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Matrix no: 19/mhs01/100

1)HCOOH-Methanoic acid

HOOCCH₂CH₂CH₂COOH-1,5dioic acid

CH₃CH₂CH₂COOH-Butanoic acid

HO₂C-CO₂H-Ethanedioic acid

CH₃(CH₂)₄COOH-Hexanoic acid

CH₃CH=CHCH₂CH₂COOH-Hex-4-eneoic acid

2a)PHYSICAL PROPERTIES OF CARBOXYLIC ACIDS UNDER PHYSICAL APPERANCE:All simple aliphatic carboxylic acid are liquid at room temprature. Most other carboxylic acid are solid at room temprature. Although anhydrous carboxylic acid also known as glacial ethanoic acid freezes to an ice like solid below room temprature.

B)Boiling point: Boiling point increases with increasing relative molecular mass.Aromatic carboxylic acids are crystalline solids and have higher melting points than their aliphatic counterparts of comparable relative molecular mass.

C)Solubility: however molecular mass carboxylic acids with up to four carbon atoms in their molecules are soluble in water;this is largely due to their ability to form hydrogen bonds with water molecules. All carboxylic acids are soluble in organic solvents.

3)Two industrial preparation of carboxylic acids are;

a)From carbon2oxide

b)from ethanal

4)Synthetic preparation of carboxylic acids;

a)Oxidation of primary alcohols and aldehyde;they can be used to prepare carboxylic acids using to prepare carboxylic acids using the usual oxidating agents (I.e k₂Cr₂O₇ or kmnO₄)in acidic solution.RCH₂OH +excess acid= RCHO[O]+RCOOH

b)carbonation of grignard reagent;aliphatic carboxylic acids are obtained by bubbling carbon4oxide into the grignard reagent and the hydrolyze with dilute acids

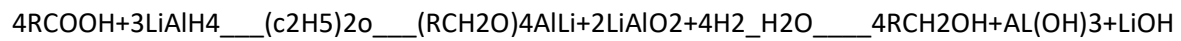
RMgBr+Co₂(C₂H₅)₂O

RCOOMgBr_h₂o ___ dilute acid ___ RCOOH+

MgBrOH.

c)hydrolysis of nitriles or esters ;RCN+2H₂o_H+ ___ RCOOH+NH₄+

5) REDUCTION OF CARBOXYLIC ACIDS:



c) ESTERIFICATION;

