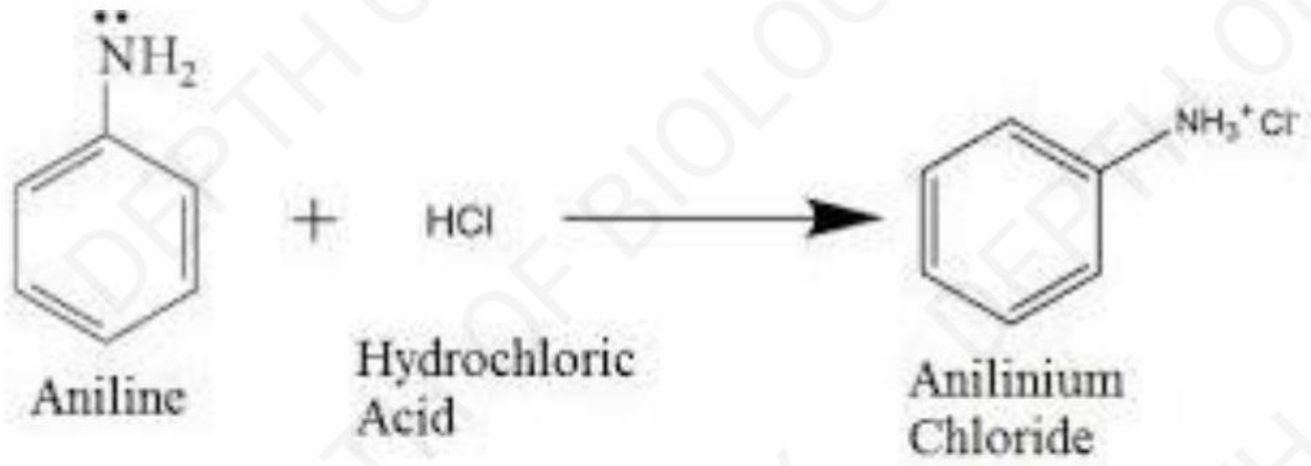
QUALITATIVE TEST OF AMINES

Presence of amine can be confirmed by performing following tests-

(a) Solubility Test:

Amines are basic in nature, so they dissolve in mineral acids like hydrochloric acid.



(b) Litmus Test:

Amines are basic in nature. So it turns red litmus paper blue.

(c) Carbylamine Test: [DEPTH OF BIOLOGY]

On treating primary amine with alcoholic KOH & chloroform, isocyanide (which has unpleasant odour) is produced

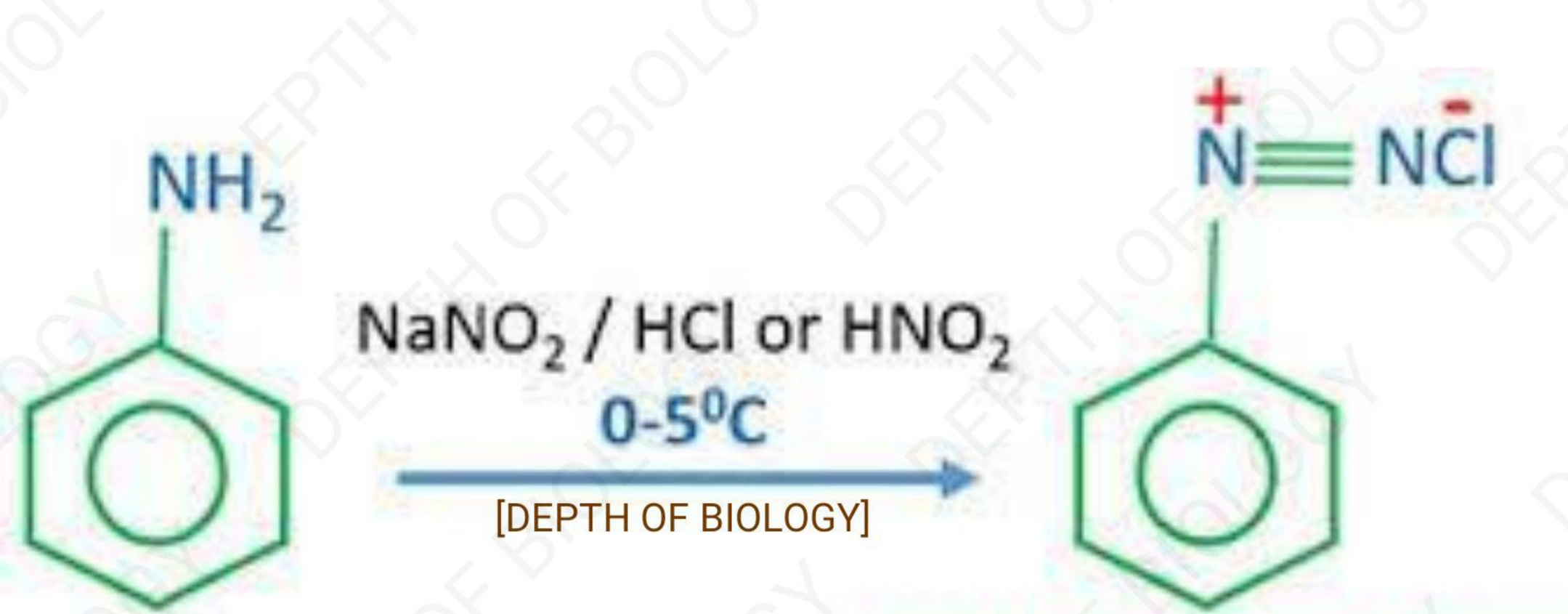
$R\text{-}NH_2 + 3KOH + CHCl_3 \rightarrow RNC(isocyanide) + 3KCl + 3H_2O$

