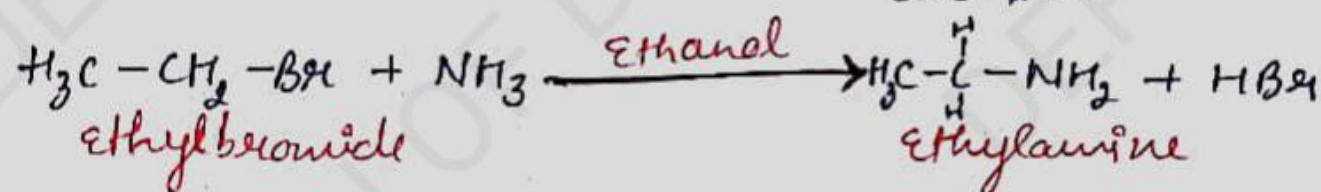


Preparation of Amines

(1) Reaction of alkyl halide with Ammonia $\rightarrow$ Amine

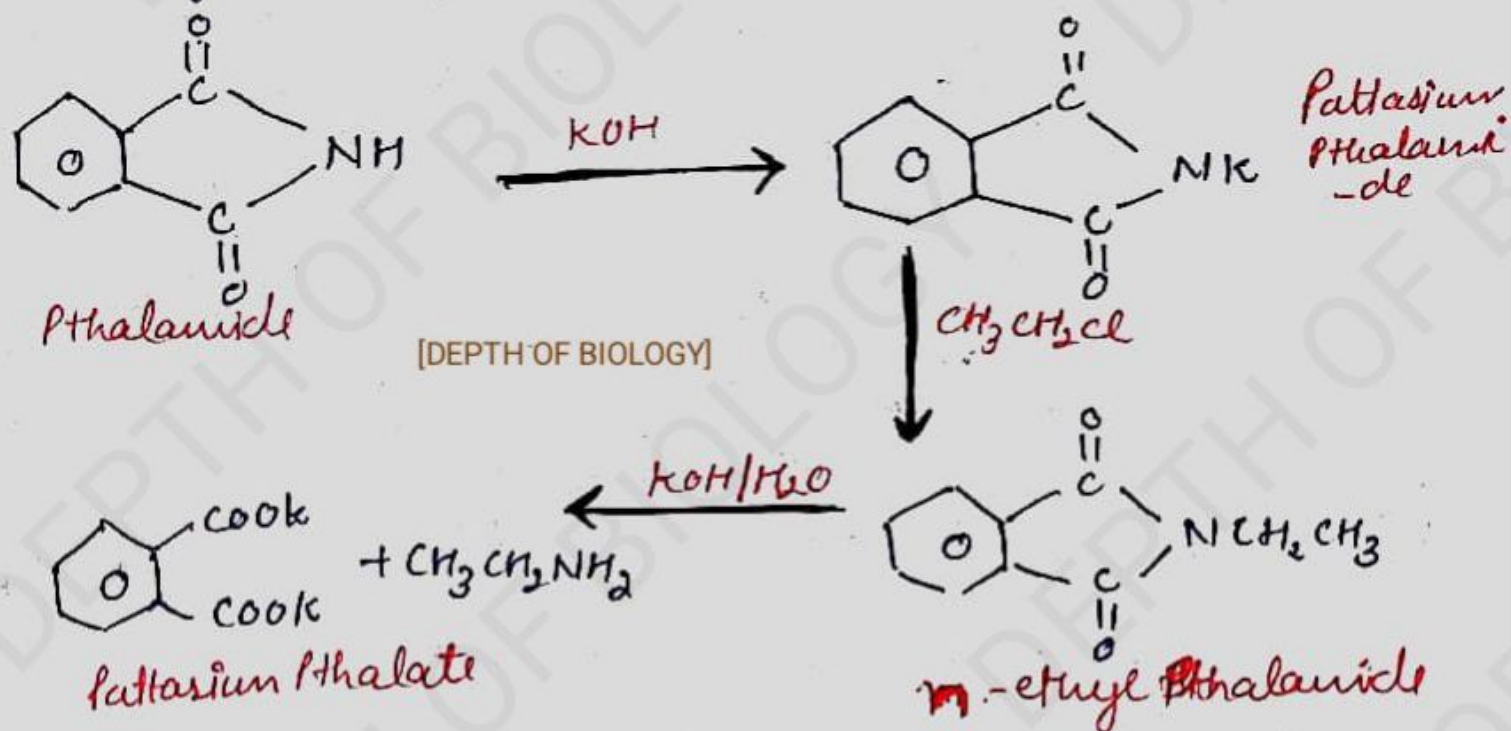
alc. sol.



