

ALCOHOL (Lecture-4)

1.

By-Dr.Rinky Deg-I Sub. 24/01/2022

Group-C ,Ch-2 ,Session :2021-2024

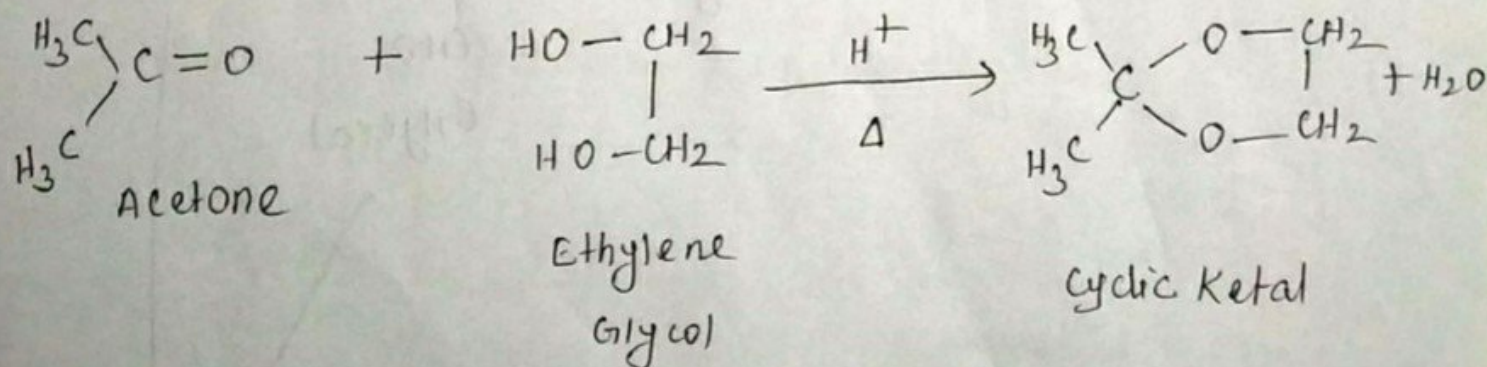
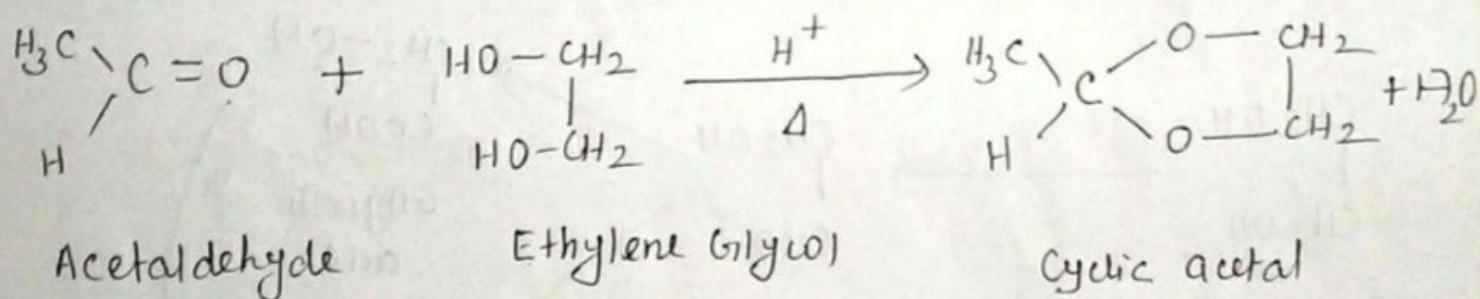
Chemical Properties Of Ethylene Glycol

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Reaction with Aldehydes or Ketones

Ethylene glycol condenses with aldehydes or ketones in the presence of sulphuric acid to yield cyclic acetals or ketals.

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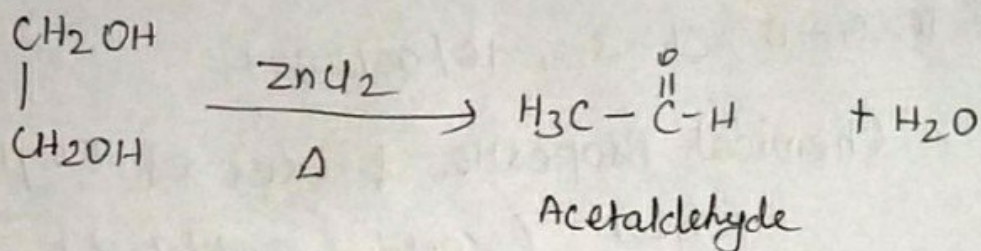


* The carbonyl group can be regenerated by the action of periodic acid on the ester.

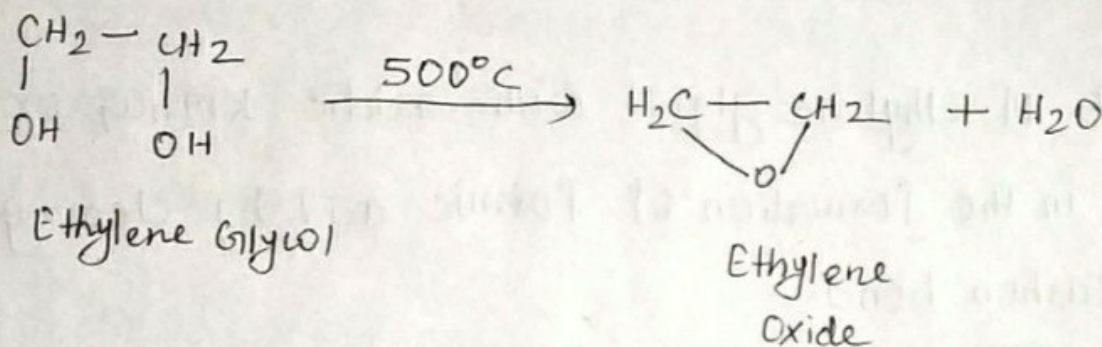
Dehydration

2.

a) When heated with ZnCl_2 , ethylene glycol gives acetaldehyde.



b) When heated alone at 500°C , it gives ethylene oxide.



c) When heated with concentrated phosphoric acid, it gives diethylene glycol.

Uses of Ethylene Glycol

* Since glycol forms freezing mixture with water, it is sold under the name Prestone for use as antifreeze for car radiators and as cooling in aeroplane motors.

* It is also used:

i) for preventing ice formation on aeroplane wings.

ii) in making low-freezing dynamite.

iii) as a preservative.

iv) as a dielectric in electrical condensers, etc.

Completed..