

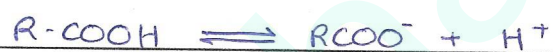
25 - Carboxylic acids and acyl compounds.

Q-1) Compare acidic nature of carboxylic acids, phenol and alcohols.

> CARBOXYLIC ACIDS > PHENOL > ALCOHOL

Most acidic.

Least acidic.



> The carboxylate ion is stabilised by the delocalisation of electrons around the COO^- group so the negative charge spreads out over the $-COO^-$ group.

> In the phenoxide ion, the oxygen is still the most electronegative \therefore it's less acidic than $-COOH$.

* Electron withdrawing Cl groups weaken the OH bond \therefore forms a stronger acid.

Q-2) Compare hydrolysis of Acyl, Alkyl and Aryl chlorides.

> Acyl chlorides ($R-COCl$) react vigorously with cold water.

Alkyl chlorides ($R-Cl$) and Aryl chlorides (C_6H_5-Cl) don't react with water because the lone pair of electrons on Cl becomes part of delocalised electrons in the benzene ring.

> Alkyl chlorides react with NaOH but Acyl chlorides are



~~Q-3~~ more reactive because the Carbon atom is more electropositive because of 2 electron withdrawing groups.

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