

GROUP - C

TOPIC - Names of Some Hydroxy acids.

Dr. Hari Mohan Prasad Singh

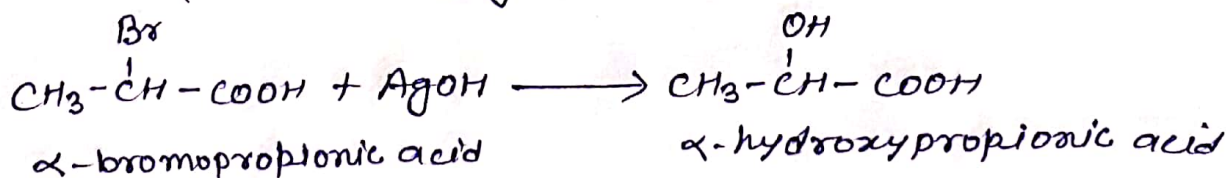
Department of Chemistry

Dr. L.K.V.D College Gaspur Samastipur

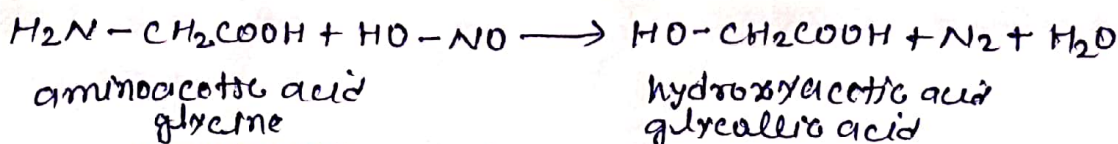
Formula	Common name	IUPAC Name
$\text{HO}-\text{CH}_2-\text{COOH}$	hydroxyacetic acid glycollic acid	hydroxyethanoic acid
$\text{CH}_2-\text{CHOH}-\text{COOH}$	α -hydroxypropionic acid lactic acid	2-hydroxypropionic acid
$\text{CH}_2\text{OH}-\text{CH}_2-\text{COOH}$	β -hydroxypropionic acid hydroxylic acid	3-hydroxypropionic acid
$\begin{array}{c} \text{CH}(\text{OH})-\text{COOH} \\ \\ \text{CH}(\text{OH})-\text{COOH} \end{array}$	α, α -dihydroxysuccinic acid tartaric acid	2,3-dihydroxybutanedioic acid
$\begin{array}{c} \text{CH}(\text{OH})-\text{COOH} \\ \\ \text{CH}_2-\text{COOH} \end{array}$	α -hydroxysuccinic acid malic acid	2-hydroxybutanedioic acid
$\begin{array}{c} \text{CH}_2-\text{COOH} \\ \\ \text{C}(\text{OH})-\text{COOH} \\ \\ \text{CH}_2-\text{COOH} \end{array}$	citric acid	2-hydroxypropane-1,2,3-tricarboxylic acid

METHODS OF PREPARATION

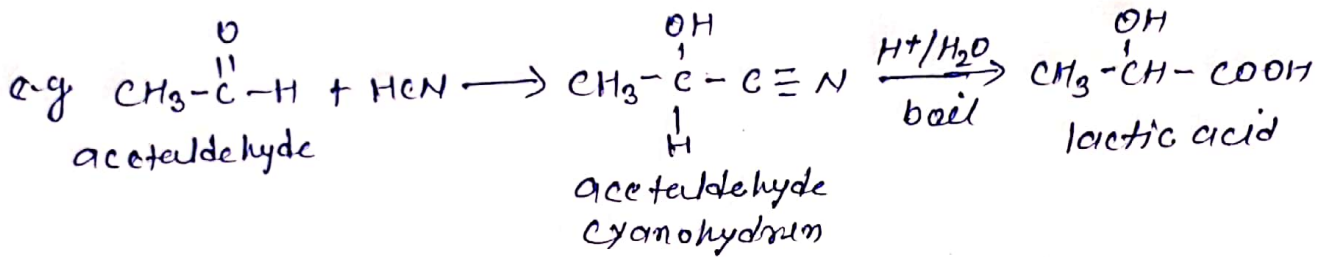
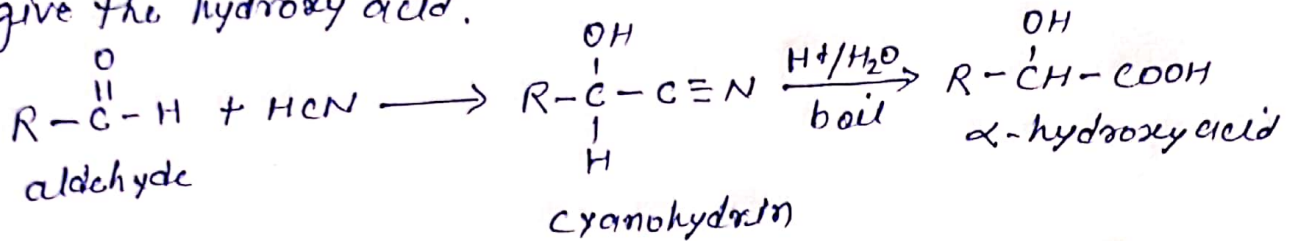
(1) By the hydrolysis of the corresponding halo acid with moist silver oxide (AgOH) or dilute sodium carbonate solution.



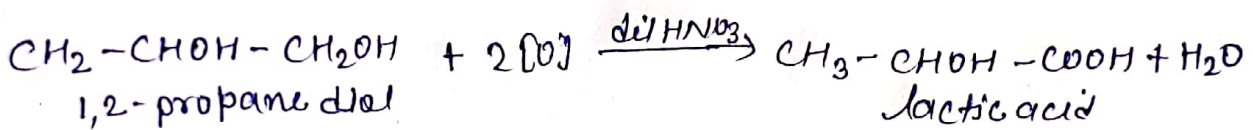
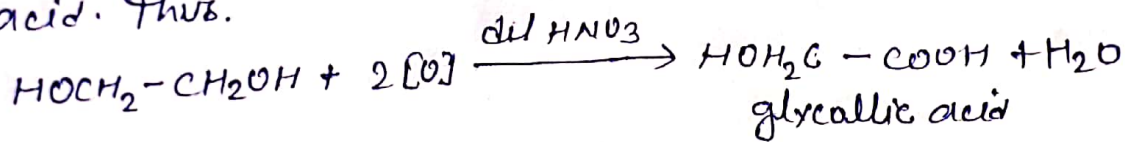
(2) By the action of nitrous acid (sodium nitrite and dilute mineral acid) on amino acids.



(3) α -hydroxy acids are best prepared by cyanohydrin synthesis. An aldehyde or a ketone is first converted to cyanohydrin by addition of HCN to it. The cyanohydrin is then hydrolysed to give the hydroxy acid.



(4) By the controlled oxidation of β glycols with dilute nitric acid. Thus.



(5) By reduction of the available dicarboxylic acid by the following sequence of reactions.

