

Important Questions

1.

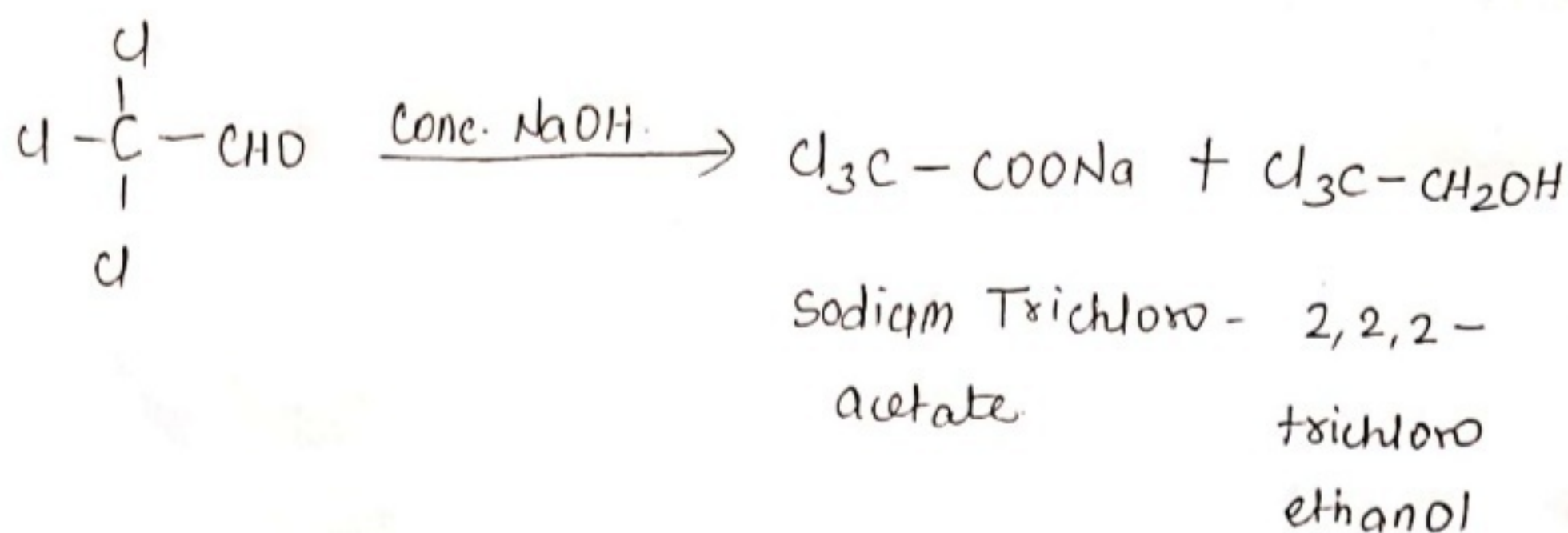
(From Previous Year)

Degree-I (Sub.) ,14/08/2020

Explain the following :-

a. Trichloroacetaldehyde undergoes Cannizzaro Reaction.

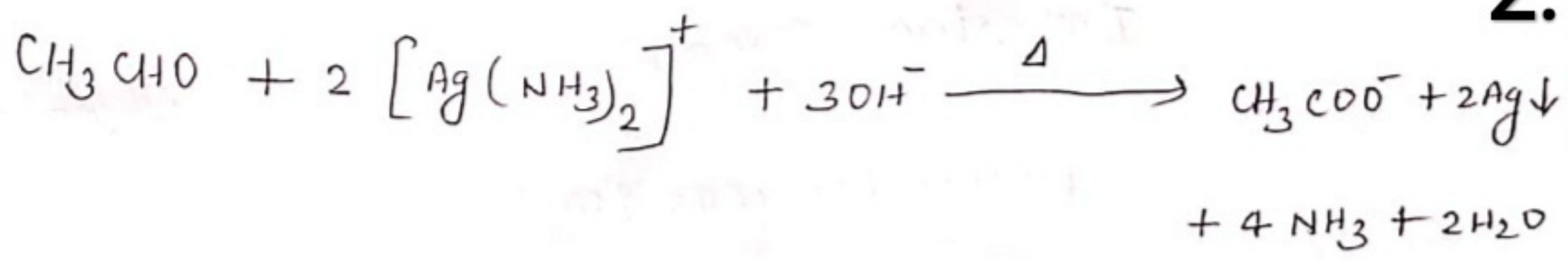
* When trichloroacetaldehyde is subjected to Cannizzaro reaction by using conc. NaOH then sodium salt of trichloroacetic acid and 2,2,2-trichloroethanol will be formed.



b. Acetaldehyde gives Silver mirror test.

