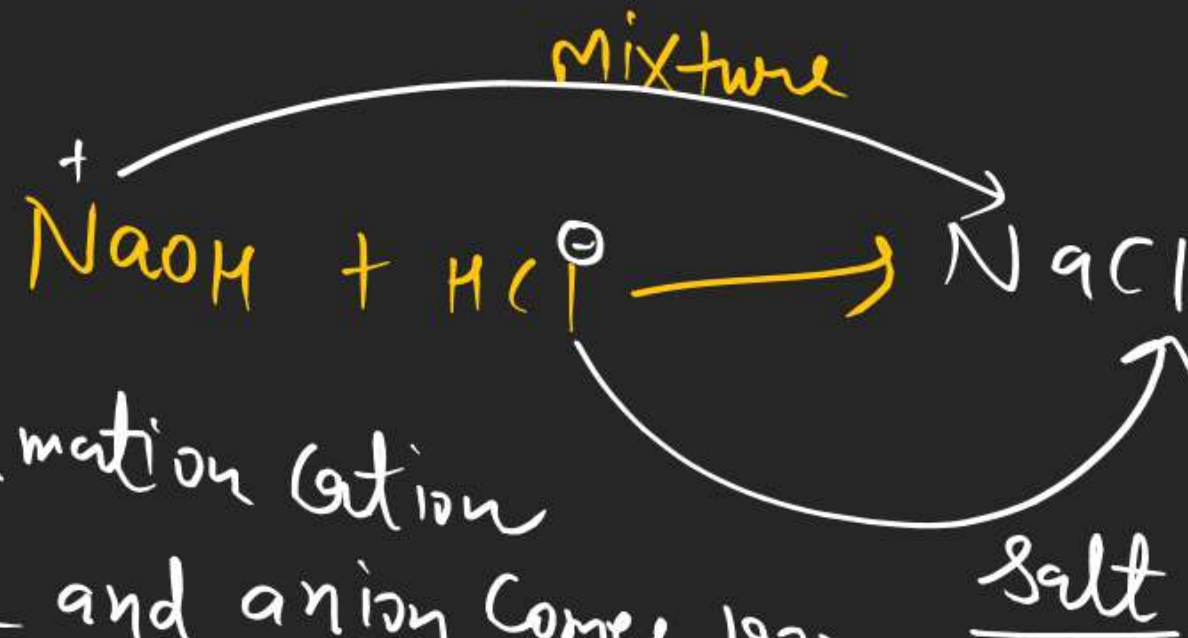


Salt analysis \rightarrow

analysis of cation and anion from given mixture is called salt analysis

given mixture \rightarrow mixture of two or more than two salts are called given



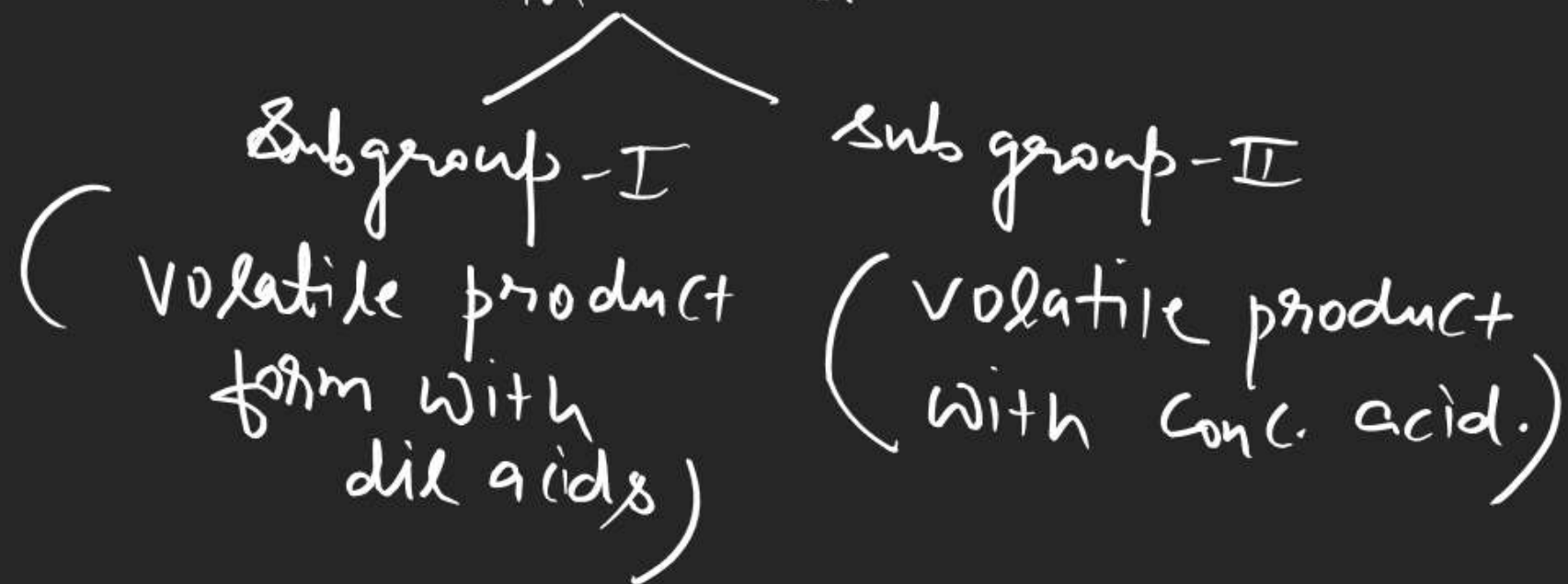
during salt formation cation comes from base and anion comes from acid. so cation also called basic radical and anion also called acidic radical.

