

Salt analysis :

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

Given mixture → mixture of two or more than two salts are called given



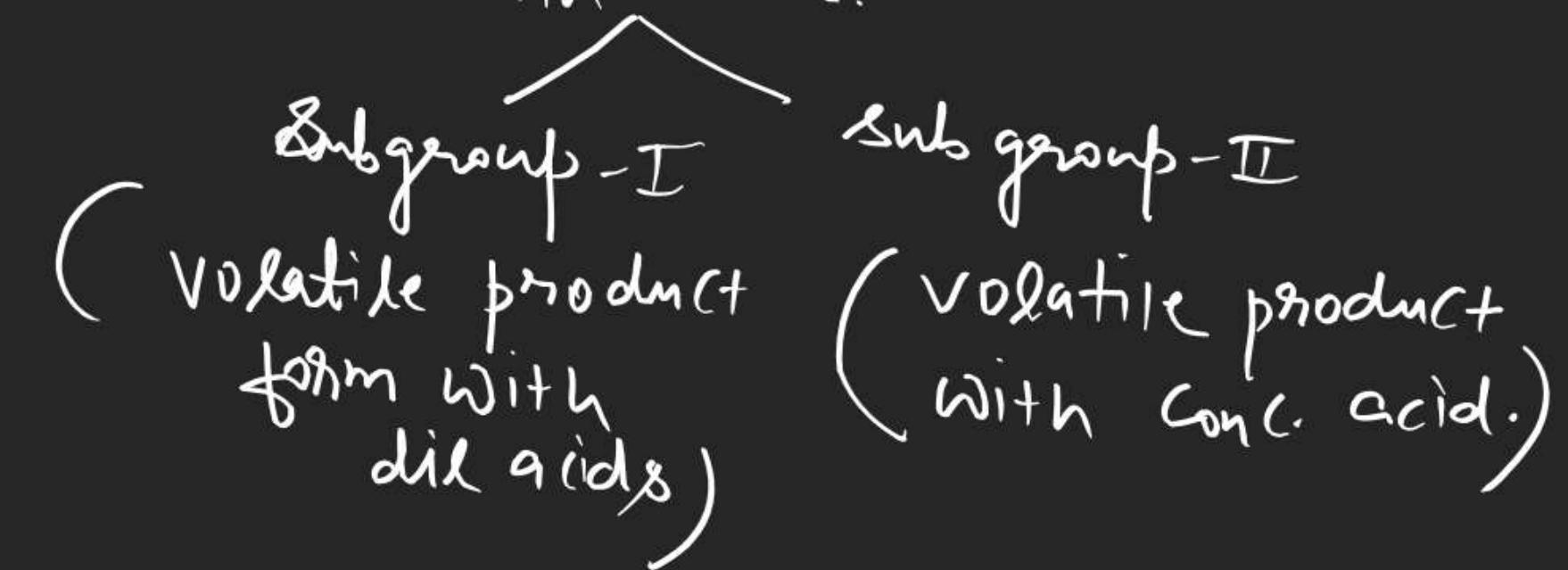
during salt formation cation comes from base and anion comes from acid. So cation also called basic radical and anion also called acidic radical.

Analysis of anion performed first followed by cation because if any interfering radicals (F^- , $S_2O_4^{2-}$, SiO_4^{4-} , AsO_4^{3-} , $P_2O_7^{3-}$, BO_3^{3-}) present in a mixture then they interfere test of III group cation and downwards.

