

LAKSHYA



JEE 2024



- 
- Subject Name-Inorganic Chemistry

- 
- Chapter Name-Salt Analysis



Lecture No. - 07

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Today's **Targets**

1

Test of Anions

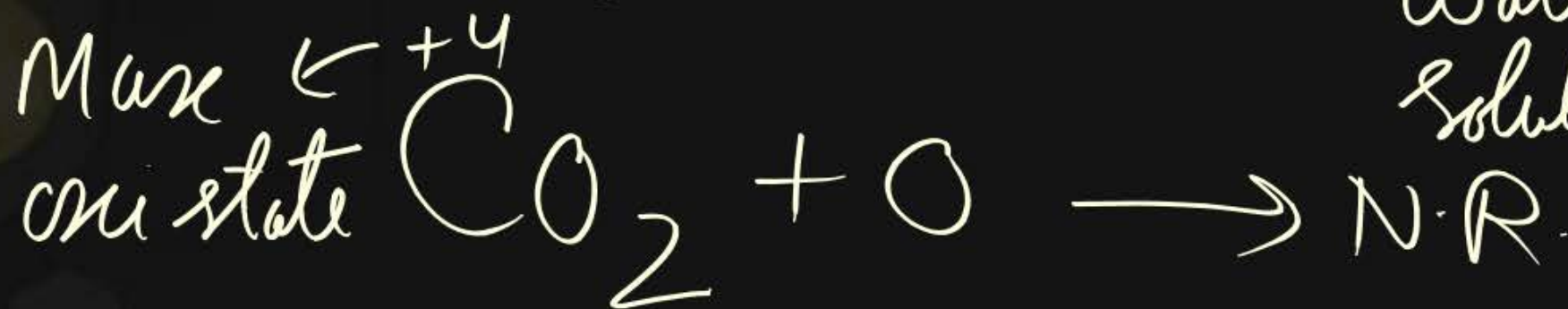
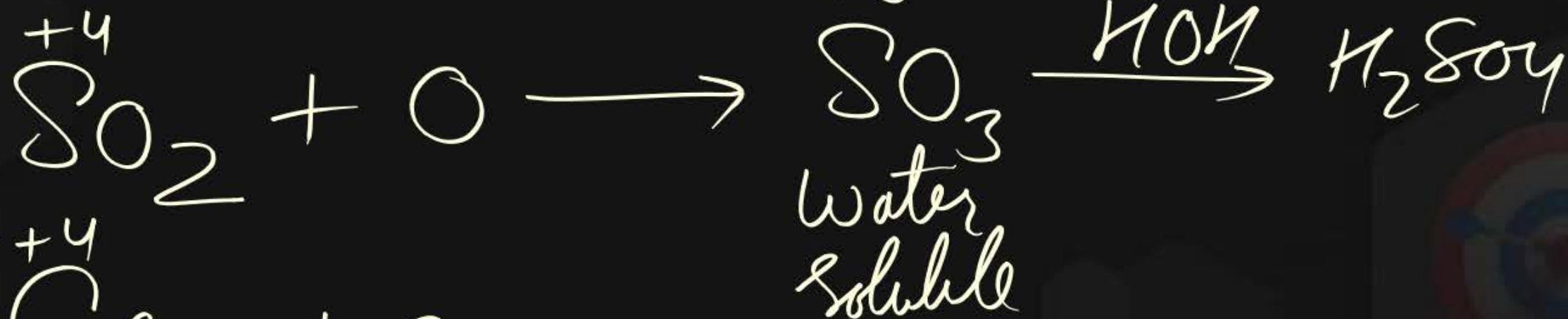




