

DEGREE-I(HONS.)

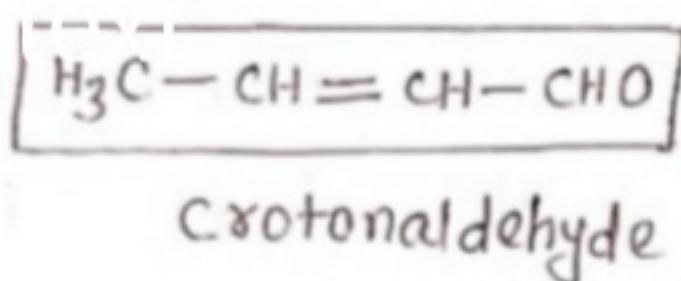
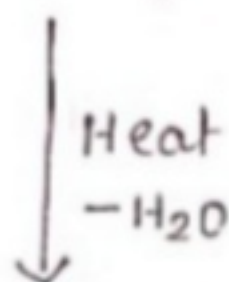
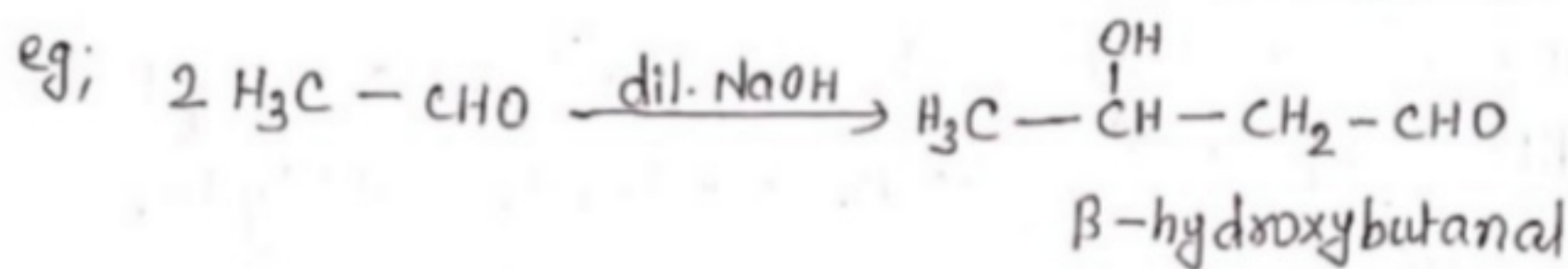
1.

Aldol Condensation

28/10/2020

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

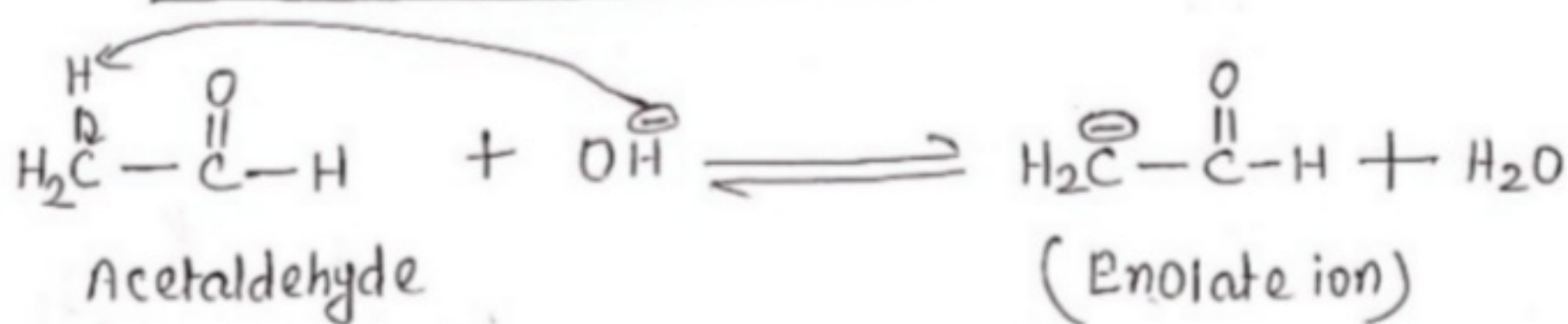
The reaction is called Aldol condensation.