(2) Gabriel Phthalimide Method.

[DEPTH OF BIOLOGY]:

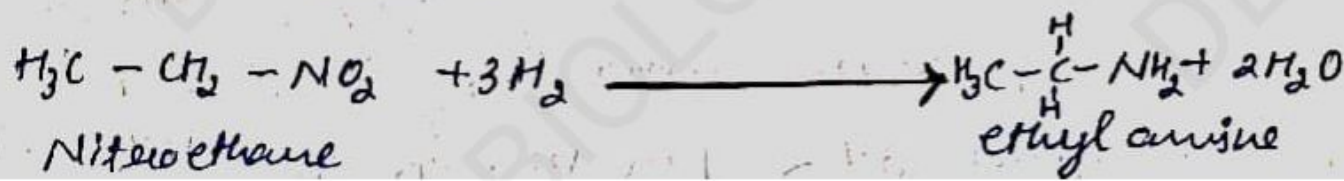
treatment of Phthalimide with Potassium hydroxide to form potassium salt



(3) Reduction of Nitroalkanes.

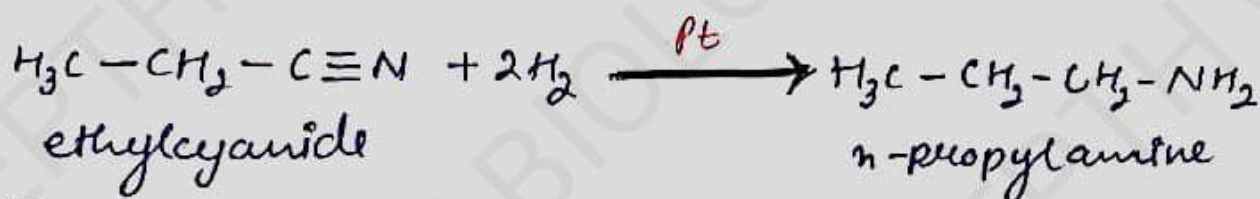
[DEPTH OF BIOLOGY]

Primary Amine can be obtained by reduction of Nitroalkane with Ni or Pt.



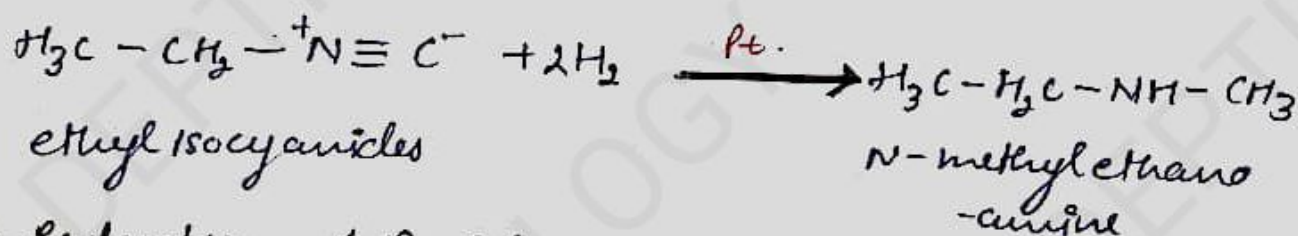
4. Reduction of Nitriles

Primary Amine can be obtained by red. of Nitriles with Ni or Pt.



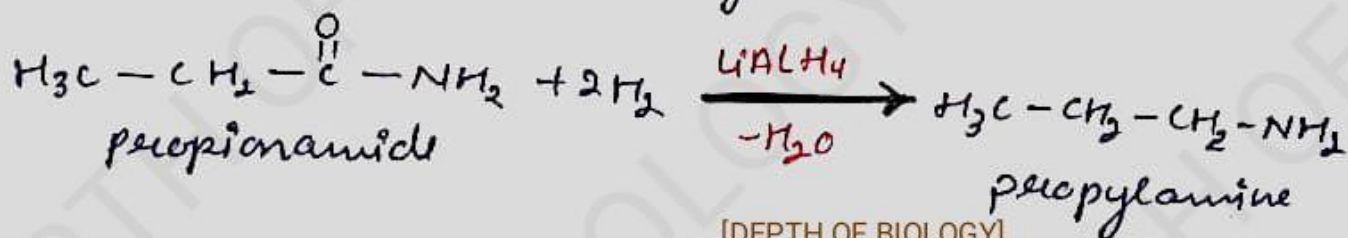
5. Reduction of Isonitriles

Sec. amines may be obtained by reduction of Isonitrile with Pt.



