

Class - U.G. Semester - IV

Subject - Chemistry (MJC)

Paper - MJC - IV

Topic - Properties of Glycerol

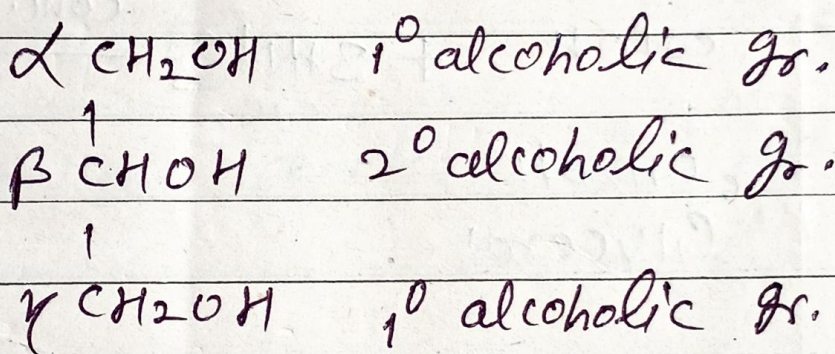
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Glycerol

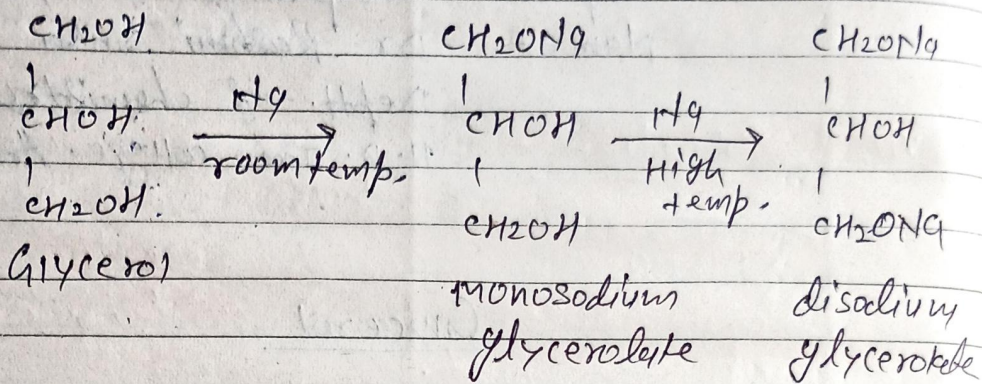
chemical properties / - Glycerol molecule contains two primary alcoholic gr. and one secondary alcoholic gr. Thus it shows characteristics of both primary and secondary alcohols. The carbon atoms in glycerol are indicated by α , β and γ



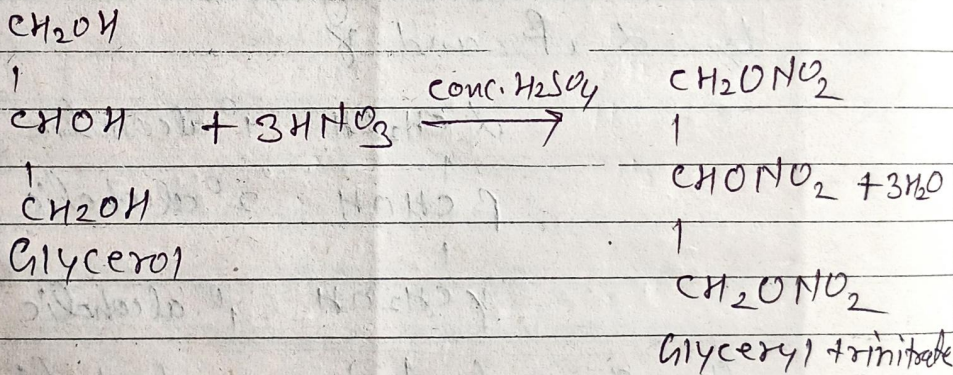
In general, primary alcoholic groups are more reactive than secondary alcoholic group.

① Reaction with Sodium / - When glycerol is treated with Na at room temp. only primary alcoholic groups

are attacked one by one to give mono-sodium glycerolate and disodium glycerolate at high temperature.