Identification of CO_2 and SO_2

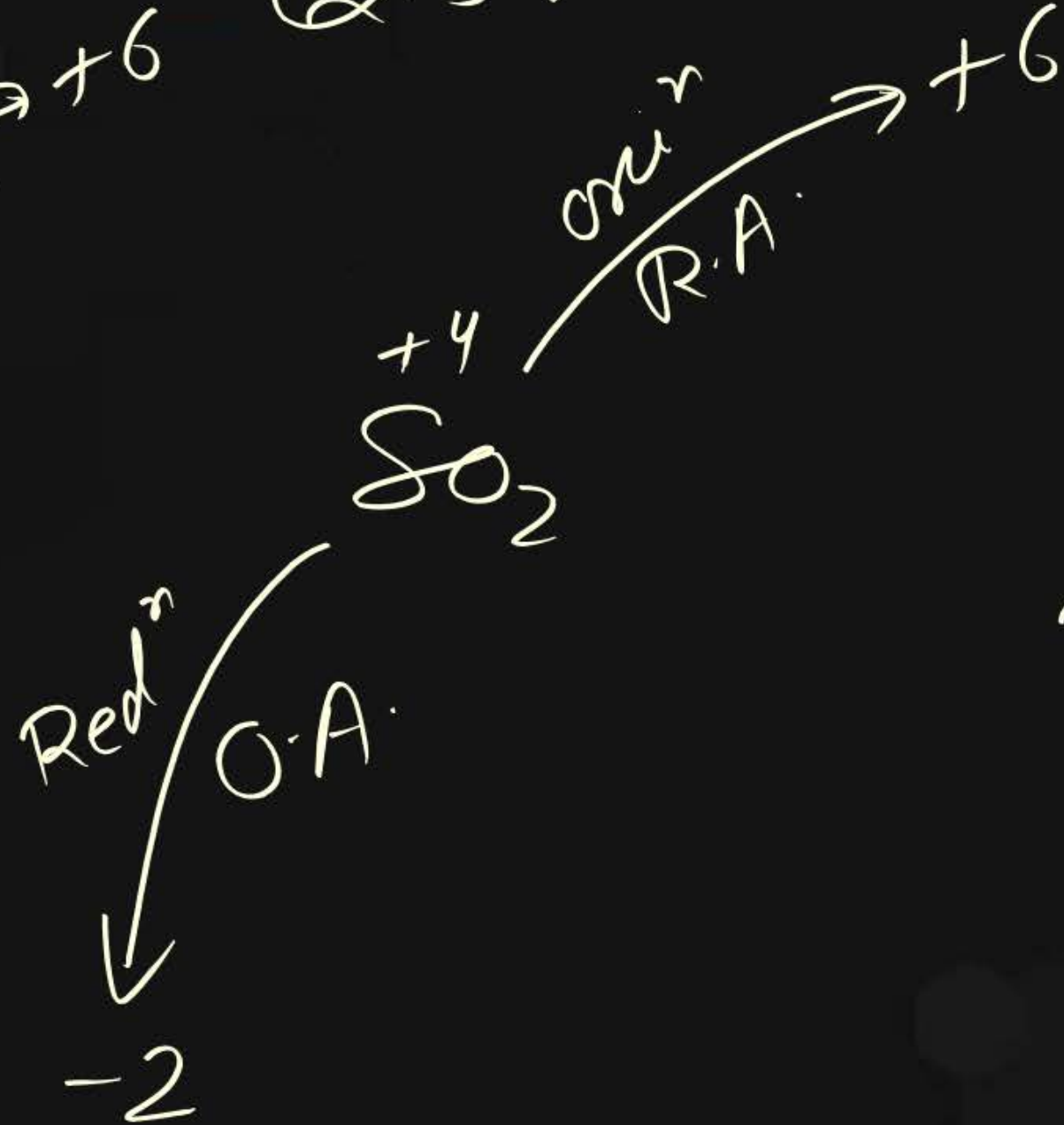
