

Daily Tutorial Sheet-10

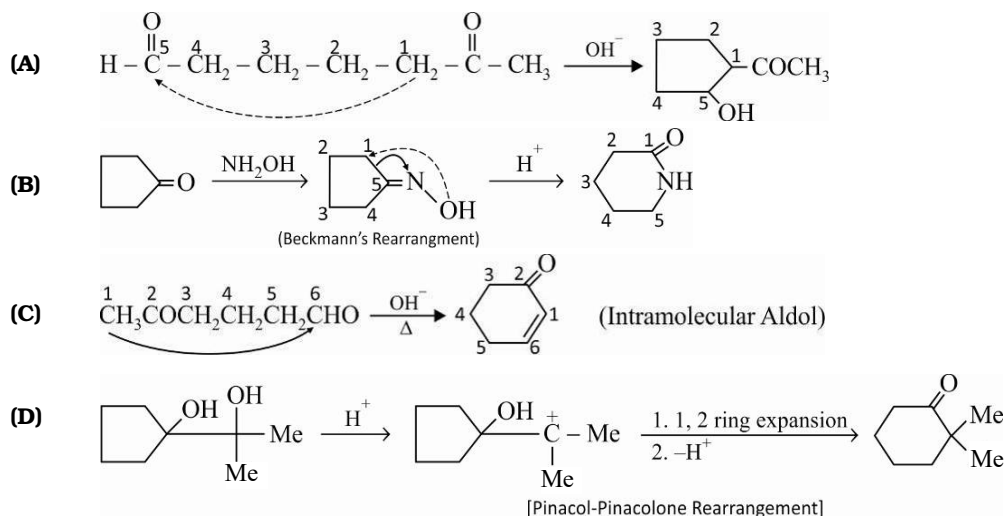
Level-2

116. A - 1, 2, 3, 4 ; B - 2, 4, ; C - 1, 4 ; D - 4. Typical behavior of carbonyl compound

117. A - 3; B - 1 ; C - 4 ; D - 2

- (A) : Perkin : Cinnamic acid (α, β -unsaturated acid)
 (B) : Aldol : β -hydroxy carbonyl compounds
 (C) : Benzoin : PhCH(OH)-COPh (α -hydroxy carbonyl compound)
 (D) : Tischenko : Aldehydes $\longrightarrow$ Esters

118. A - 2, 3, 4; B - 1 ; C - 1, 2, 4 ; D - 1, 2, 4

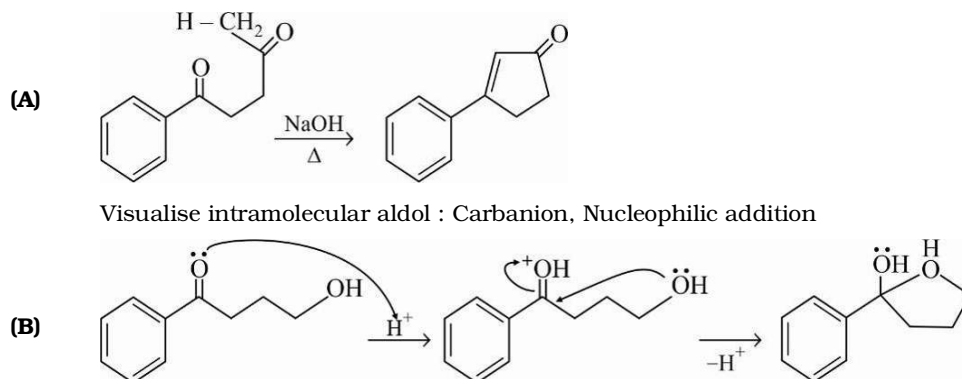


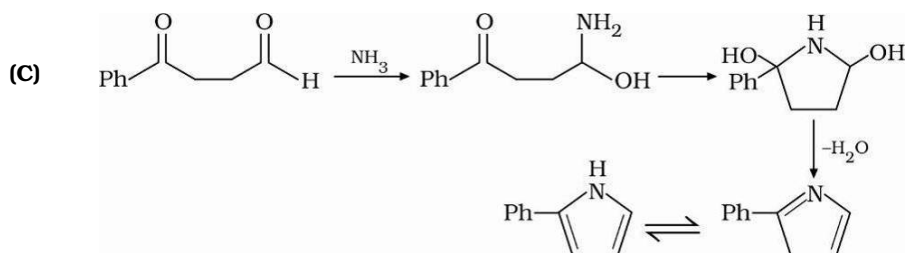
119. A - 3, 4; B - 1, 2, 3 ; C - 1, 2, 3 ; D - 1, 2, 3, 4

- Sodium fusion extract gives Prussian Blue colour when N is present along with C.
- White precipitate with AgNO_3 is formed hence Cl^- ion should be present in the compound.
- Positive FeCl_3 test indicates the presence of phenolic group in the compound.
- Hydrazone formation occurs effectively at $\text{pH} \approx 4.5$.