6. Reduction of Amides.

Primary amine can be obtained by red. of simple amine with lithium-Al-hydride

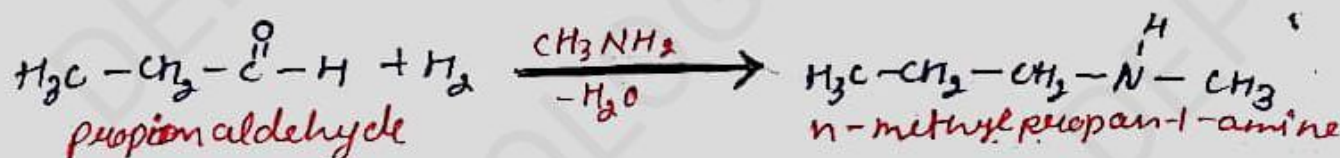
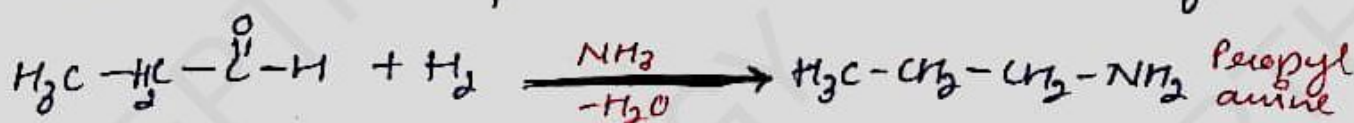


[DEPTH OF BIOLOGY]

7. Reductive Amination of Aldehyde and ketone

Primary amine can be obtained by red. of Aldehyde with Ammonia with Ni or Pt.

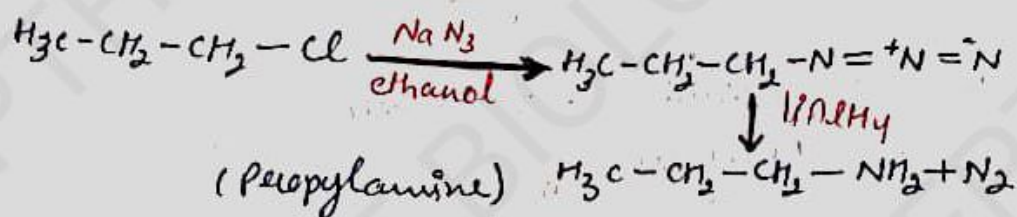
• sec. amines are produced with treatment of P.A.



8. Reduction of Alkyl Azide :-

[DEPTH OF BIOLOGY]

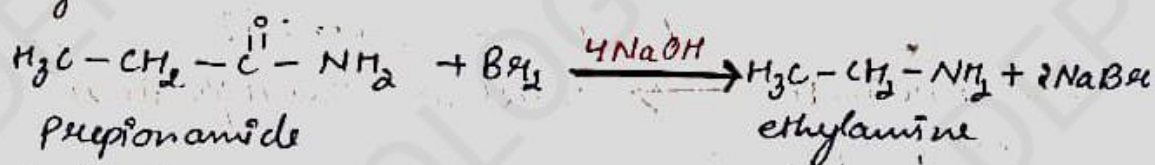
Primary alkyl halide react with Na Azide to form alkyl azides and further reduction with $\text{LiAlH}_4 \rightarrow \text{P.A.}$