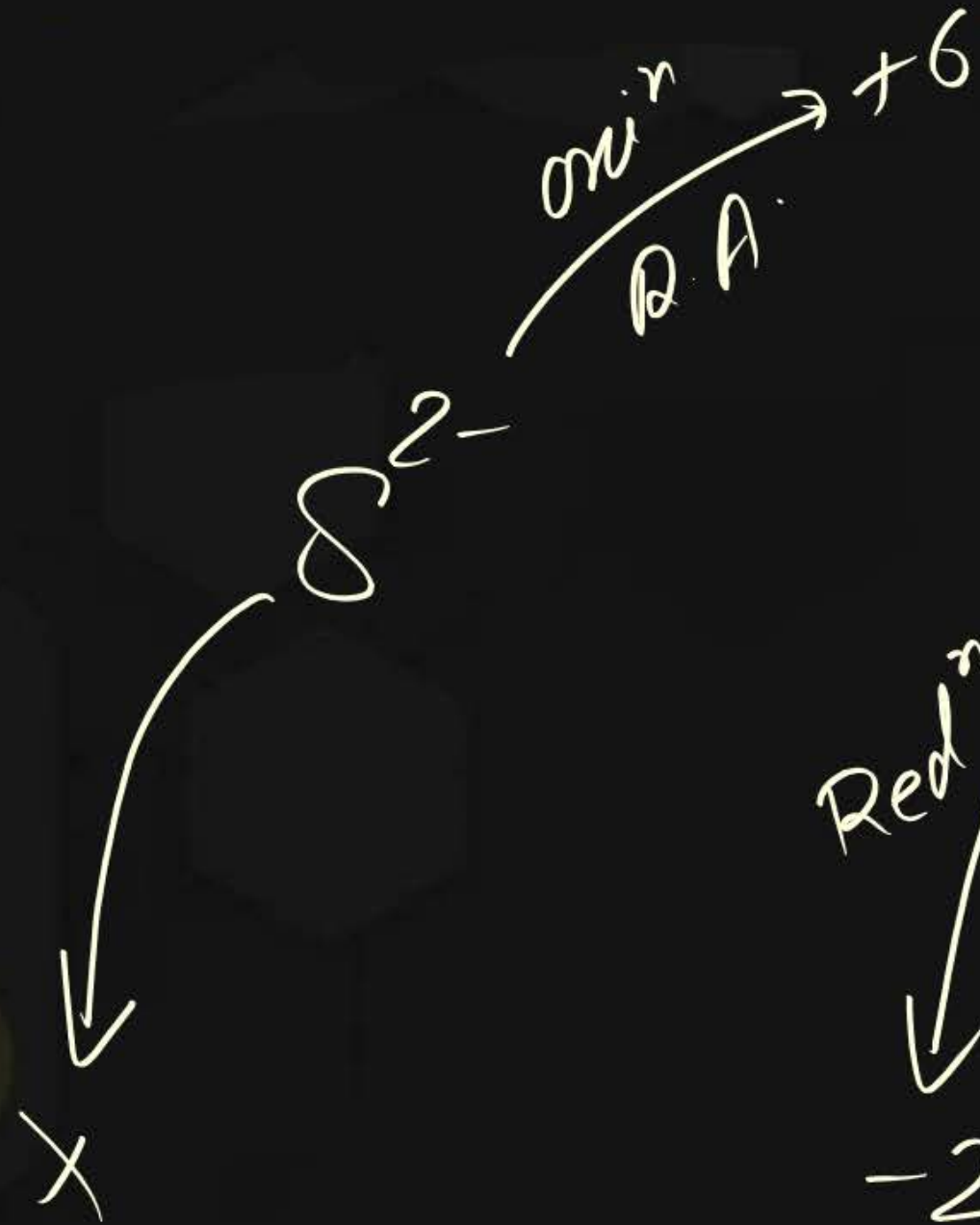


