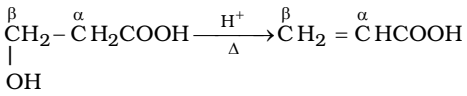
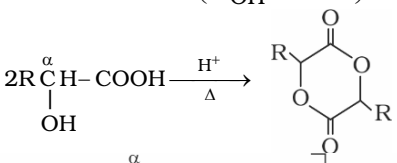
Daily Tutorial Sheet-6	Level-2

76.(C) Among α, β, γ hydroxy acids, β-hydroxy acids show dehydration to give α, β unsaturated acids. Hence option (C) is correct answer.



α-hydroxy acids $\left(\begin{array}{l} R\,CH-COOH \\ \quad\;\; | \\ \quad\;\; OH \end{array}\right)$ form diesters (Lactides) under similar conditions.

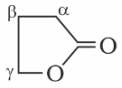


Lactide

Options (A) : $CH_3\overset{\alpha}{C}H-COOH$ (Lactic acid, OH)

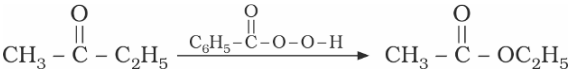
(D) : $\overset{\alpha}{C}H_2OH-COOH$ (Glycolic acid)

will form Lactides

Options (D) : $\overset{\gamma}{C}H_2-\overset{\beta}{C}H_2\overset{\alpha}{C}H_2COOH \xrightarrow[\Delta]{H^+}$ 

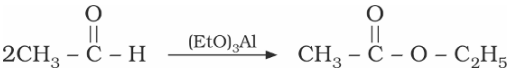
γ-hydroxy acid — γ-Lactone (A cyclic ester)

77.(A) This involves Baeyer-Villiger oxidation of Ketones and Tischenko reaction of aldehydes.

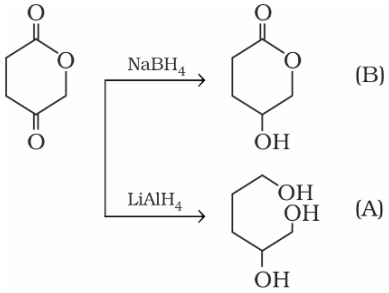


('O' atom enters towards C_2H_5- side not methyl side)

The aldehyde giving same ester i.e. ethyl acetate has to be CH_3CHO via Tischenko reaction.



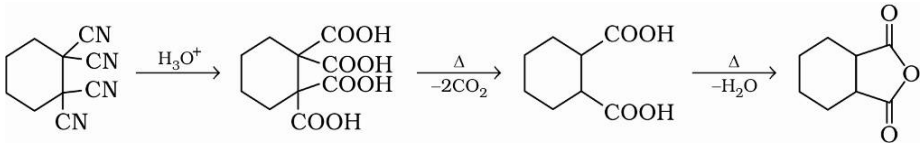
78.(C) $NaBH_4$ reduces only keto group, while $LiAlH_4$ reduces both keto and ester groups.



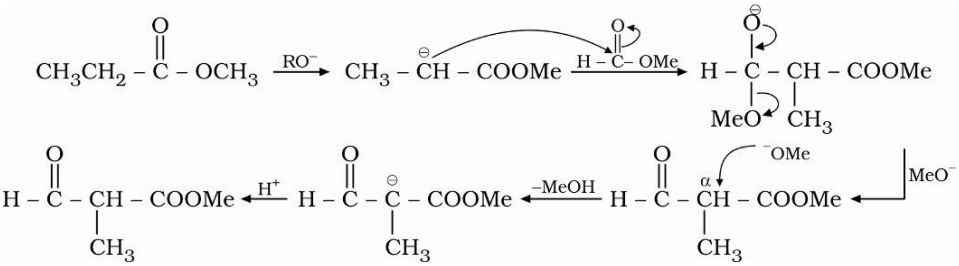
(B)

(A)

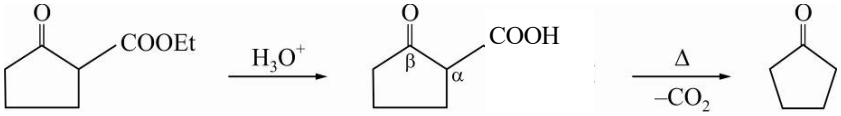
79.(A) Only HCOOH can undergoes oxidation as well as reduction.

80.(B) 

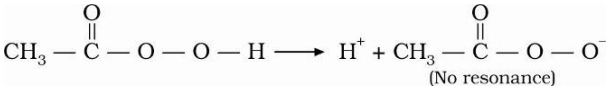
81.(D) Visualise Cross-Claisen condensation.



82.(A)

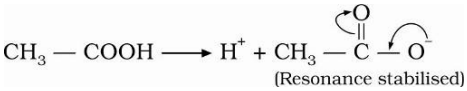


83.(A) Peroxyacetic acid is no doubt a weaker acid than acetic acid as its conjugate base is not resonance stabilised (an essential condition for acidity of an organic acid).



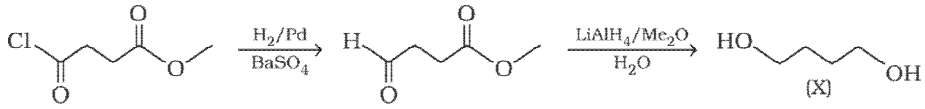
(– ve charge on `O' is not in conjugation with `π' electron)

Whereas in acetic acid, its conjugate base (CH_3COO^-) is resonance stabilised.



84.(A) First visualise Rosenmund reduction of acid chloride to an aldehyde.

Then visualise reduction of aldehyde and ester by $LiAlH_4$ to form alcohols.



85.(C) Ester react with 1° amines to give 2° Amides : $R - COOR' + RNH_2 \longrightarrow R-\underset{\underset{O}{\|}}{C} - NHR + R'OH$ (2° amide)

Here cyclic ester will open up with 1° amine to form 2° amide as follows.