

DEGREE - I

PAPER - II →

B.Sc. (Hons.) :- Chapter No. 5.

GROUP - C →

B.Sc. (Sub.) :- Chapter No. 3.

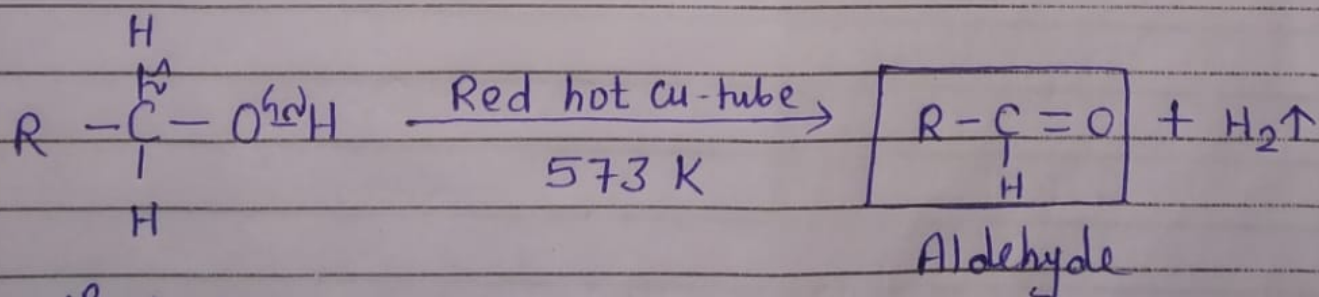
Aldehydes And Ketones

Lecture - 2

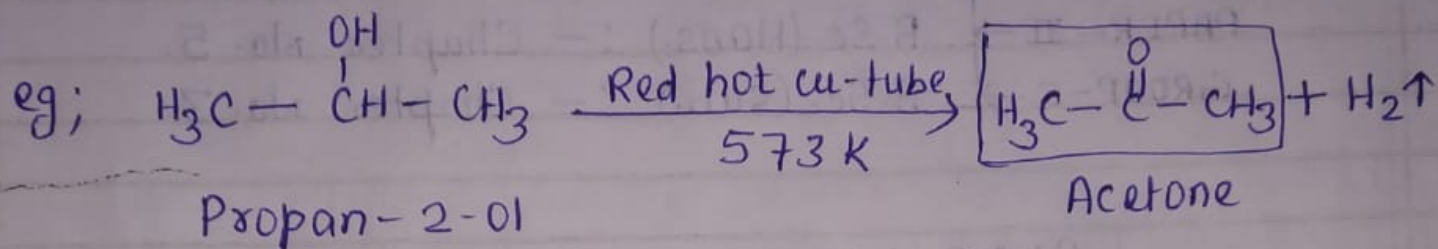
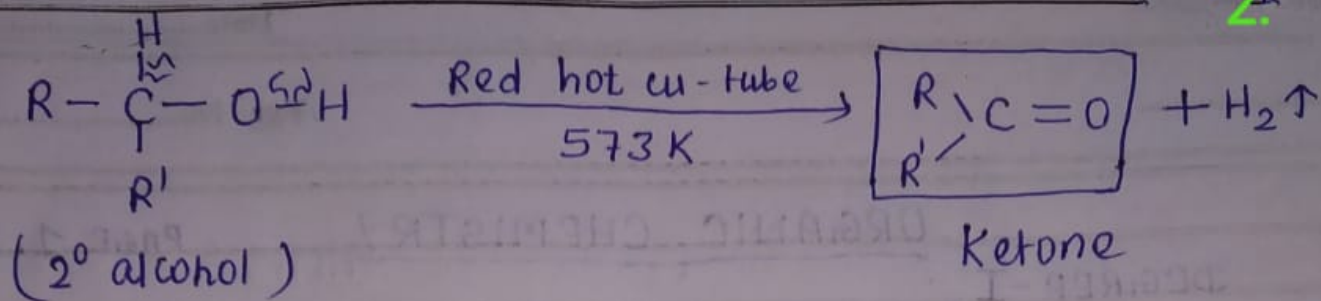
METHODS OF PREPARATION

2. By catalytic Dehydrogenation Of Alcohol :

Aldehyde may be prepared by passing the vapour of primary alcohols over a copper catalyst heated to about 300°C .

