

CLASS - B.Sc (Sub/Gen) PART-11

GROUP - C

TOPIC - PHYSICAL PROPERTIES

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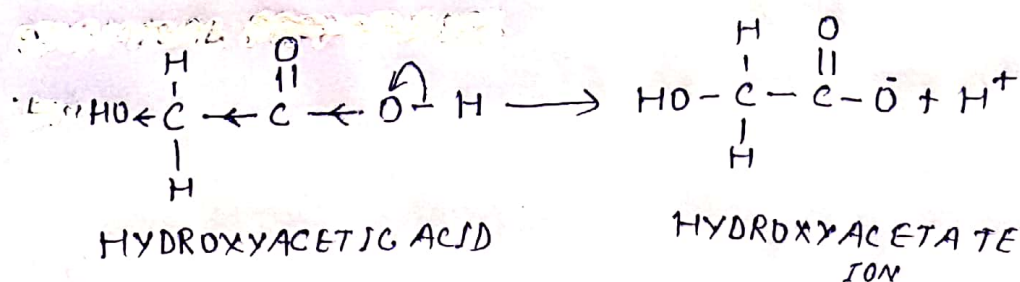
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## PHYSICAL PROPERTIES

The hydroxy acids are colourless, crystalline solids or syrupy liquids. Their melting and boiling points are much higher than those of the corresponding monocarboxylic acids. They are more soluble in water than the parent carboxylic acids and alcohols, because both the functional groups OH and COOH present in them can form hydrogen bonds with water. Many hydroxy acid, but not all, exhibit optical isomerism.

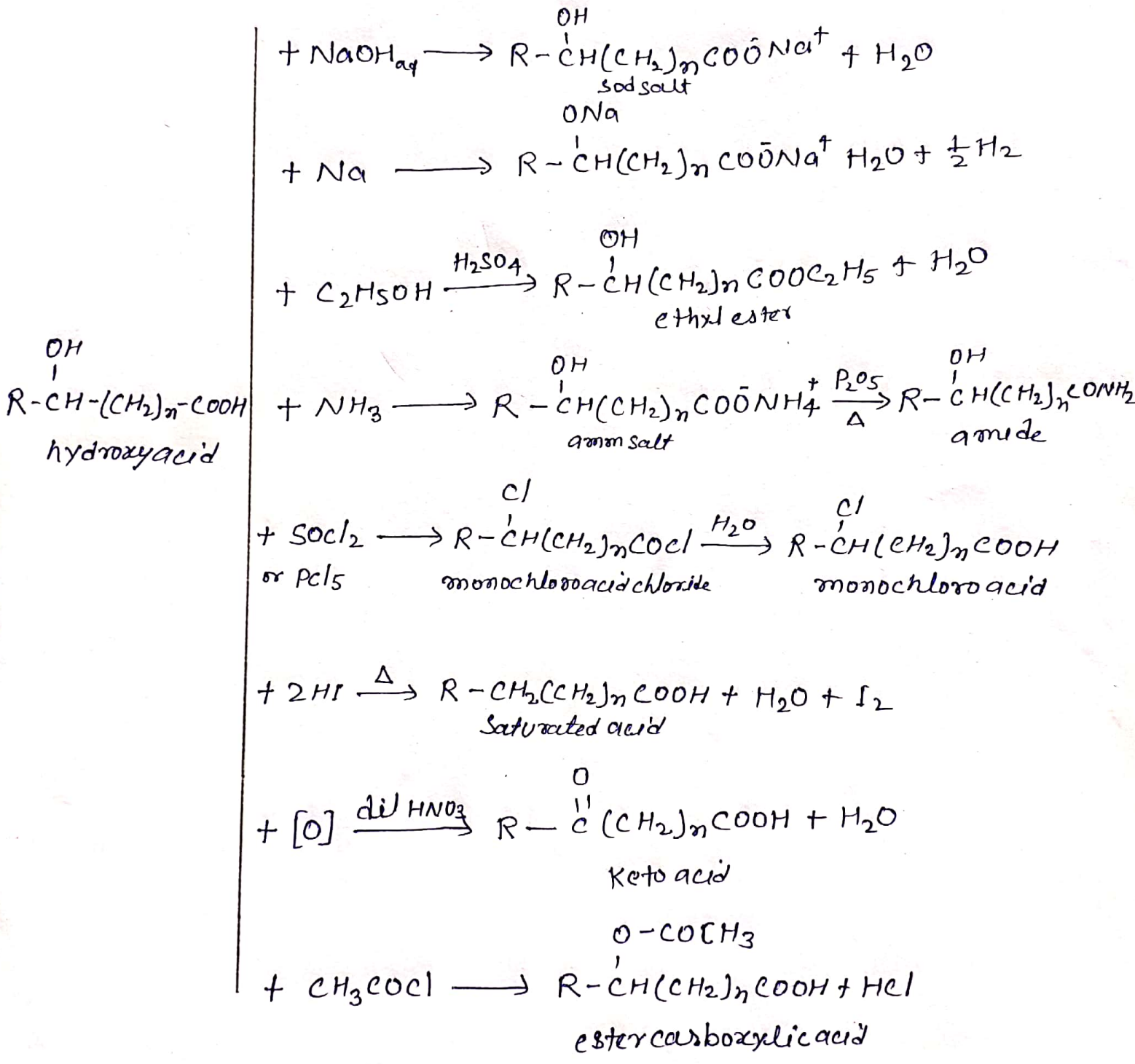
**Acidity:** The hydroxy acids are stronger acids than the corresponding monocarboxylic acids. This is so because the strongly electronegative hydroxy group withdraws electrons from the carbon of the carboxyl group, thus facilitating the ionisation of the proton.



## CHEMICAL PROPERTIES

Hydroxy acids would be expected to display the reactions of the alcoholic OH group and of the COOH group. The two functional groups, OH and COOH, do not interfere with each other and react independently when they are widely separated. In case a given reagent can react with only one function, only one will react, and if it reacts with both functions both will

react. Thus hydroxy acids give a variety of derivatives as illustrated below.



In the above reaction of hydroxy acid, the alcoholic OH and COOH groups react independent of each other.