analysis of anion performed first followed by cation because if any interfering radicals (F^- , CO_3^{2-} , SiO_4^{4-} , AsO_4^{3-} , PO_4^{3-} , BO_3^{3-}) present in a mixture then they interfere test of III group cation and downwards

analysis of anion is not systematic as that of cation. However their volatile product formation tendency they are classified into two classes.



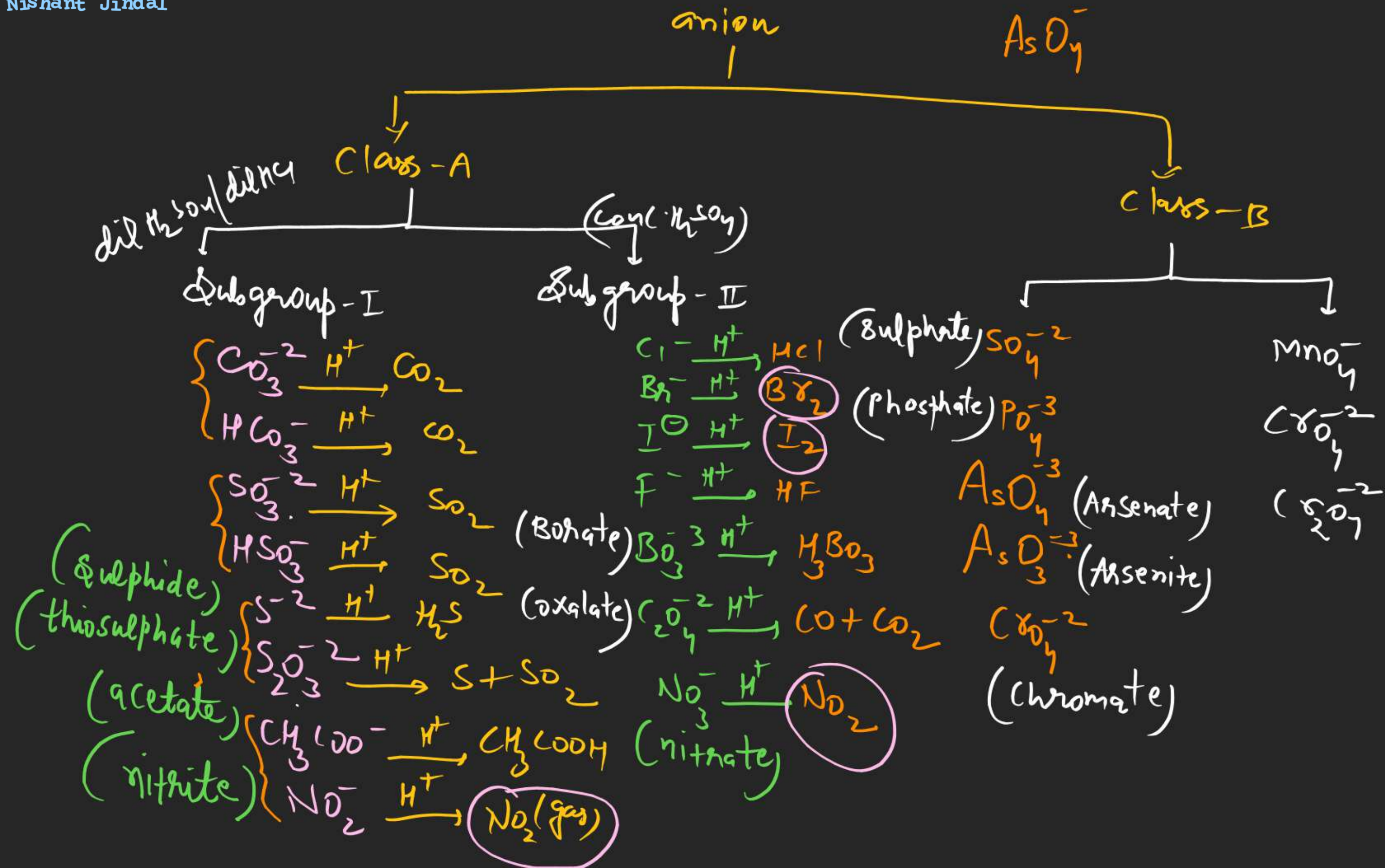
Class-A \Rightarrow they form volatile product
with acid.