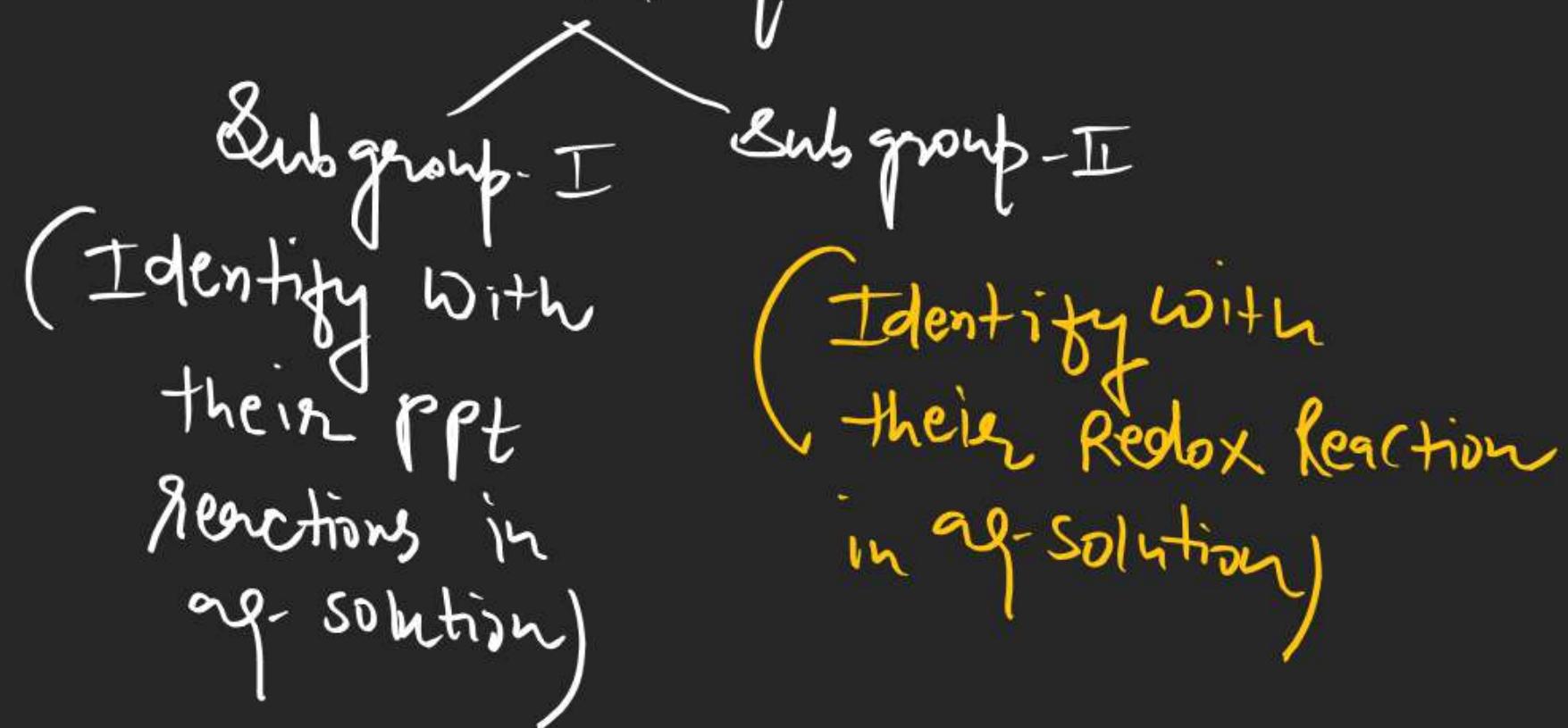
Analysis of anion is not systematic as that of cation however their volatile product formation tendency they are classified into two class.