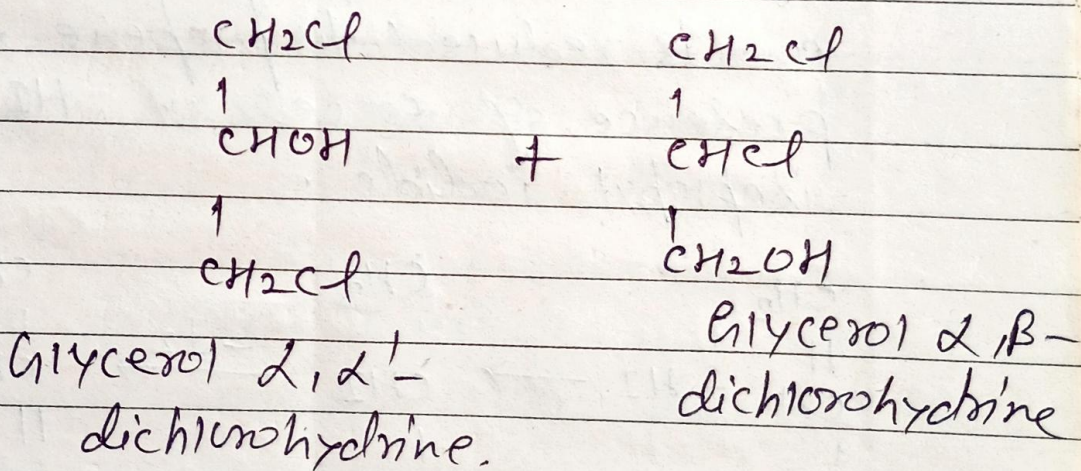
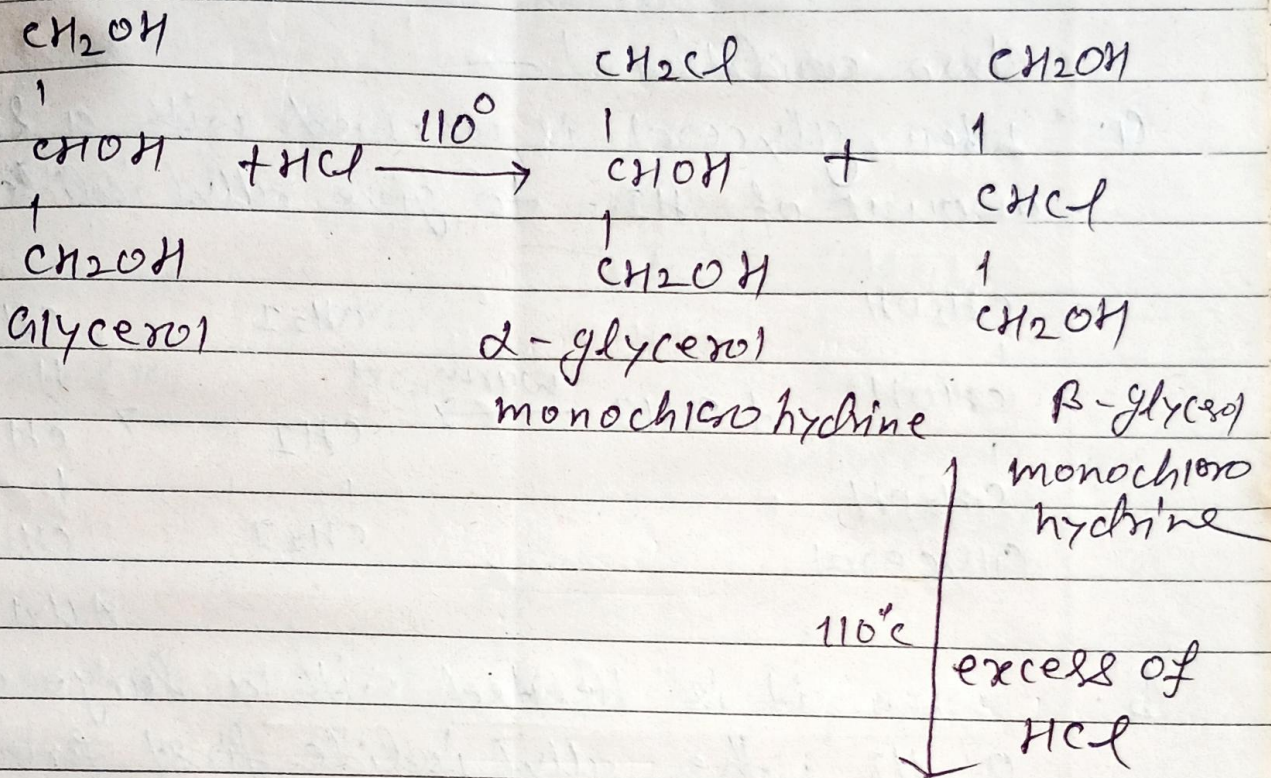


(ii) Reaction with HNO₃ / - Glycerol reacts with Nitric acid in presence of conc. H₂SO₄ at 25°C to give glyceryl trinitrate also known as nitroglycerine



(iii) Reaction with HCl / - When HCl is passed through glycerol at 110°C both α or β - glycerol monochlorohydrines are formed. If the HCl gas is passed for sufficient time, glycerol α, α' - dichlorohydrine and glycerol α, β -

dichlorohydrine are formed.



Note - Similar reaction with HBr