Class - B → they do not form
volatile product
with acid. they identify
with their reactions
in aqueous solution.

Sub group - I
(Identify with
their ppt
reactions in
aq. solution)

Sub group - II
(Identify with
their Redox reaction
in aq. solution)



Note \Rightarrow Br_2 impart brown colour
to the solution

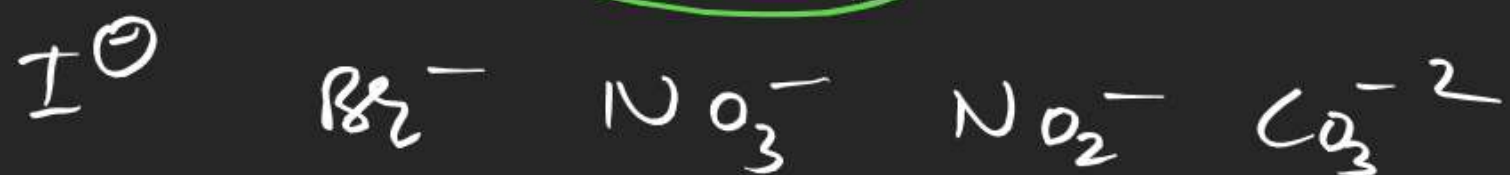
While NO_2 does not.

Note \Rightarrow all the anions are detected by
Soda extract + solution
except $\text{CO}_3^{2-} / \text{HCO}_3^-$

Note \Rightarrow all the cations are detected by
original solution.

except, NH_4^+

que find the number of ions
which gives colourful gas
with dil H_2SO_4



Ans = (one)

que find the number of ions which
gives colourful gas with $\text{conc. H}_2\text{SO}_4$