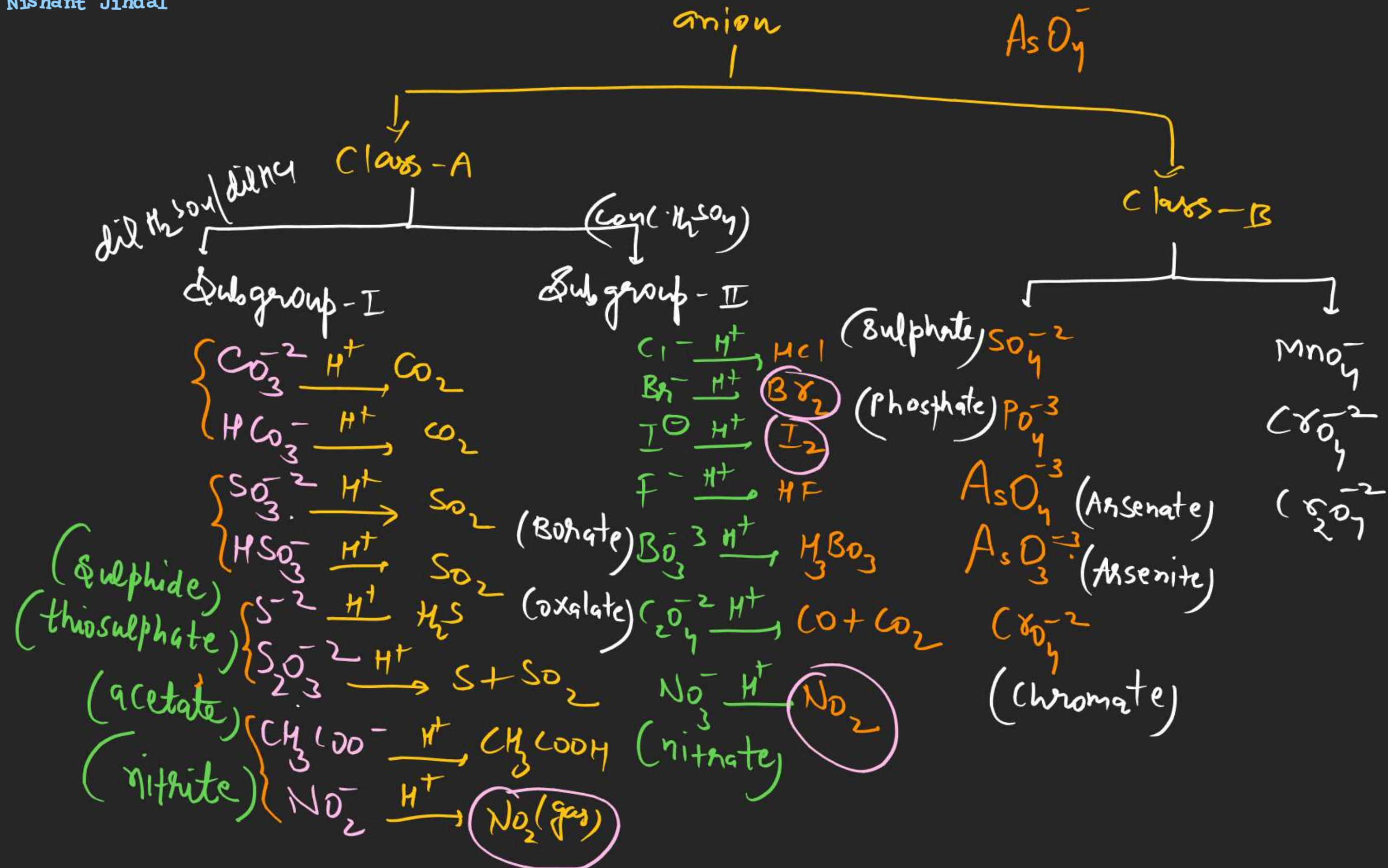


Class - A \Rightarrow they form volatile product
with acid.



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





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 CO_3^{2-} / HCO_3^-

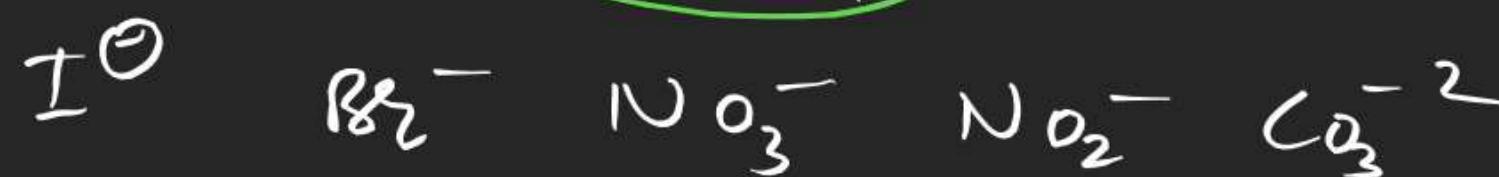
Note \Rightarrow all the cations are detected by
original solution.