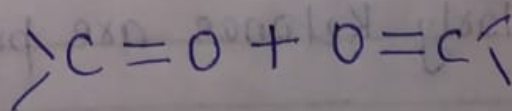
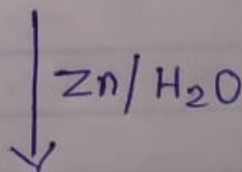
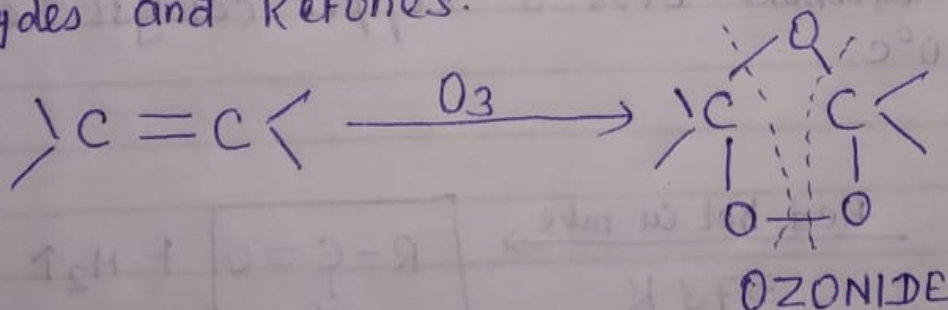


* Similarly ketones are produced from secondary alcohols.

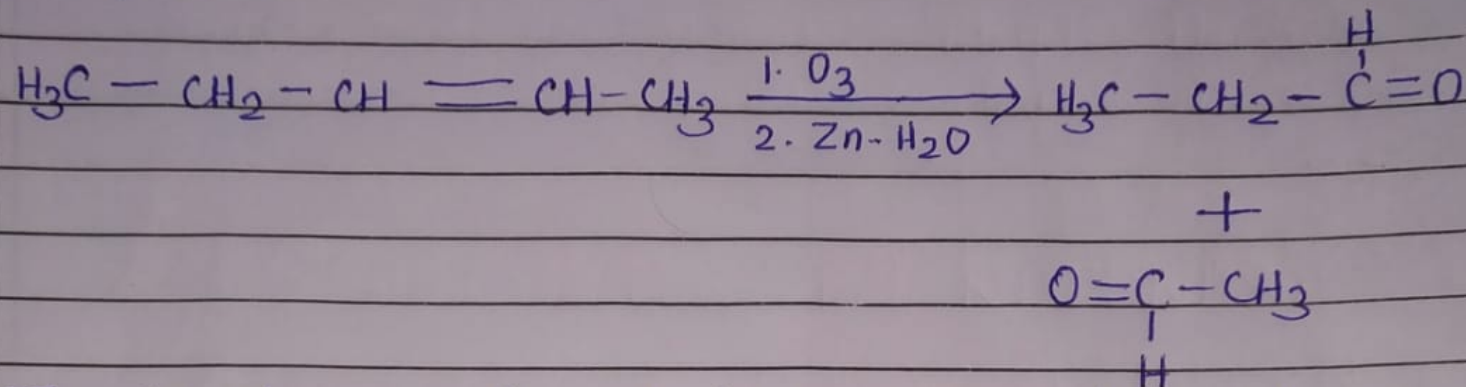


3. By Oxidation Of Alkene (OZONOLYSIS)

This involves the treatment of the alkenes with Ozone to give ozonides. The ozonides are not isolated because they are often explosive in dry state. They are reduced with mild reducing agent like $\text{Zn}/\text{H}_2\text{O}$ or $(\text{CH}_3)_2\text{S}$ to form aldehydes and ketones.