① Reaction with $\text{H}^+/\text{MnO}_4^-$



so Mn is
no possible

Q.S.P



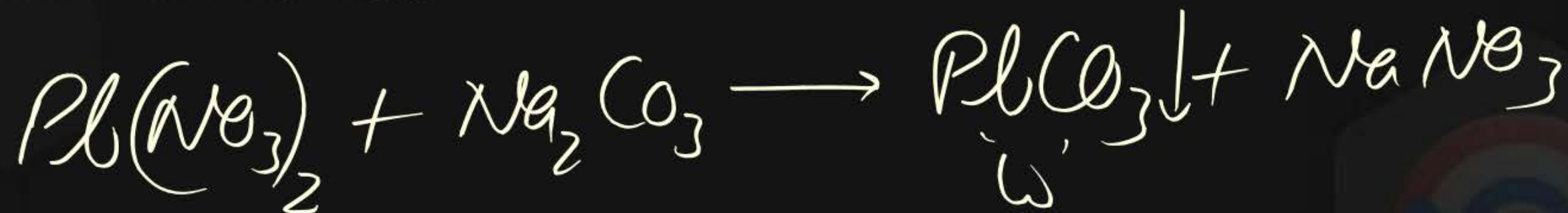
Ppt Reaction:



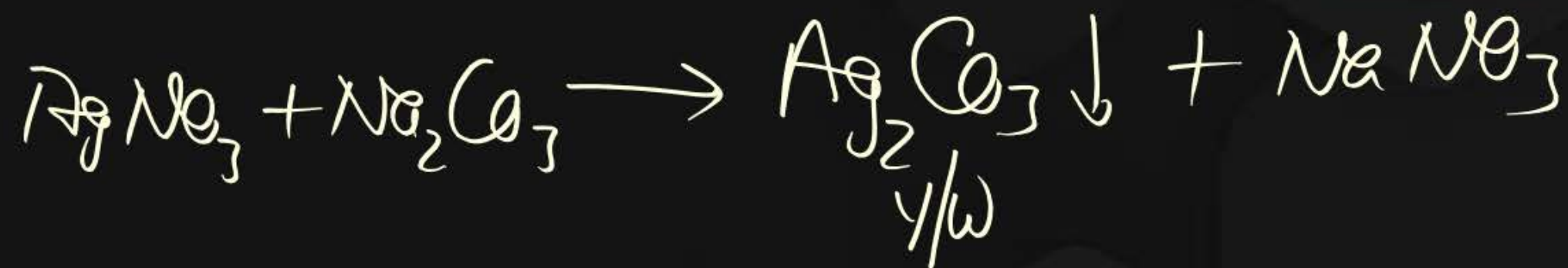
(i) Reaction with BaCl_2 / CaCl_2



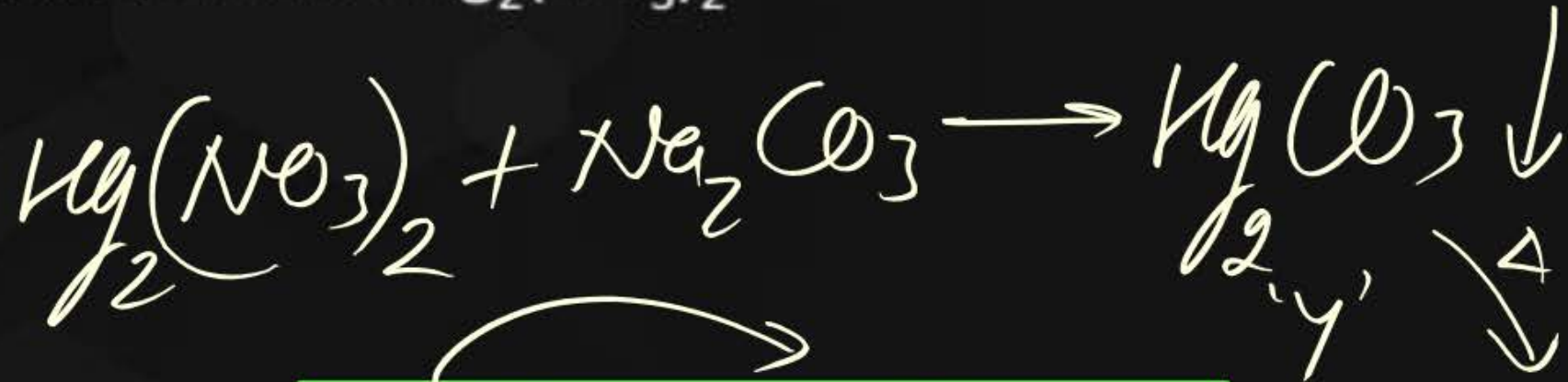
(ii) Reaction with $\text{Pb}(\text{NO}_3)_2$



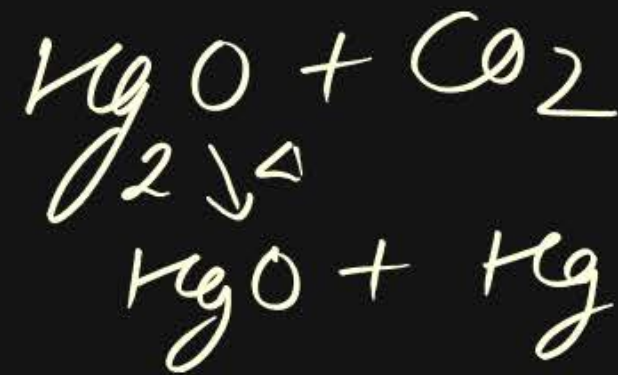
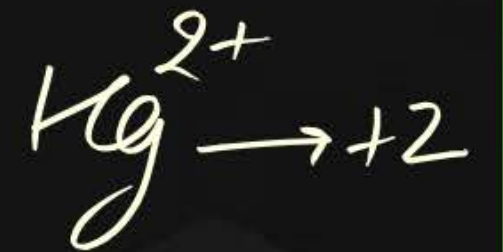
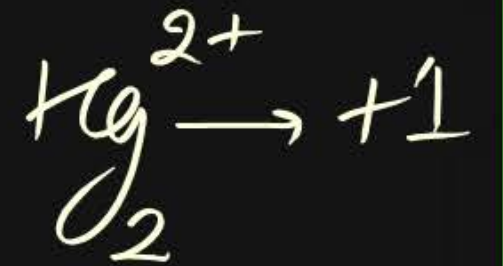
(iii) Test with AgNO_3