Except, NH_4^+ +
=

one find the number of ions

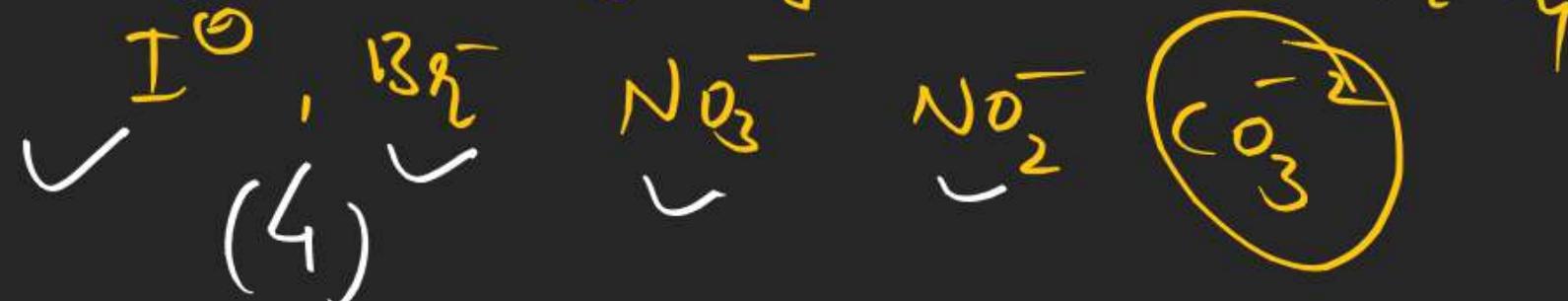
which gives colourful gas

with $\text{dil H}_2\text{SO}_4$



Ans = (one)