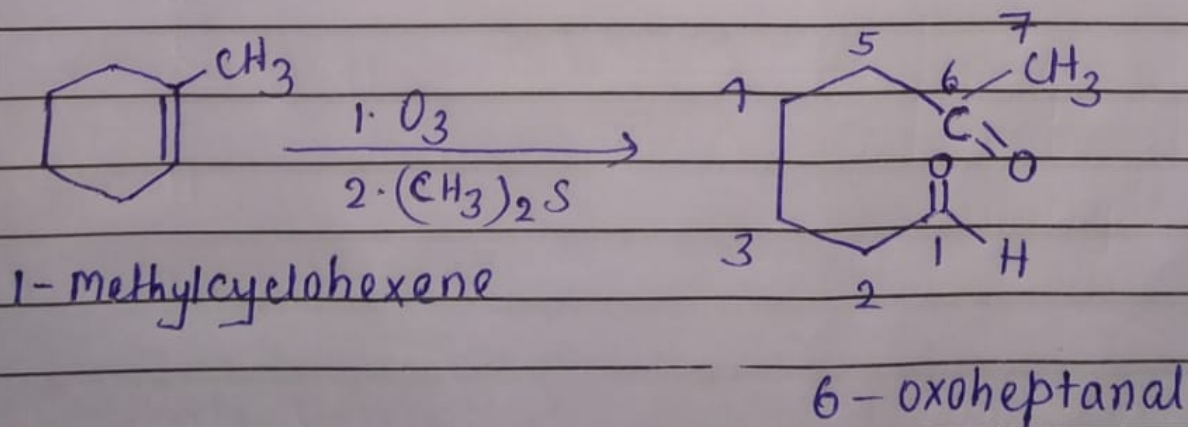
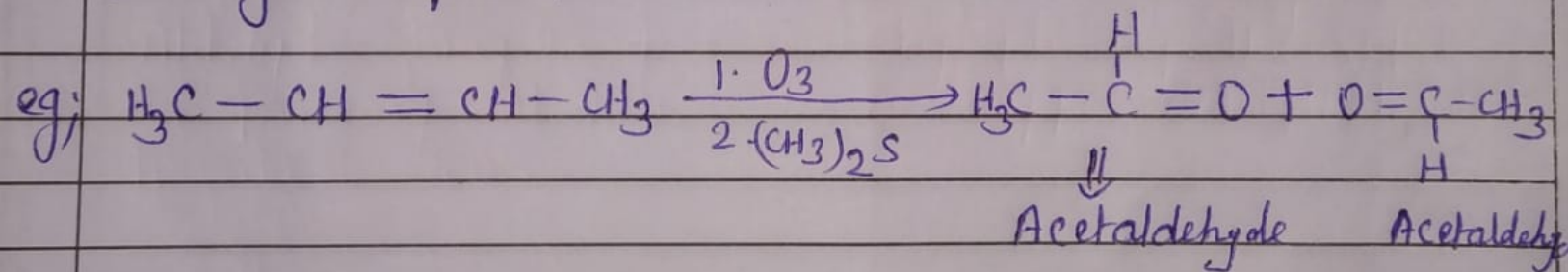


example;



* This is not a good method for preparation of aldehydes and ketones; because a mixture of carbonyl compound is often produced.

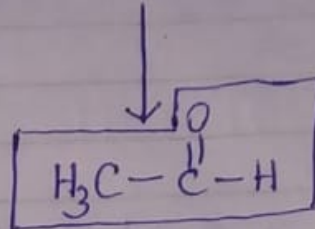
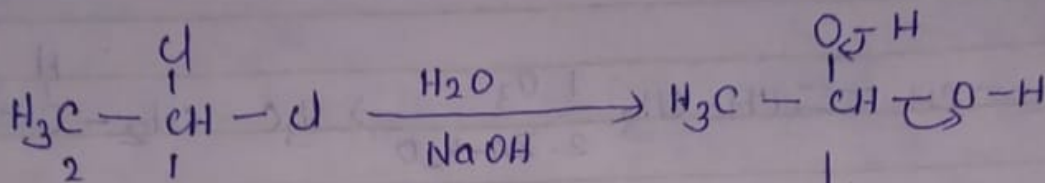
* If the starting alkene is symmetrical then only one carbonyl compound will be obtained.



4. Hydrolysis of gem. Dihalides: --

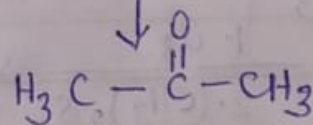
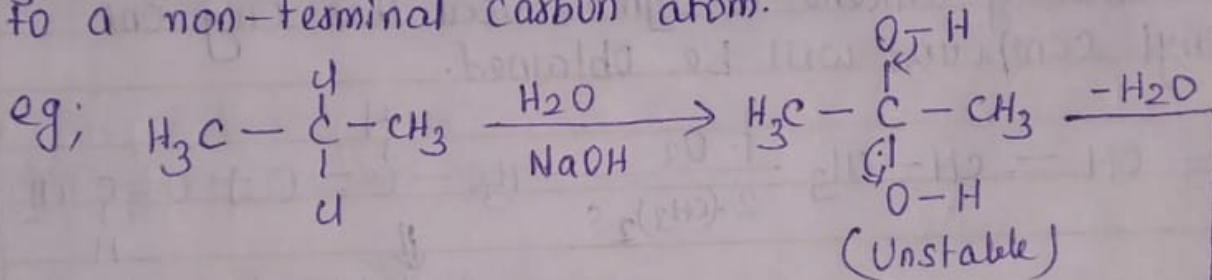
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- * Aldehydes are prepared by alkaline hydrolysis of those gem-dihalides in which two halogen atoms are attached to the terminal carbon atom. For example;



Acetaldehyde

- * Ketones are prepared by alkaline hydrolysis of those gem-dihalides in which two halogen atoms are attached to a non-terminal carbon atom.



Acetone.

End
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To be continued in next lecture...