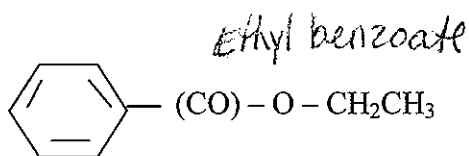


- 1) Name and give the acid and alcohol



used to make this ester.

benzoic acid + ethanol

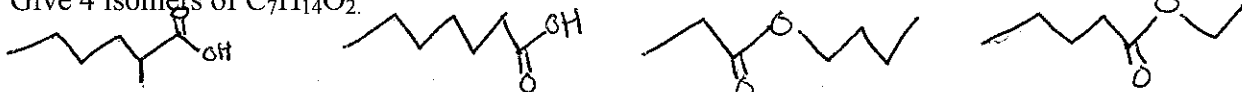
- 2) What are the two main ester reactions?

acid hydrolysis and saponification (base hydrolysis)

- 3) Define acid and base hydrolysis.

acid hydrolysis: hydrolyze ester back to a carboxylic acid and alcohol
base hydrolysis: Esters hydrolyze to a carboxylic acid salt and alcohol

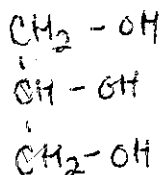
- 4) Give 4 isomers of $\text{C}_7\text{H}_{14}\text{O}_2$.



- 5) Give 4 isomers of $\text{C}_6\text{H}_{12}\text{O}_2$.



- 6) Draw glycerol.



- 7) Define the following.

a. Lipids - broad range of compounds, which share the common property of water insolubility; contain one or more fatty acids

b. Waxes - made up of fatty acids and long-chain alcohol

c. Fatty acids - long-chain carboxylic acid

d. Triacylglycerol - 3 fatty acids + glycerol