(iv) Reaction with $\text{Hg}_2(\text{NO}_3)_2$



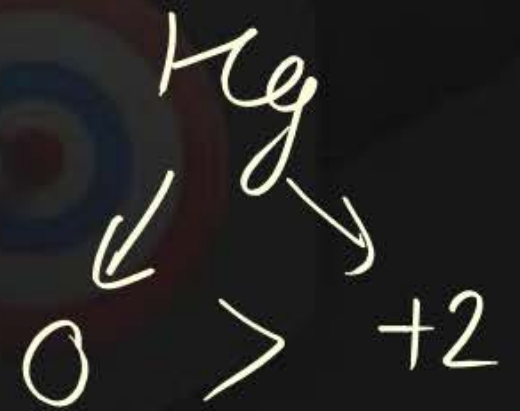
Q.S.P



(v) TBI Reaction with HgCl_2



Reddish-Brown

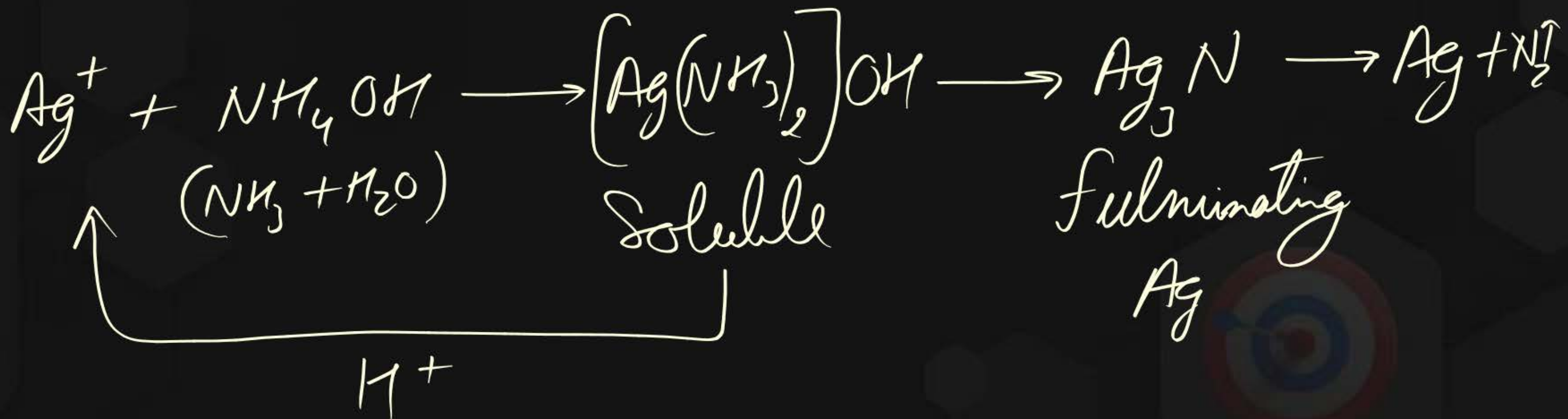


Question



Ag_2CO_3 soluble in NH_4OH and gives explosive reaction why.