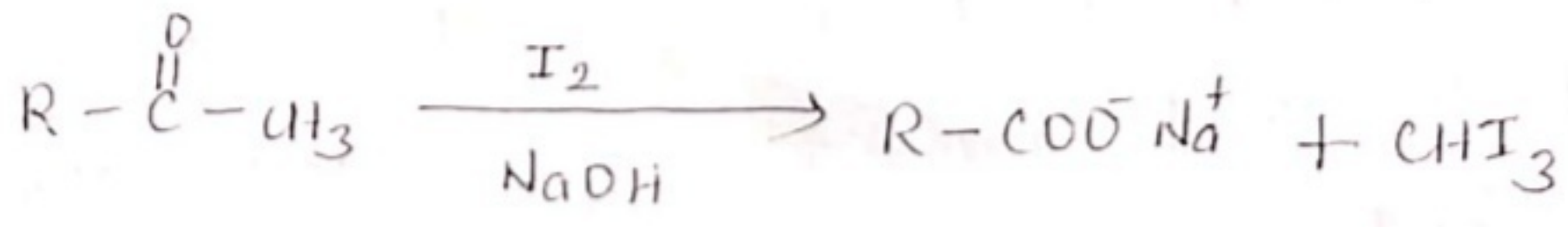
* When acetaldehyde is treated with Tollen's reagent then it oxidises to acetate ion and Tollen's reagent reduces to metallic silver, which appears as a mirror in test tube. This test is known as Silver Mirror Test.

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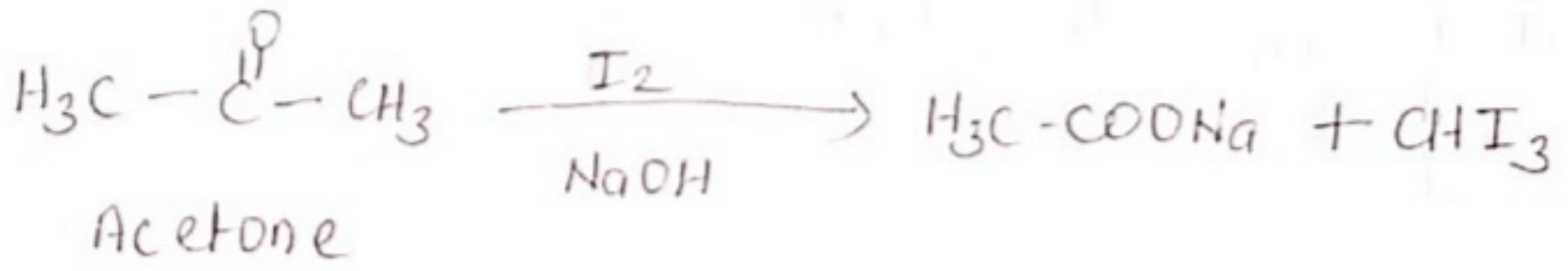