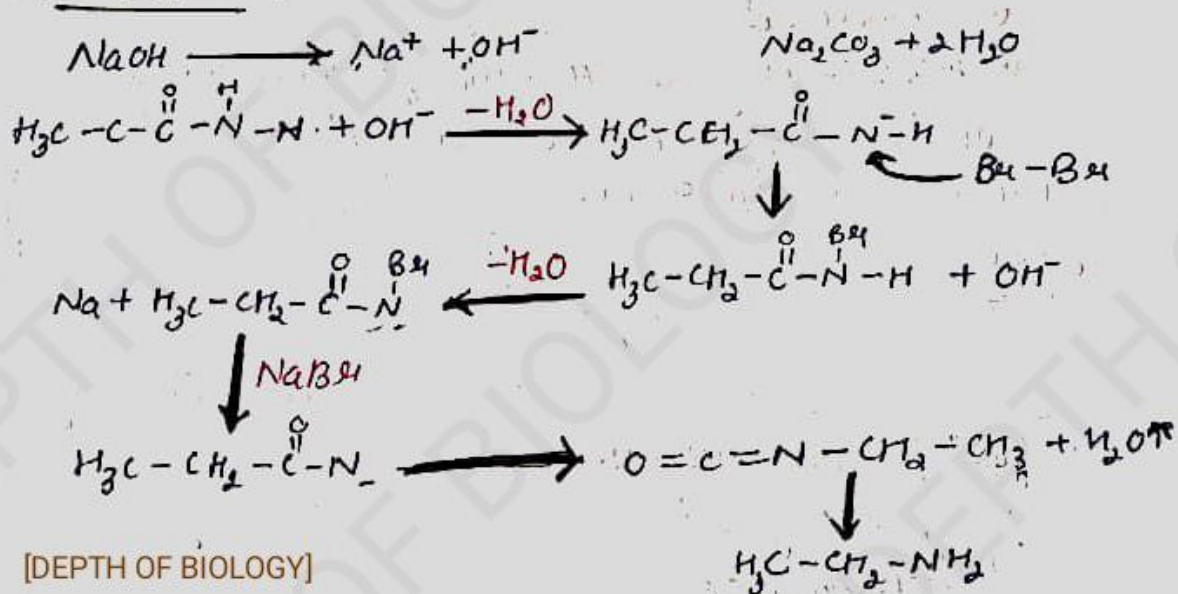
[DEPTH OF BIOLOGY]

9. Hofmann's degradation of Amides :-

- Conversion amide into amine with the help of sodium hypohalides is known as Hofmann's degradation.



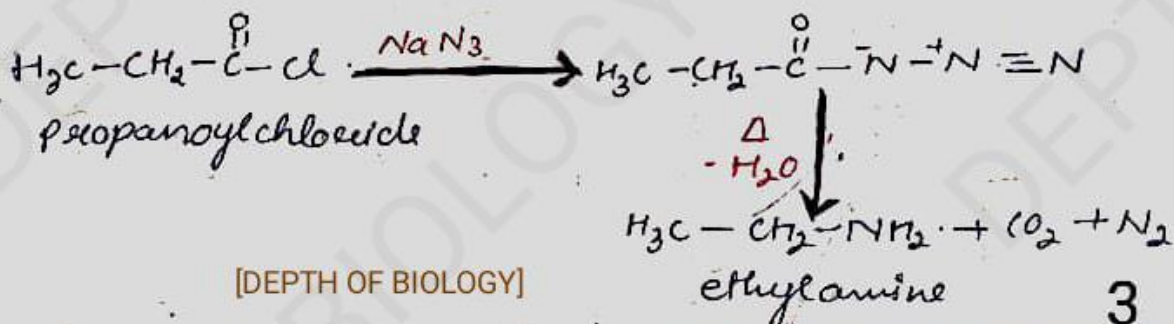
Mechanism :-



[DEPTH OF BIOLOGY]

10. Curtis Rearrangement

This rxn. convert acyl azide to primary Amine



[DEPTH OF BIOLOGY]

Reactions of Amine

[DEPTH OF BIOLOGY]