aq. NH_3



Question

BaCO_3 soluble in $\rightarrow \text{W} \downarrow$

A

dil CH_3COOH

B

dil H_2SO_4

C

dil HNO_3

D

dil HCl

Question



PbCO_3 soluble in

Amb

A

dil CH_3COOH

B

Excess of NaOH

C

dil HNO_3

D

None of these

Question



Ag_2CO_3 soluble in

A

CN^- sol

B

NH_4OH

C

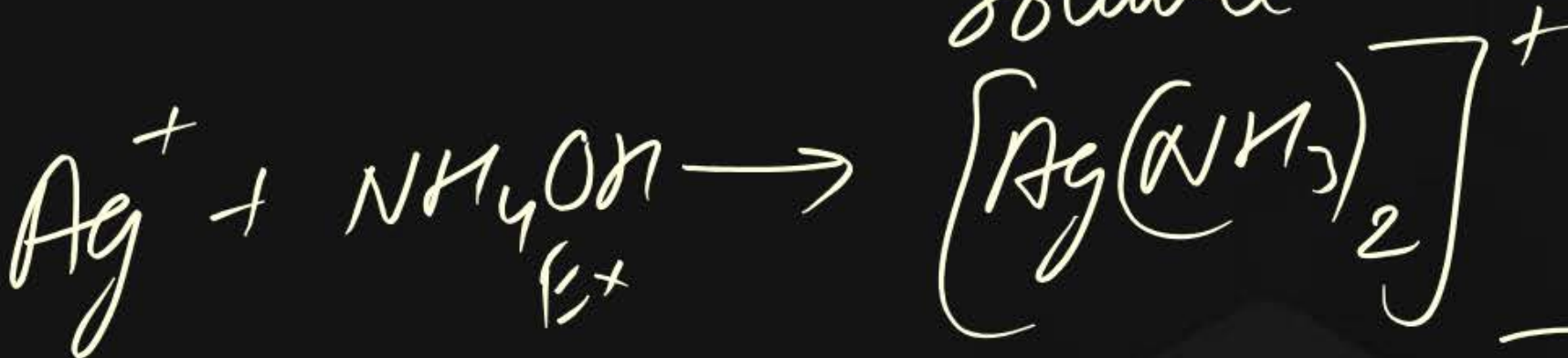
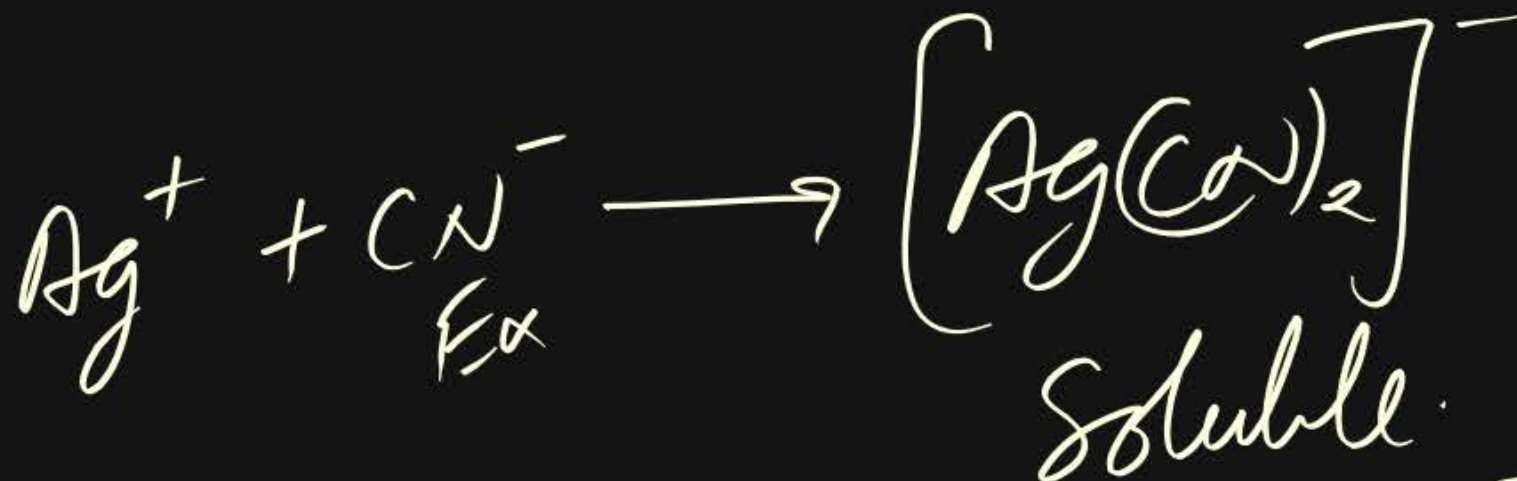
$\text{S}_2\text{O}_3^{2-}$