C. Acetone gives iodoform test.

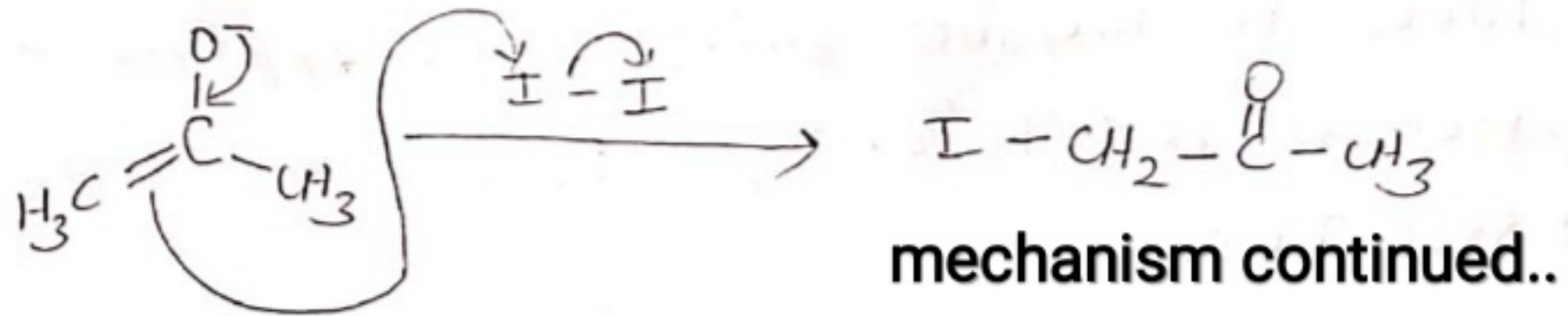
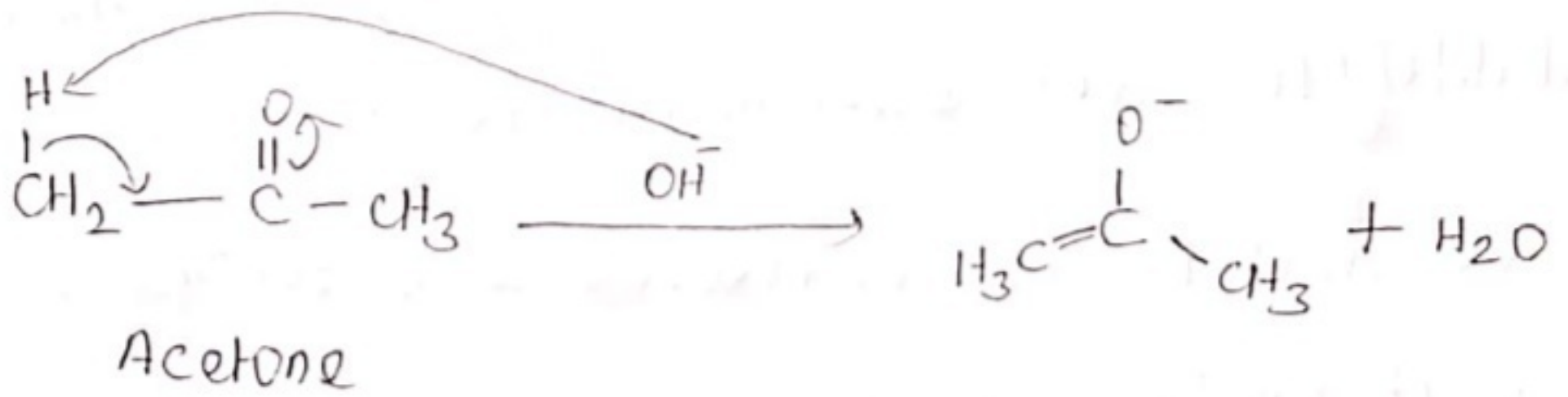
* When iodine and NaOH are added to a compound that contains either a methyl ketone or a secondary alcohol with a methyl group in the α -position, a pale yellow precipitate of iodoform is formed.



