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| DEGREE | } | B.Sc. (HONS.) :- CHAPTER No. 5. |
| I (HONS) | | |
| PAPER-II | | B.Sc. (Sub.) :- CHAPTER No. 3. |
| GROUP-B | | ↳ GROUP - C |

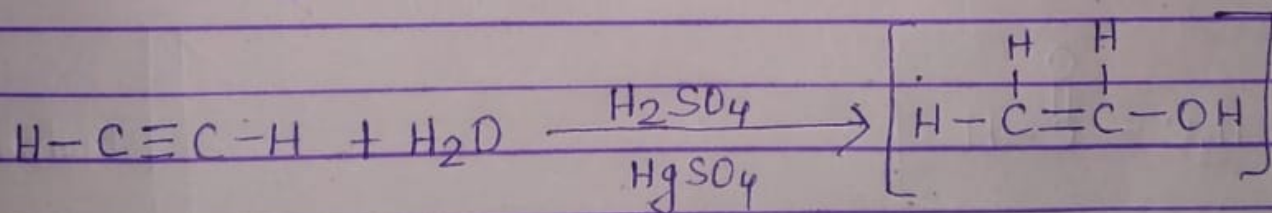
Aldehydes And Ketones

Lecture -3

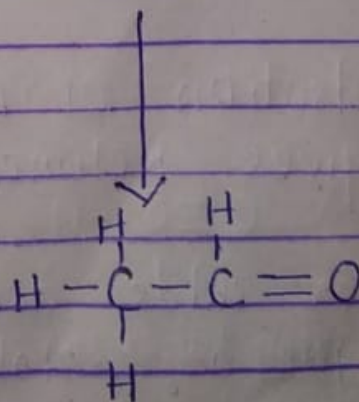
METHODS OF PREPARATION

5. By Hydration Of Alkynes :-

* On Hydration, acetylene ($\text{HC}\equiv\text{CH}$) gives α -Acetaldehyde.