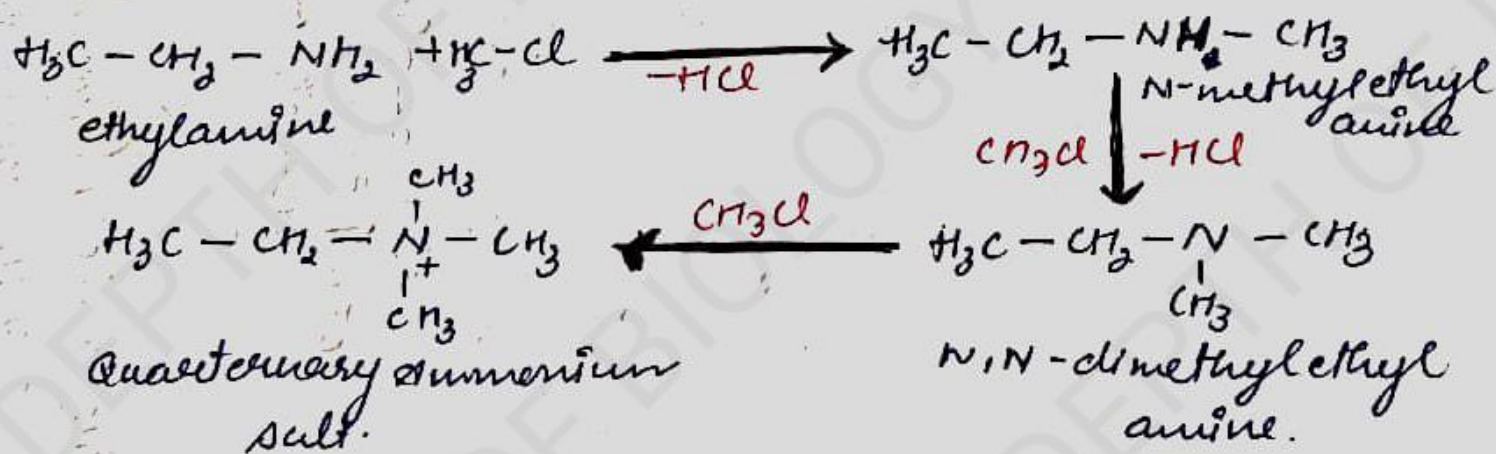
1. Salt formation

Amines are bases and react with mineral acid to form ammonium salt.



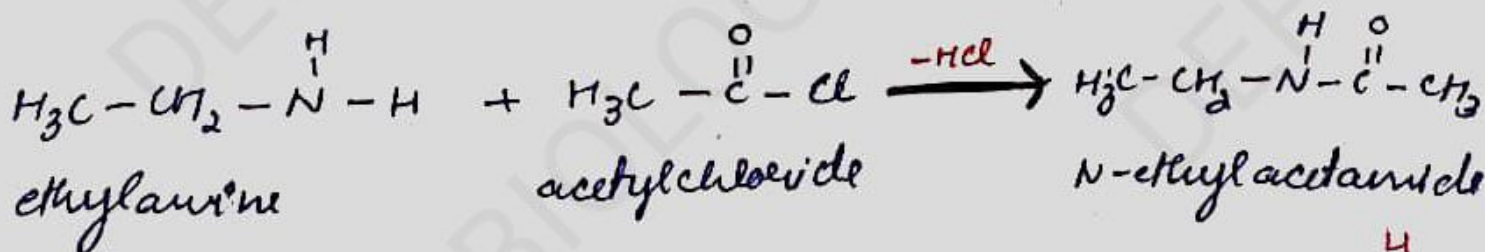
2. Reaction with alkyl Halides

P.A can be obtained by reduction of Nitriles with Ni^0 or Pt . [DEPTH OF BIOLOGY]



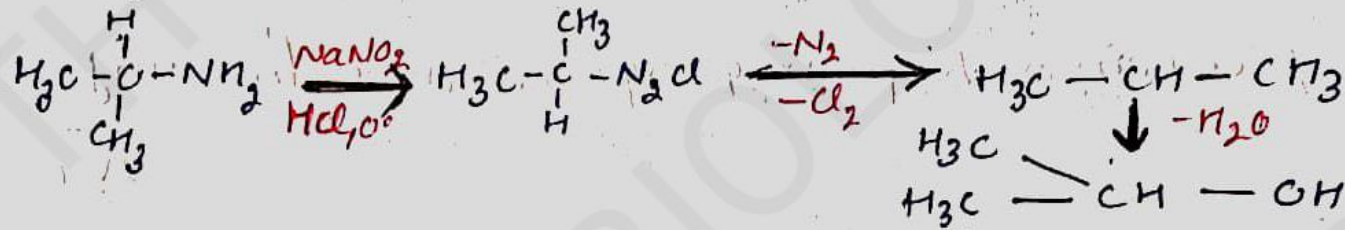
3. Reaction with Acid Chlorides

Primary amine react with acid chloride to form N-substituted amides [DEPTH OF BIOLOGY]



4. Reaction with Nitrous Acid → P.A reacts with Nitrous acid to form diazonium salt and salt hydrolyse to form alcohol.

[DEPTH OF BIOLOGY]



5. Reaction with Benzene Sulphonyl chloride

P.A react with benzene sulphonyl chloride to form n-alkylbenzene sulphonamide.

[DEPTH OF BIOLOGY]