if $\text{R} = \text{CH}_3$

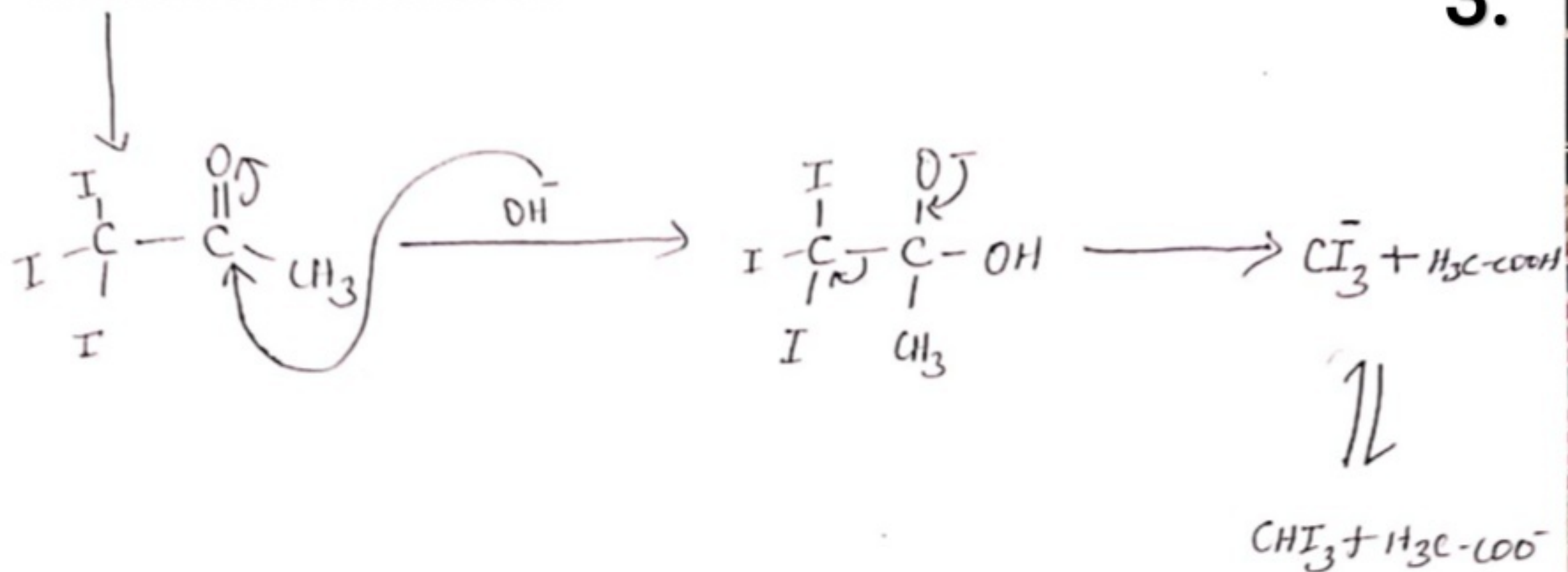


Mechanism



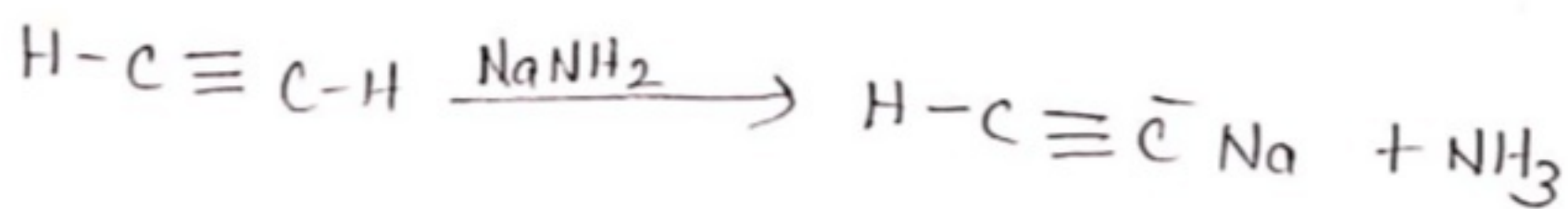
mechanism continued..

3.



d. Acetylene undergoes both addition and substitution reactions.

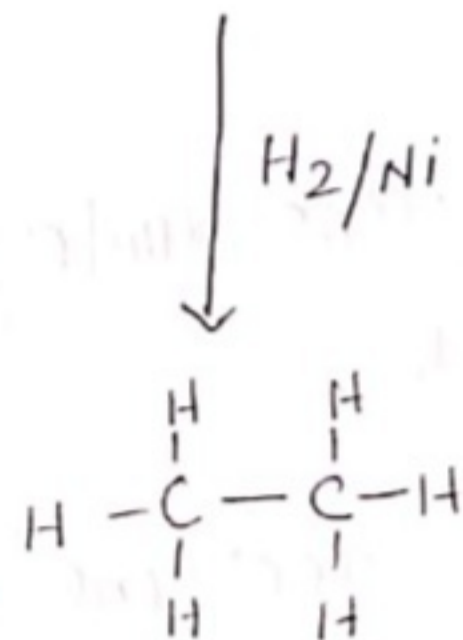
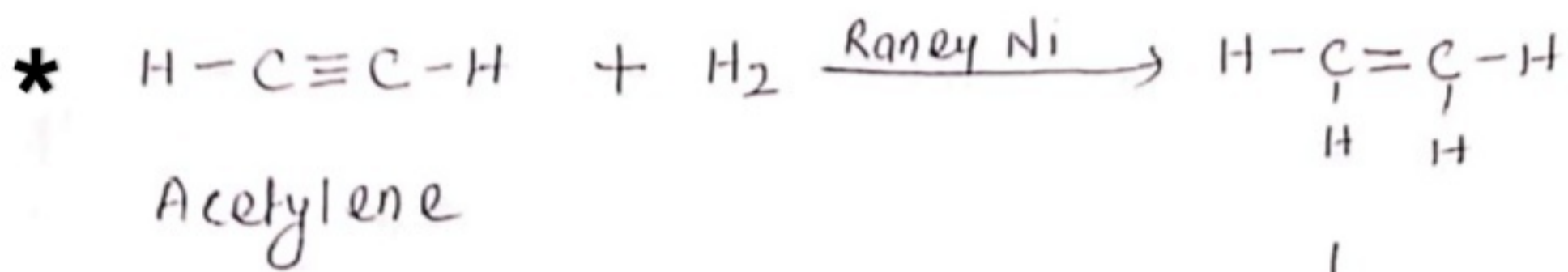
- * In acetylene both hydrogen is terminal and since terminal hydrogen is directly attached with sp hybridised carbon, it is acidic in nature and easily remove as H^+ leaving behind acetylide carbanion. The acetylide carbanion is a good 'c' nucleophile and can undergo substitution reactions 1° or 2° alkyl halide to produce longer alkyne chain.