(d) Azo-Dye Test: [DEPTH OF BIOLOGY]

Aromatic primary amine + nitrous acid (HNO_2) produces

Diazonium salt which couples with β-naphthol to form an orange coloured azo dye

[DEPTH OF BIOLOGY]

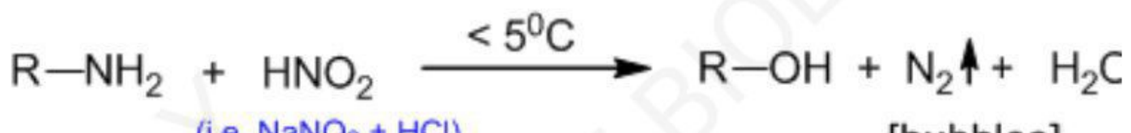


benzene diazonium chloride

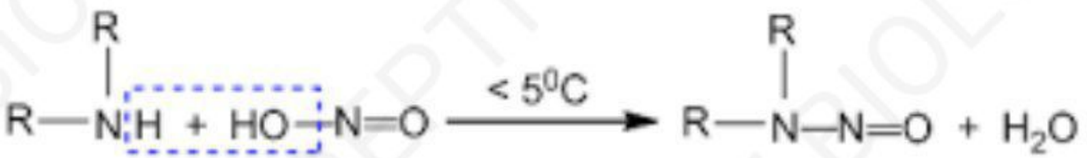
Distinguishing Test for Primary, Secondary and Tertiary Amines [DEPTH OF BIOLOGY]

1. NITROUS ACID TEST-

Primary amine



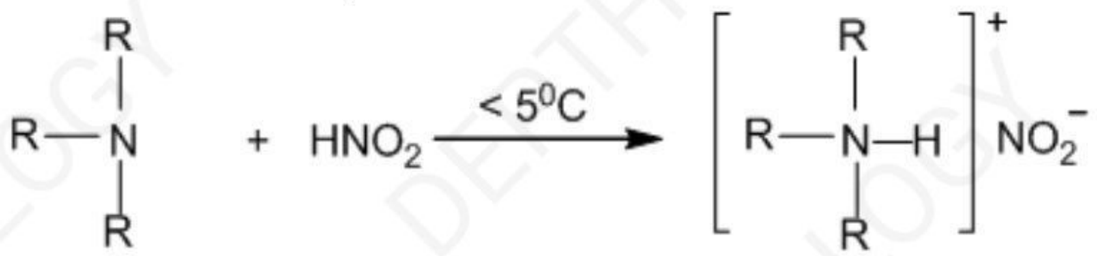
Secondary amine



NITROSOAMINE (YELLOW COLOURED OILY COMPOUND)

[DEPTH OF BIOLOGY]