Mechanism

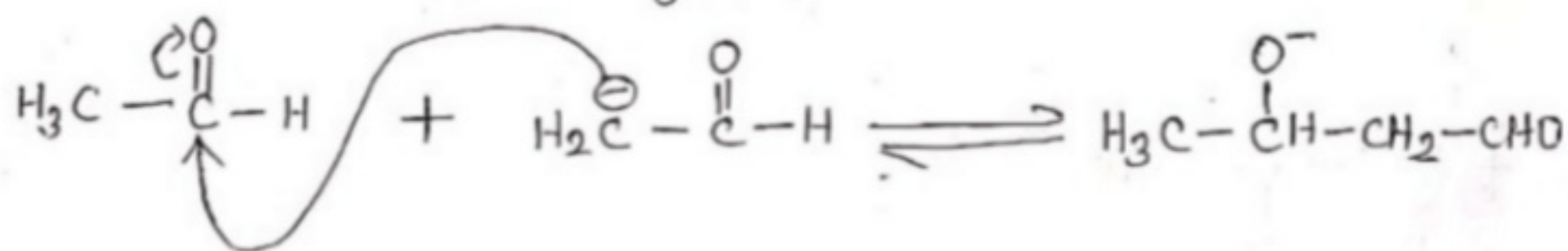
The reaction is reversible and involves the following steps:-

Step 1. The enolate ion is formed

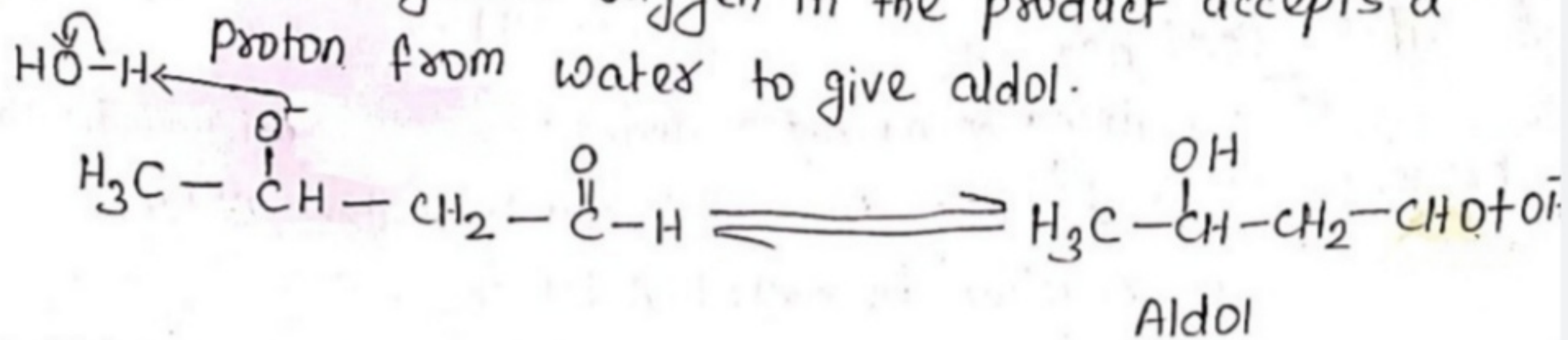


Step 2.

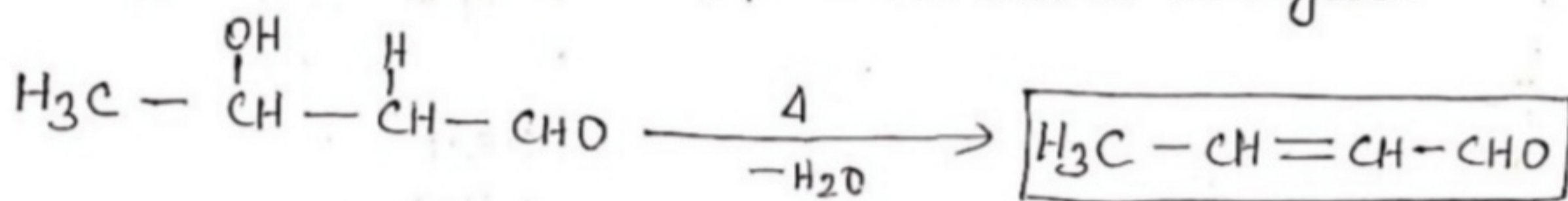
The enolate ion attacks the carbonyl carbon of another un-ionized aldehyde molecule.



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 α, β -unsaturated aldehydes.



* Ketones containing α -hydrogen also undergo aldol condensation to form ketols.

example :-

