

Daily Tutorial Sheet-7	Level-2
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**86.(A)** Rate of dehydration of alcohols  $\infty$  stability of initial carbocation formed after loosing

 $H_2O$  from protonated alcohol. (Number of  $\alpha$ -H atoms for H-effect)

- > Same can be visualised for p-derivative.
- It is referred to as *ipso*-substitution.

$$\mathbf{88.(BD)} \stackrel{\mathrm{CH}_2-\mathrm{OH}}{\longleftarrow} \stackrel{\mathrm{CH}_2-\mathrm{OH}}{\longleftarrow} \stackrel{\mathrm{CH}_2-\mathrm{OH}}{\longleftarrow} \stackrel{\mathrm{CH}_3\mathrm{O}^{\oplus}}{\longleftarrow} \stackrel{\mathrm{CH}_3\mathrm{O}^{\oplus}}{\longrightarrow} \stackrel{\mathrm{CH}_3\mathrm{O}^{$$

**89.(B)** 
$$R - C - O_1 - C - R + PCl_5 \longrightarrow POCl_3 + 2R - C - Cl \xrightarrow{PhMgCl} R - C - Ph$$

**90.(D)** Rate of esterification  $\propto \frac{1}{\text{steric hindrance}}$ 

 $(CH_3)_3 - C - OH$ Tert. butyl alcohol  $(CH_3)_4 - C - OH$   $(CH_3)_3 - C - OH$   $(CH_3)_3 - C - OH$   $(CH_3)_4 - C - OH$   $(CH_3)_3 - C - OH$   $(CH_$ 

**Note:** Usually 3° alcohols resist oxidation with normal oxidising agents ( $CrO_3$ ,  $H_2CrO_4$  etc.), but strong oxidising agents such as alkaline or acidic  $KMnO_4$  or  $K_2Cr_2O_7$  in hot condition break them to alkenes first and then alkenes are oxidised to carbonyl compounds or acids.

If hot acidic  $K_2Cr_2O_7$  is used, it also oxidises ketones to acids :  $CH_3COCH_3 \xrightarrow{\quad (O) \quad} CH_3COOH$ 

95.(BCD)

Ring expansion

Ring expansion

$$\oplus$$
 $\oplus$ 

Ring expansion

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Shift

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(D)