✓ I^- , ✓ Br^- ✓ NO_3^- ✓ NO_2^- CO_3^{2-}

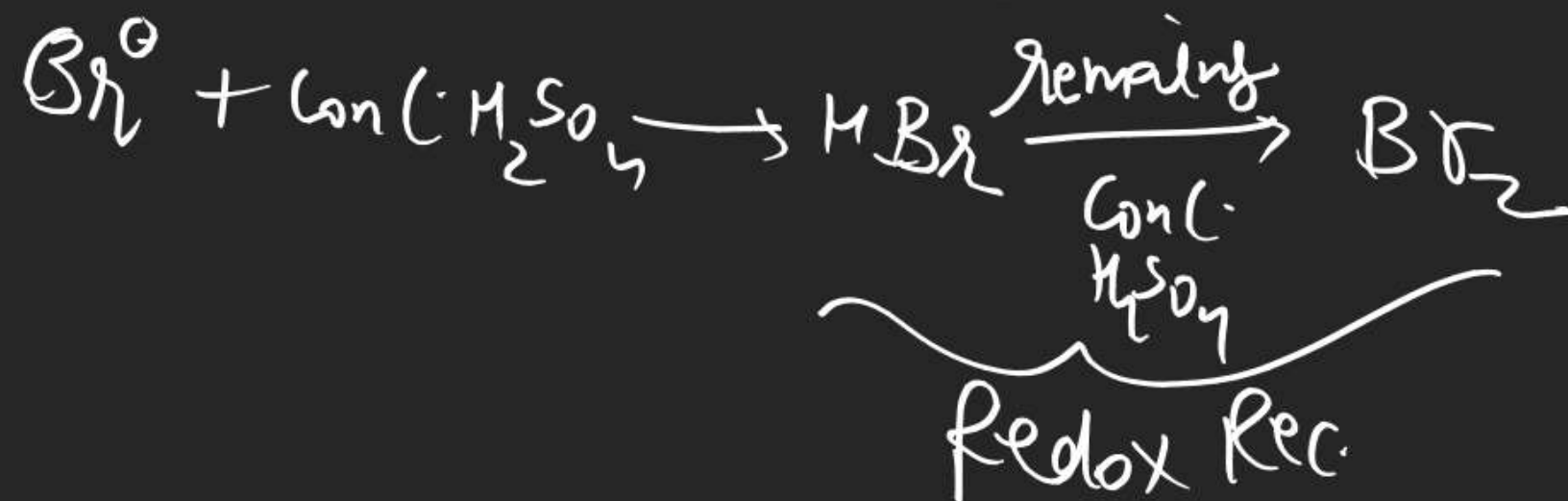
(4)

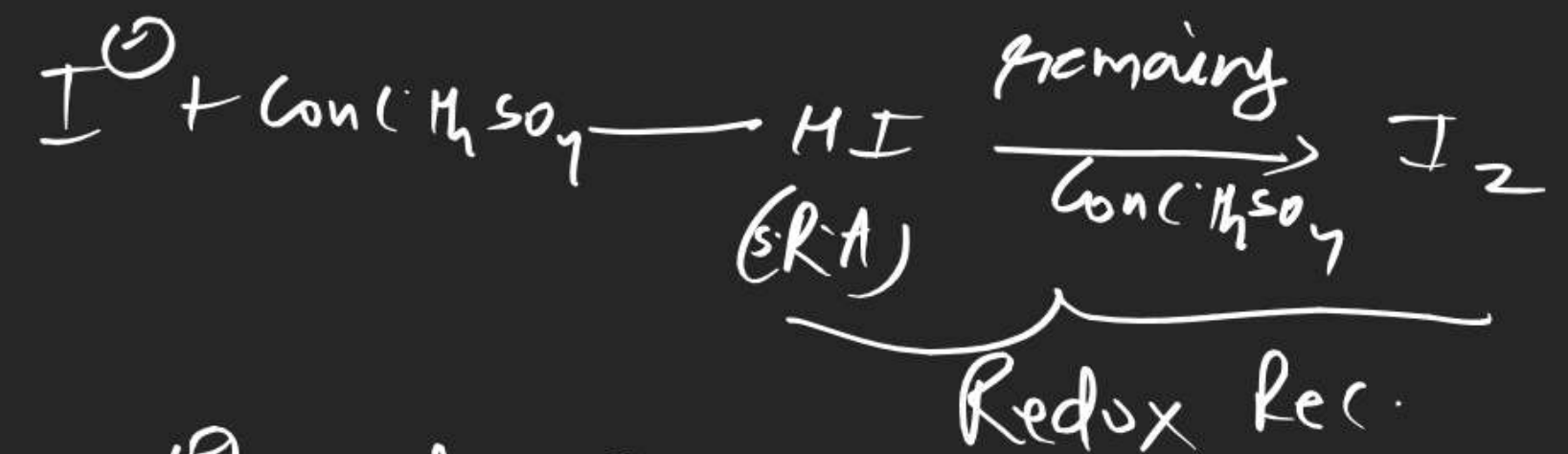
Ques Which of the following
anion is not affected by acid

- (1) CO_3^{-2} (2) SO_3^{-2} (3) SO_4^{-2} (4) all are affected.