one find the number of ions which
gives colourful gas with conc H_2SO_4

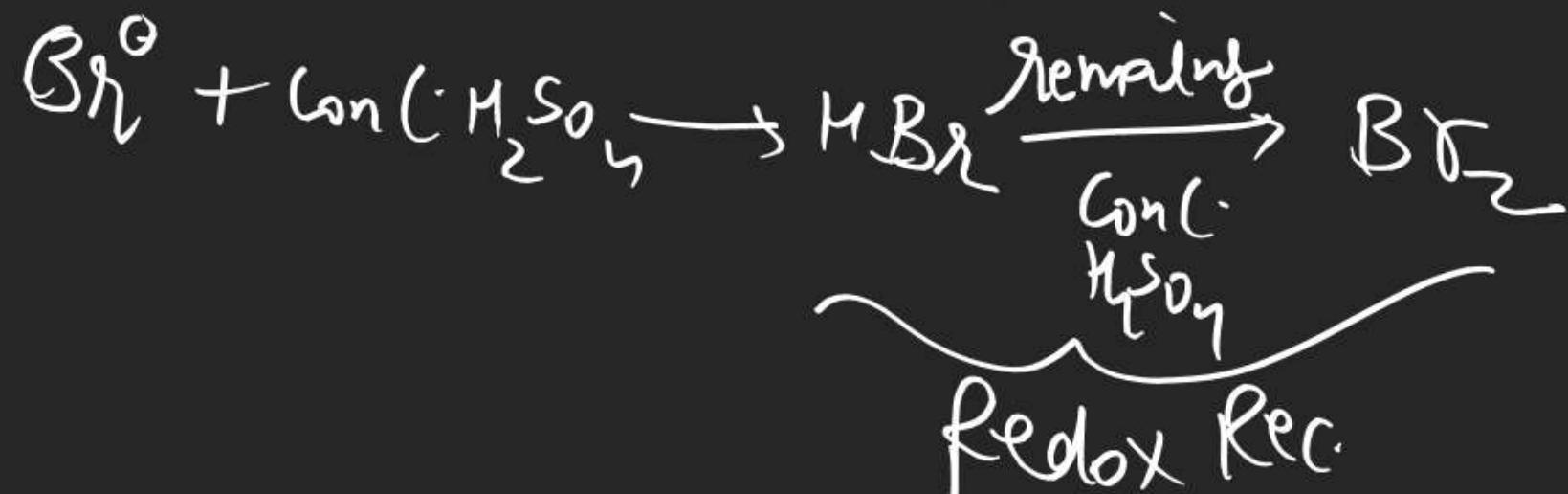


Ques Which of the following anion is not affected by a acid

- 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^- and I^\ominus produce Br_2 and I_2

Ans Conc. H_2SO_4 is good Oxidising agent and Br^- and I^\ominus both are strong reducing agent so Redox reaction will occurs





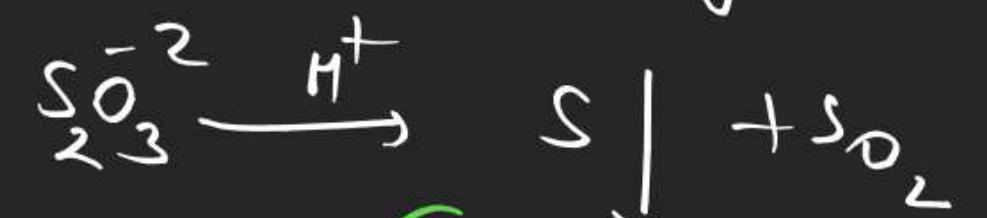
But Cl^{\ominus} and F^{\ominus} both are w.R.A
 So Redox reaction will not occur



CO_2 = brisk effervescence

SO_2 = suffocation smell of
burning Sulphur
Pungent smell

$\text{H}_2\text{S} \Rightarrow$ Rotten egg smell

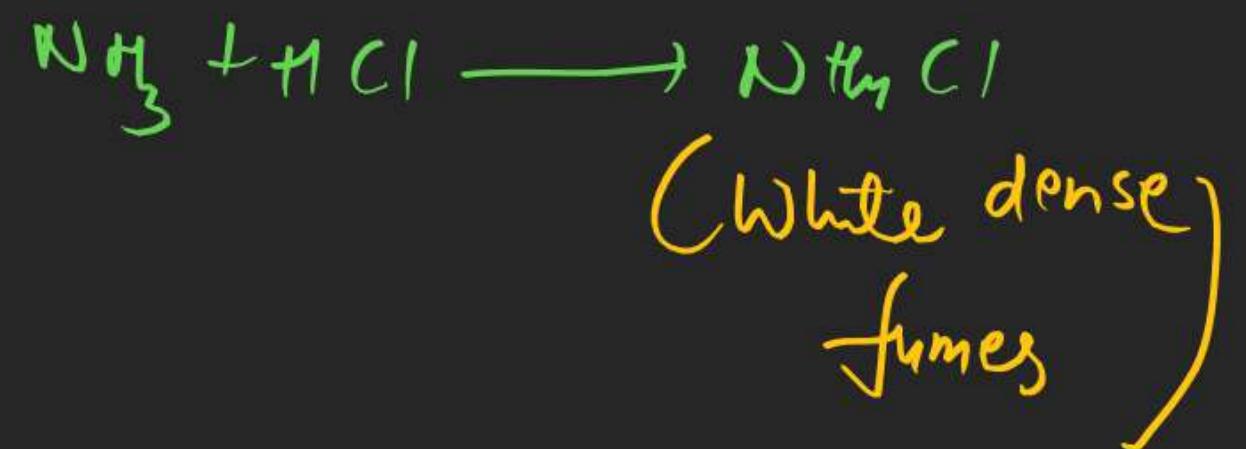


CH_3COOH = vinegar smell.
 (white ppt + yellow ppt)

NO_2 = Brown fumes

HCl = White fumes

Gives white dense fumes
with NH₃



Br_2 = reddish brown fumes

I_2 = violet



Colourless gas
but burning with blue colour.

