

# Aldehydes and ketones

By-Dr. Rinky.  
Guest Faculty.  
Dept. of Chemistry.  
J.N. College, MDB.

## Lecture -11 (Last)

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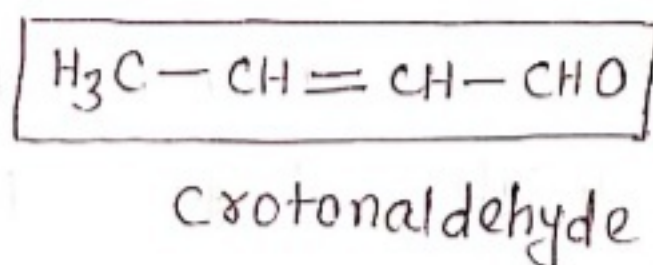
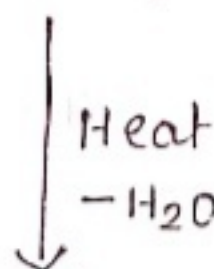
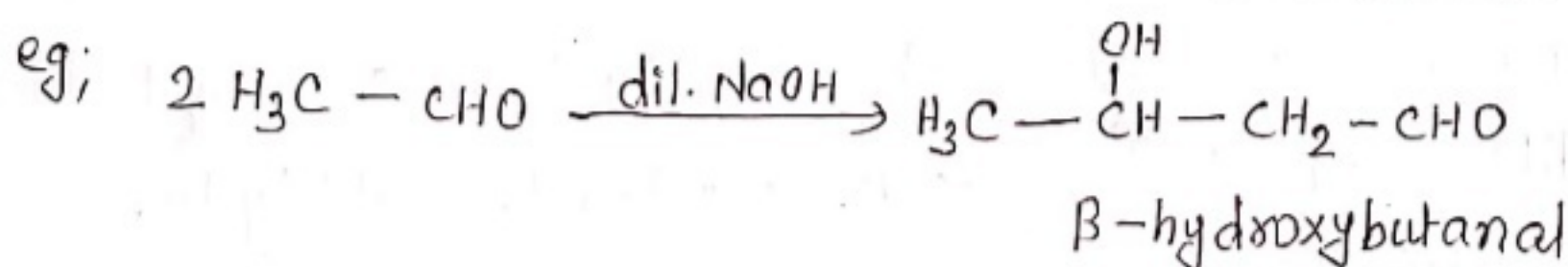
Degree-I (Hons. & Sub.)

### Aldol Condensation

Ch.No-5 Ch.No-3  
Group-B Group-C  
paper-II

\* Aldehydes containing  $\alpha$ -hydrogen undergo self-addition in the presence of a dil. base to form products called Aldols.

The reaction is called Aldol condensation.



### Mechanism

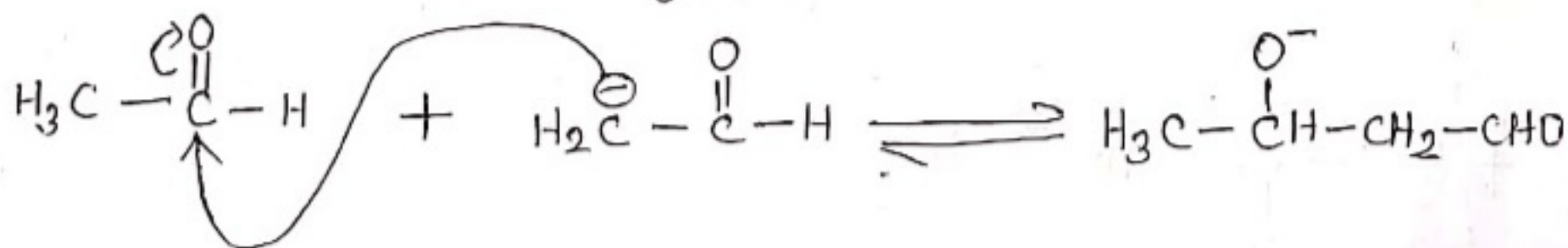
The reaction is reversible and involves the following steps:-

Step 1. The enolate ion is formed

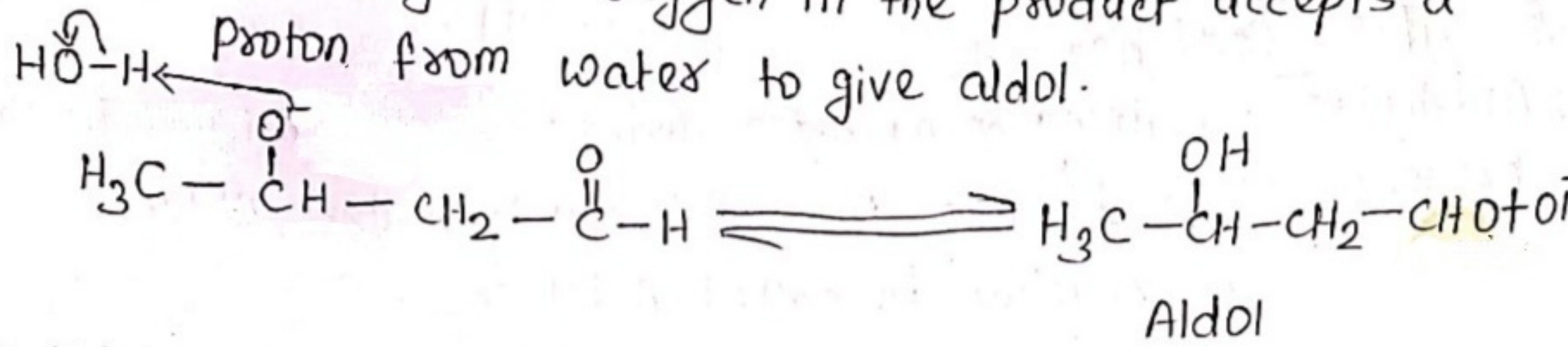


Step 2.

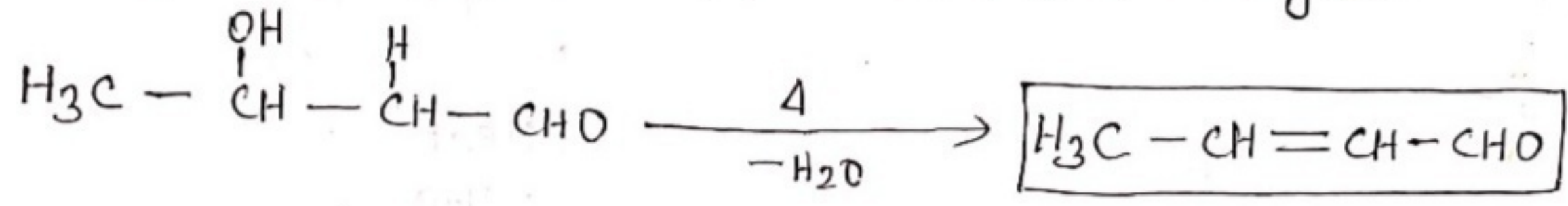
The enolate ion attacks the carbonyl carbon of another un-ionized aldehyde molecule.



Step 3. The negative oxygen in the product accepts a proton from water to give aldol.



\* Aldol are easily dehydrated either by heating or by treatment with dilute acid to form  $\alpha, \beta$ -unsaturated aldehydes.



\* Ketones containing  $\alpha$ -hydrogen also undergo aldol condensation to form ketols.

example :-

