



Solution 66

X is ethanol

Y is ethanoic acid

Z is ethyl ethanoate

Ethanol reacts with ethanoic acid to form ethyl ethanoate ester.

Solution 67

C_2H_5OH and CH_3COOH react in the presence of conc. H_2SO_4 to form an ester. Ethyl ethanoate, $CH_3COOC_2H_5$ is formed in the reaction.

Solution 68

Alcohol group, $-OH$. Acids react with alcohols to form sweet smelling esters.

Solution 69

Acid: Ethanoic acid



Alcohol: Ethanol



Solution 70

(a) $C_4H_9COOC_2H_5$; Ester

(b) C_2H_5OH ; Alcohol forms ethene, C_2H_4

(c) CH_4 ; Methane

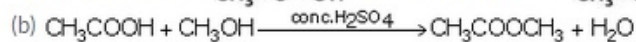
(d) CH_3OH ; Methanol

(e) CH_3COOH ; Acetic acid

(f) C_2H_5OH ; Ethanol

Solution 71

(a) X is ethanoic acid, $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3 - \text{C} - \text{OH} \end{array}$; Y is methyl ethanoate, $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3 - \text{C} - \text{O} - \text{CH}_3 \end{array}$



Solution 72

(a) A is propanol, $CH_3 - CH_2 - CH_2OH$

(b) B is propene, $CH_3CH=CH_2$

(c) Dehydration reaction

(d) C is propane, $CH_3CH_2 - CH_3$

(e) Addition reaction

Solution 73

A is ethanoic acid, CH_3COOH

B is sodium ethanoate, CH_3COONa

C is methanol, CH_3OH

D is methyl ethanoate, CH_3COOCH_3

Solution 74

C_6H_{12} and C_6H_{10} can decolourise bromine water since these are unsaturated hydrocarbons.

C_6H_{14} cannot decolourise bromine water since it is a saturated hydrocarbon.

Solution 75

(a) X is butanol, $\text{C}_4\text{H}_9\text{OH}$

(b) Y is butanoic acid, $\text{C}_3\text{H}_7\text{COOH}$

(c) Z is butyl butanoate, $\text{C}_3\text{H}_7\text{COOC}_4\text{H}_9$

(d) Sweet smell is given by the compound Z.

(e) Esters

(f) Esterification reaction.

***** END *****