D

All of these

Q.S.P

Ag^+ salt
are soluble
in CN^- , $\text{S}_2\text{O}_3^{2-}$
 HNE_3 , NH_4OH

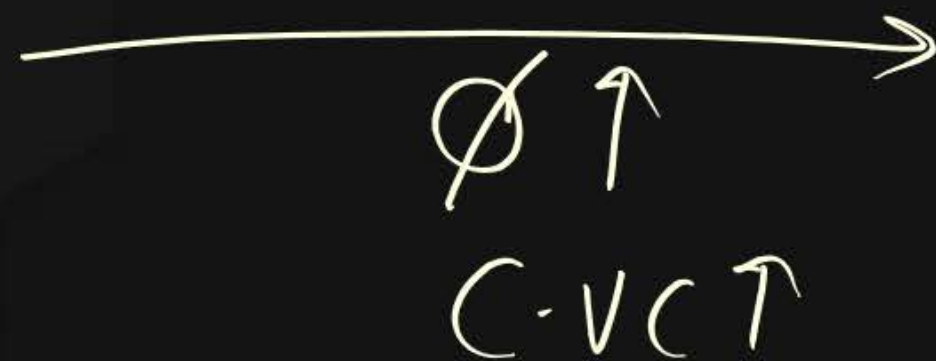


Question



★ Order of solubility in Aqueous NH_3
 AgCl AgBr AgI

ITI



Question



On heating Ag_2CO_3 gives





Bicarbonate HCO_3^-



- IA $\downarrow$
• LiHCO_3 exists in solution state Na, K, Rb and Cs bicarbonate exist in solid state.
- HCO_3^- of IIA exist in solution state.

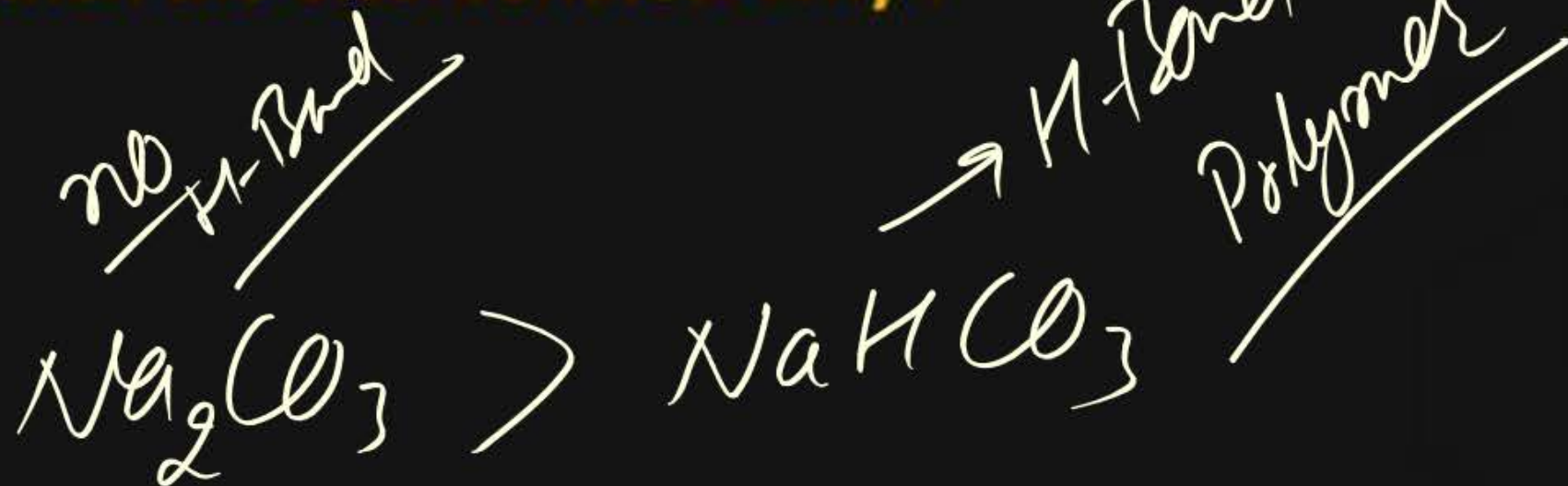
Reaction with dil HCl



Question



CO_3^{2-} of IA group are more soluble than the bicarbonates. Why?