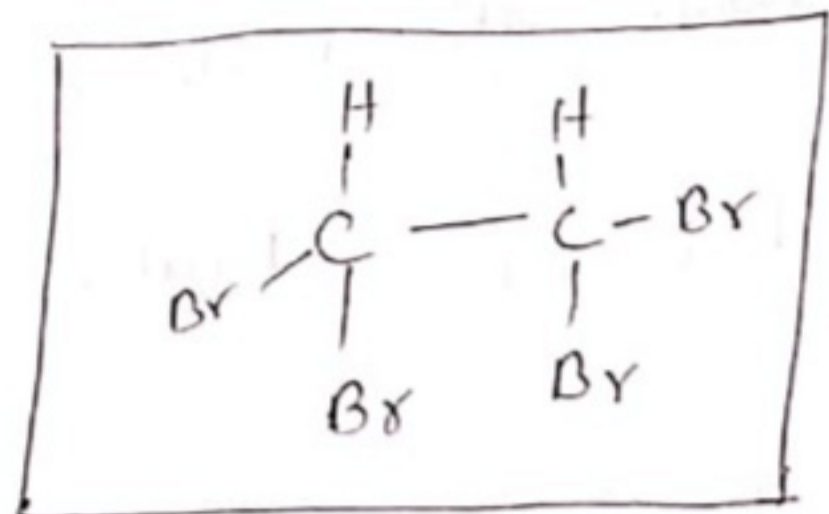
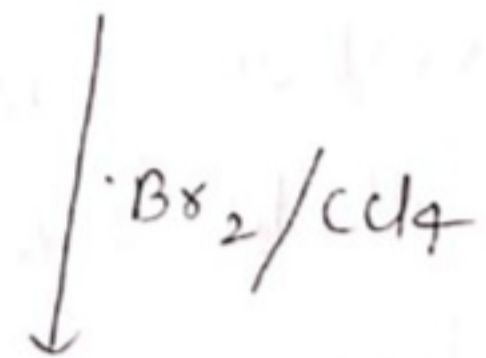
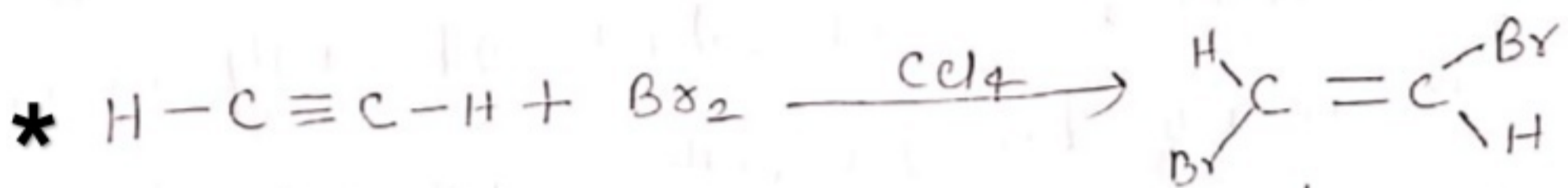
- * The unsaturated compound can show addition reaction.
- * Acetylene has two π -bond so, it can show addition

reaction to get converted into saturated compound.

For example,



Ethane



~Completed~

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