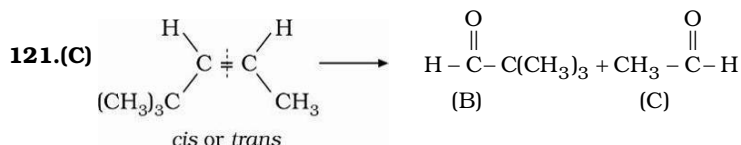
The given compounds (A) and (D) behave as strong Bronsted acid. In compounds (D), since $-\text{NO}_2$ group (EWG) is present at ortho position, so it will deprotonate to give H^+ ions which will then protonate carbonyl group in aldehyde for hydrazone formation.

120. A - 4, 5; B - 3, 4; C - 4, 5 ; D - 1, 2, 4, 5

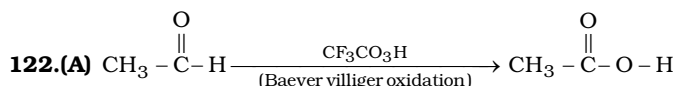




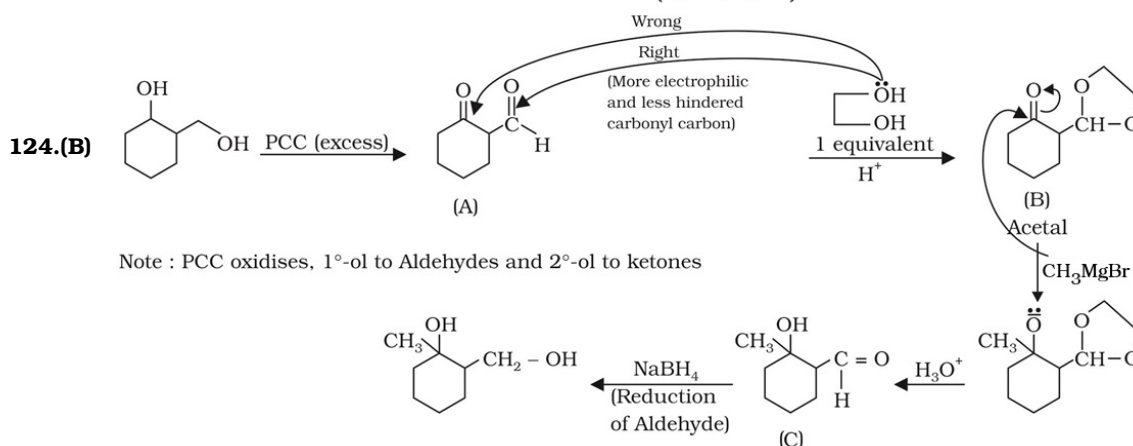
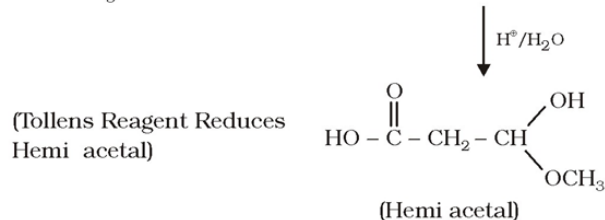
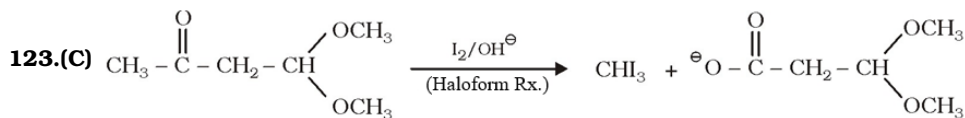
(D) Visualize intra molecular nucleophilic addition and intramolecular nucleophilic substitution.



Aldehyde & ketone without α - hydrogen gives Cannizzaro reaction.



(Migratory aptitude of H is greater than $-\text{CH}_3$)



Note : PCC oxidises, 1° -ol to Aldehydes and 2° -ol to ketones

Note : In presence of small amount of Acid, the acetals are converted back to aldehydes and ketones