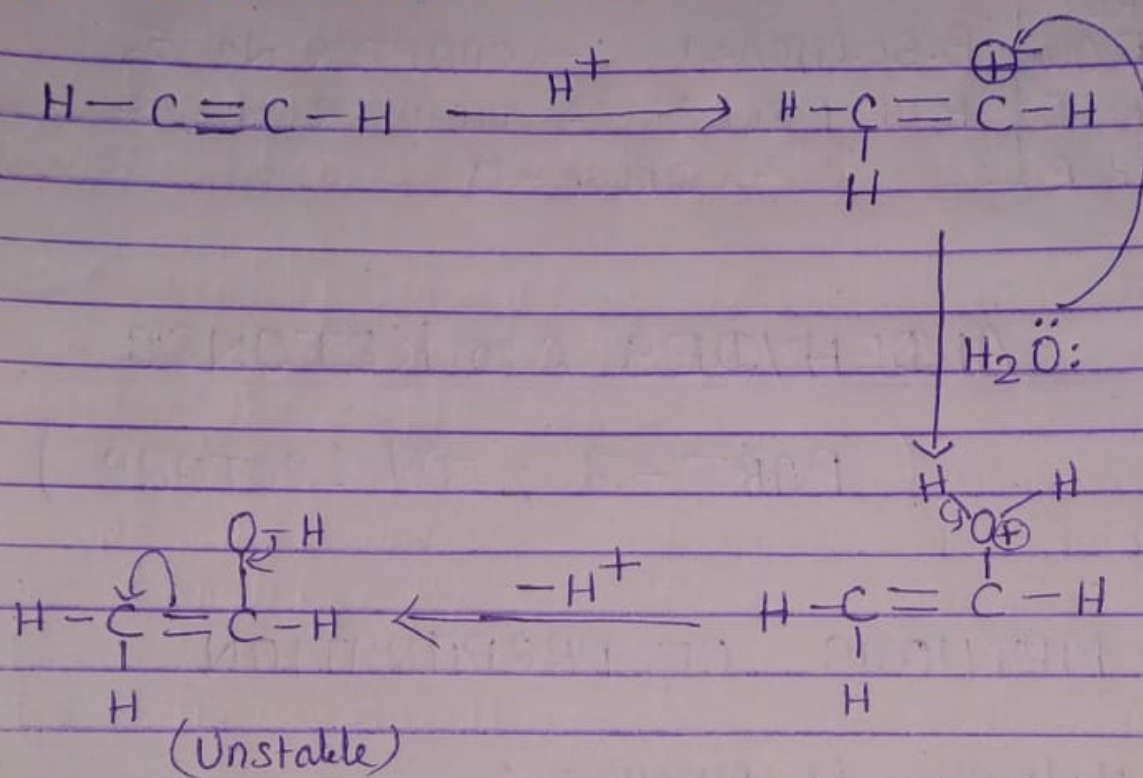


Unstable

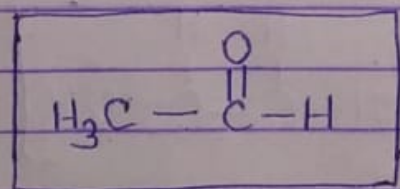


Ethanal

Mechanism

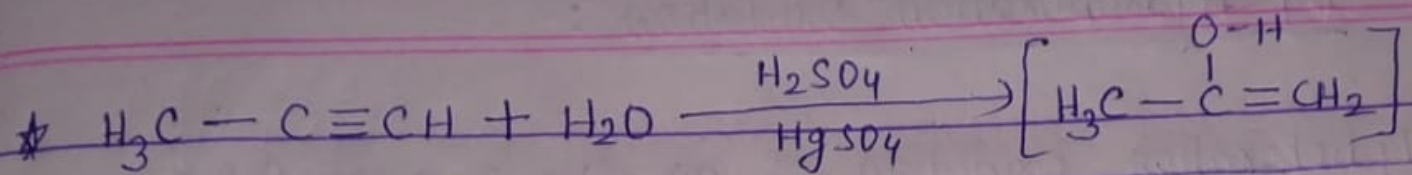


\rightleftharpoons Tautomerise

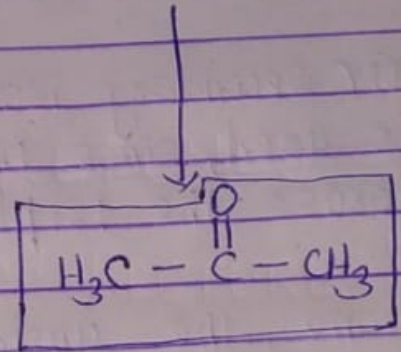


Ethanal

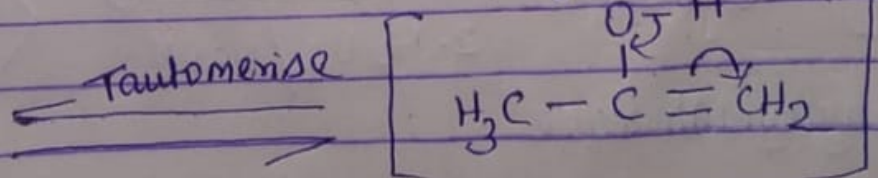
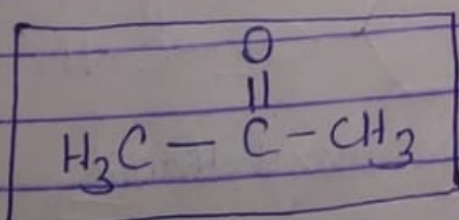
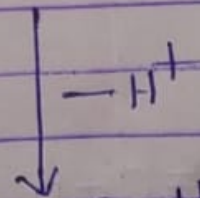
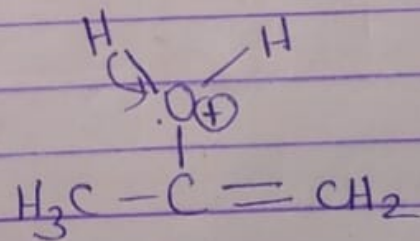
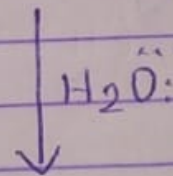
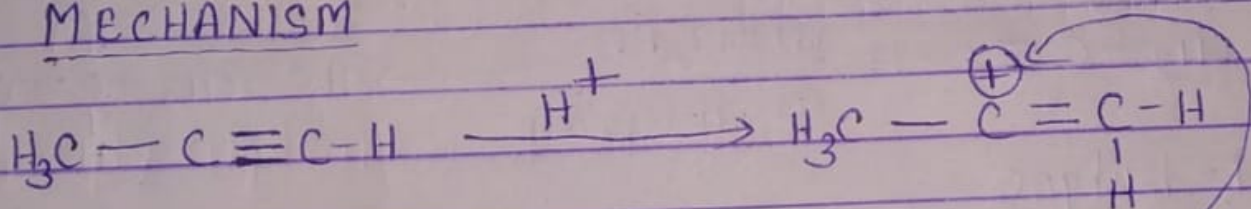
- * Hydration of alkynes, other than acetylene, gives ketones.
- * Water adds according to the Markovnikov's rule to give an unstable enol-intermediate. This intermediate rearranges to form ketones.