Ques F^{\ominus} and Cl^{\ominus} produce
 HF and HCl while Br^{\ominus} and I^{\ominus}
 produce Br_2 and I_2

Ans $Conc. H_2SO_4$ is good oxidising agent
 and Br^{\ominus} and I^{\ominus} both are
 strong reducing agent so redox
 reaction will occur





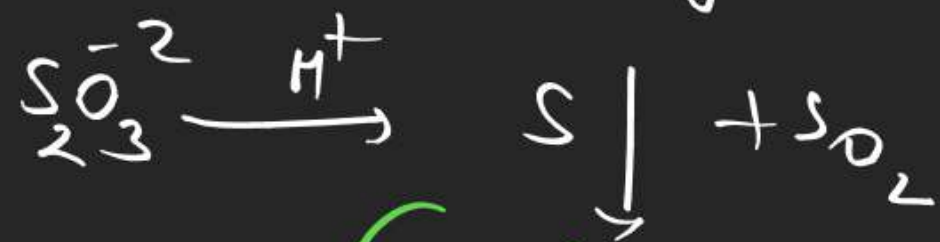
But Cl^{\ominus} and F^{\ominus} both are w. R.A
 So Redox Reaction will not occur



CO_2 = brisk effervescence

SO_2 = suffocation smell of
burning sulphur
Pungent smell

H_2S \Rightarrow Rotten egg smell



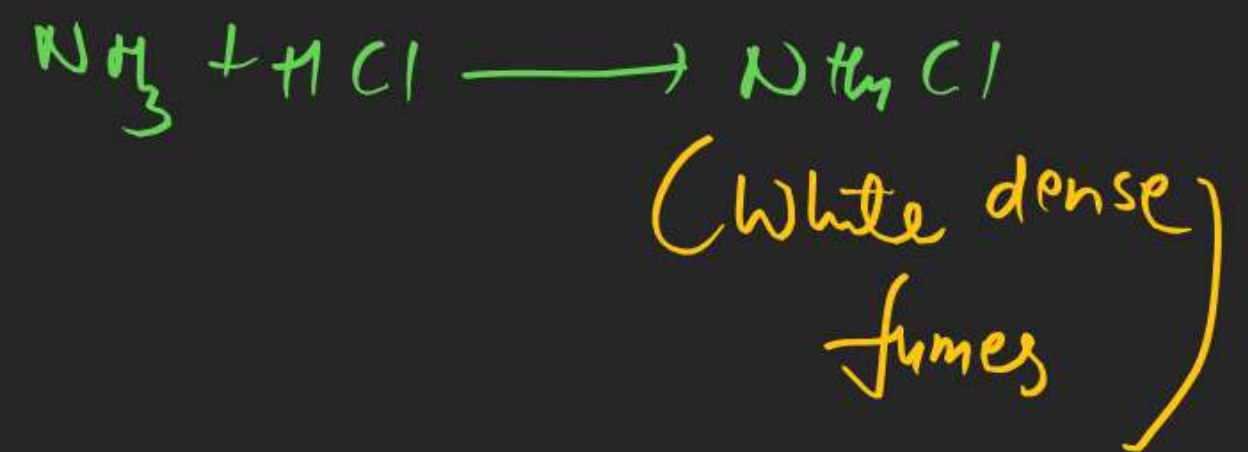
(White ppt / yellow ppt)

CH_3COOH = Vinegar smell.

NO_2 = Brown fumes

HCl = white fumes

gives white dense fumes
with NH_3



$\text{Br}_2 = \text{Reddish Brown fumes}$

$\text{I}_2 = \underline{\text{Violet}}$



↓
Colourless gas
but burning with blue colour.

