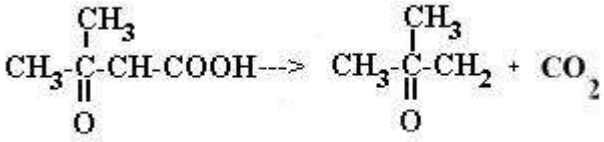
Reaction with halogen compounds to form acid chlorides(described below in preparation of acid chloride preparations)

Reaction with ammonia and amine compounds to form amides (described below in preparation of amides chapter 18)



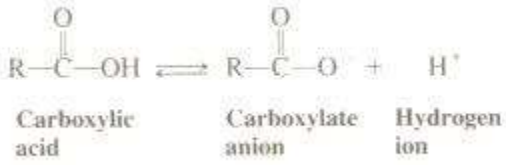
Reactions of β-keto acids.

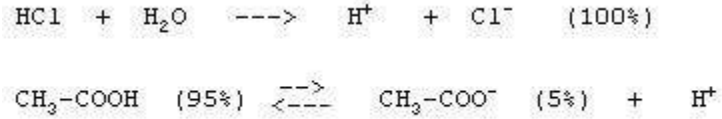
β-keto acids are readily decarboxylated.



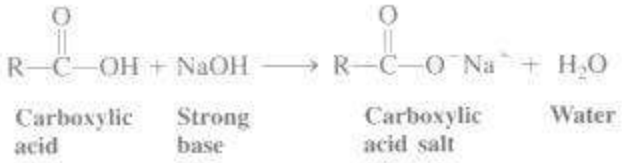
16.8 Acidity of Carboxylic Acids

Carboxylic acids are weak acids.



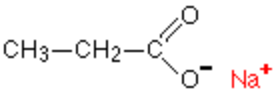


Acid base reactions:

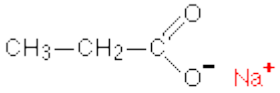


16.9 Carboxylic Acid Salts

Naming carboxylic acid follows certain pattern for example the structural formula for the compound. Since this sodium salt of propanoic acid - so start from propanoic acid is a three carbon acid with no carbon-carbon double bonds and this negative ion without the H^+ atom is called propanoate. There this salt is named: **sodium propanoate**



When the carboxylic acids form salts, the hydrogen in the -COOH group is replaced by a metal. Sodium alkan**oate (propan-oate)** is therefore:



sodium propanoate

Preparation of acid salts

Acid salts are prepared by the reaction of acid with a base such as sodium hydroxide.