Soluble

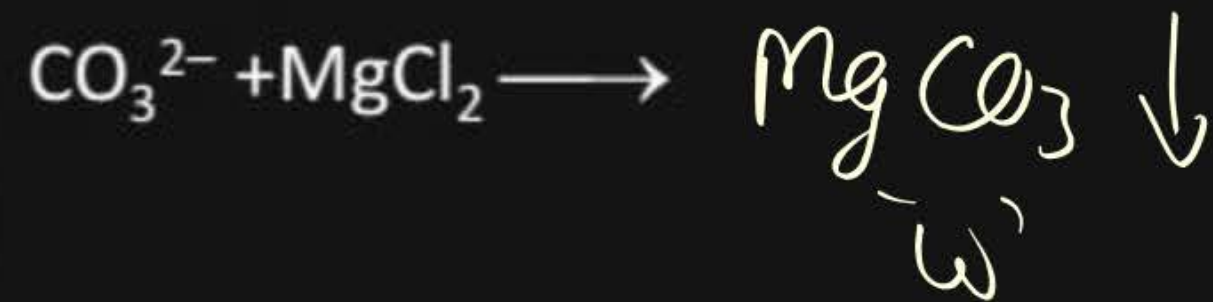
Ppt Reaction:

Not possible because bicarbonates are soluble. But in some cases ppt reactions are possible.

(i) On heating followed by BaCl_2

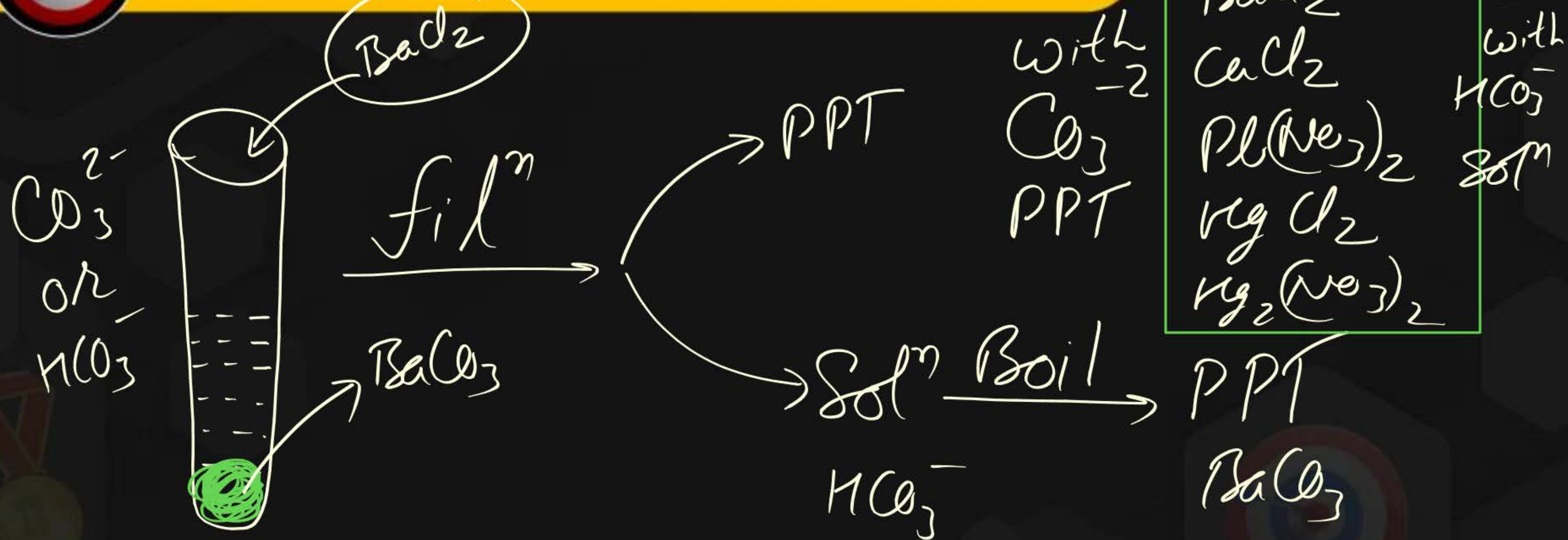


(ii) Test with NH_4OH followed by MgCl_2





Distinction between carbonate and bicarbonate:



Phenolphthalein Test

HPh

Result

$\text{CO}_3^{2-} \rightarrow$ Pink Solution
 $\text{HCO}_3^- \rightarrow$ Colourless Solⁿ