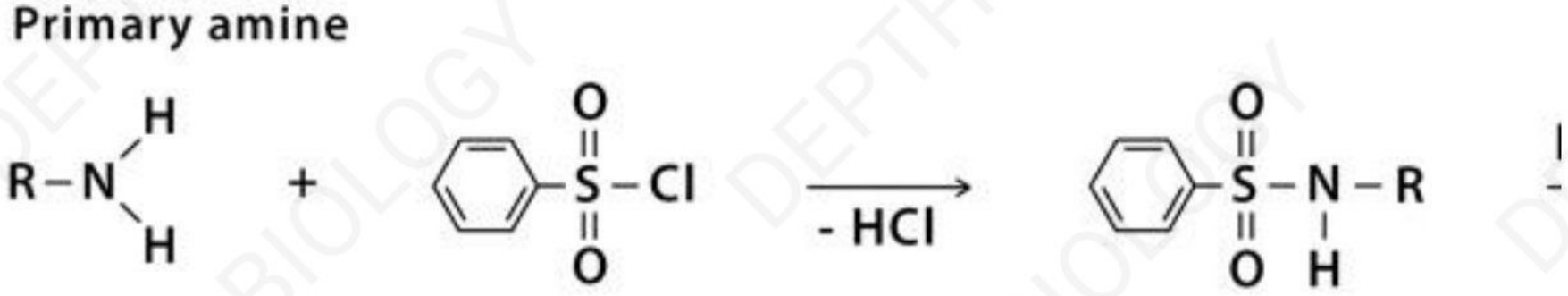
Tertiary amine



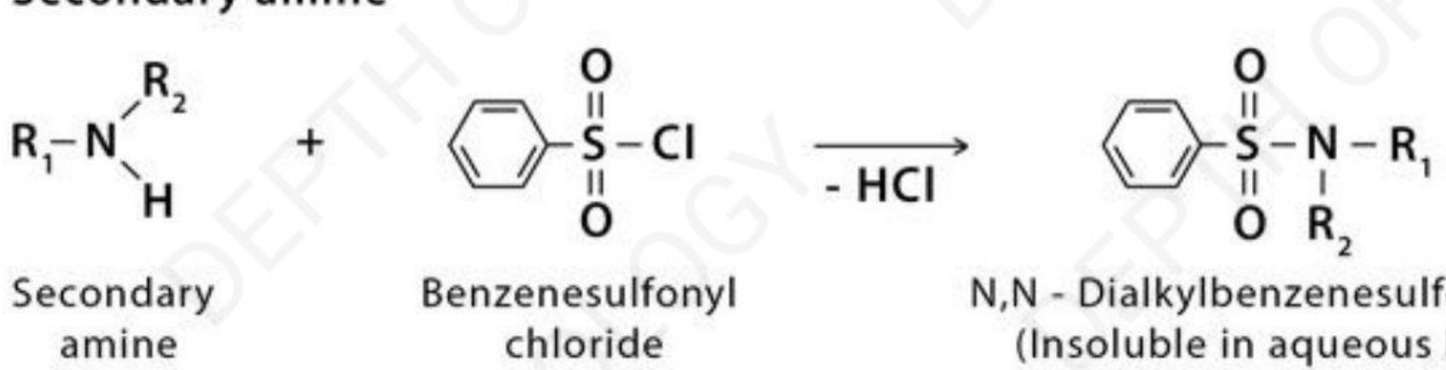
TRIALKYL AMMONIUM NITRATE (SOLUBLE NITRILE SALT)

2. HINSBERG TEST:

Primary amines + benzene sulfonyl chloride -HCl→ N-alkyl benzene sulphomaide

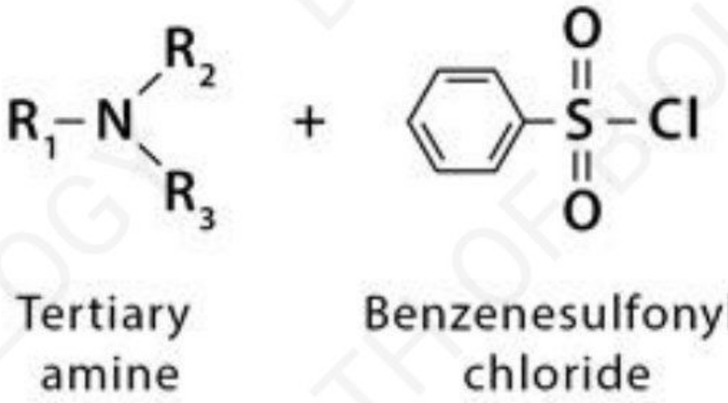


benzene sulfonyl chloride + secondary amines



benzene sulfonyl chloride + tertiary amine= no reaction

Tertiary amine



Tertiary amine

Benzenesulfonyl chloride

NO REACTION