Unstable



Acetone

MECHANISM

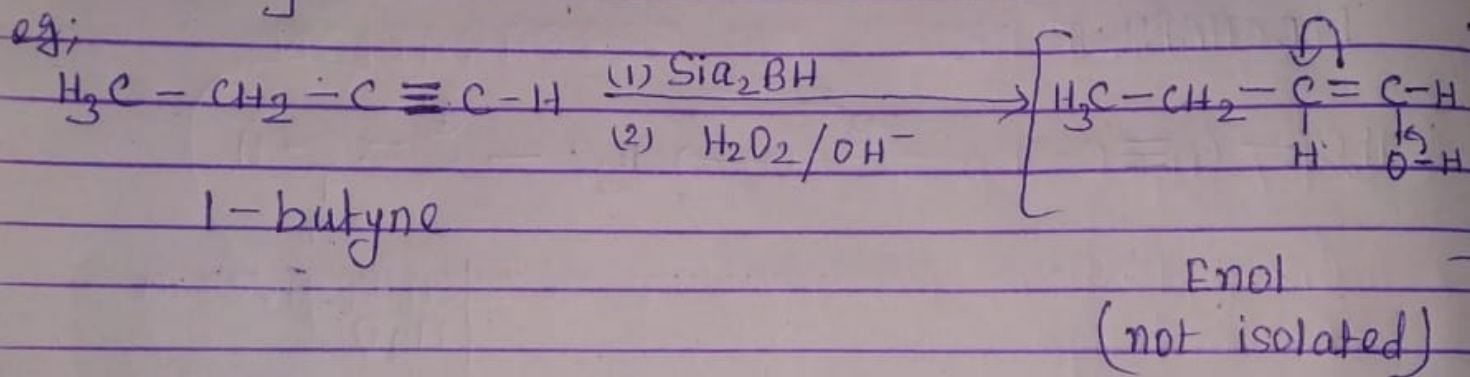
Acetone

6. By Hydroboration oxidation :-

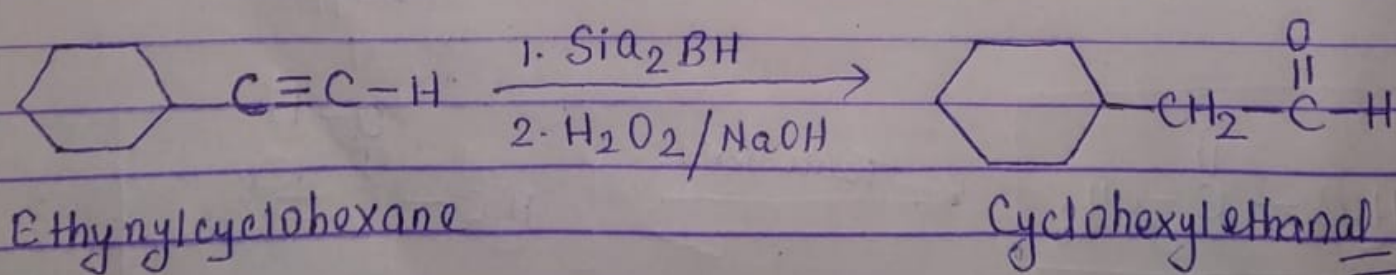
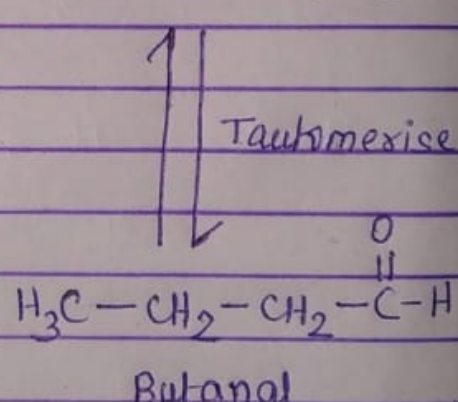
Hydroboration oxidation of an alkyne gives Antimarkovni-
-kov's addition of water across the triple bond.

* Di(secondary isoamyl) borane called disiamylborane,
is used, since this amyl borane cannot add twice
across the triple bond.

On oxidation of the
borane, the unstable enol quickly tautomerizes to
an aldehyde.



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By - Dr. Rinky Kumari
Dept. of Chemistry
J.N. College, Madhubani

To be continued in next lecture...