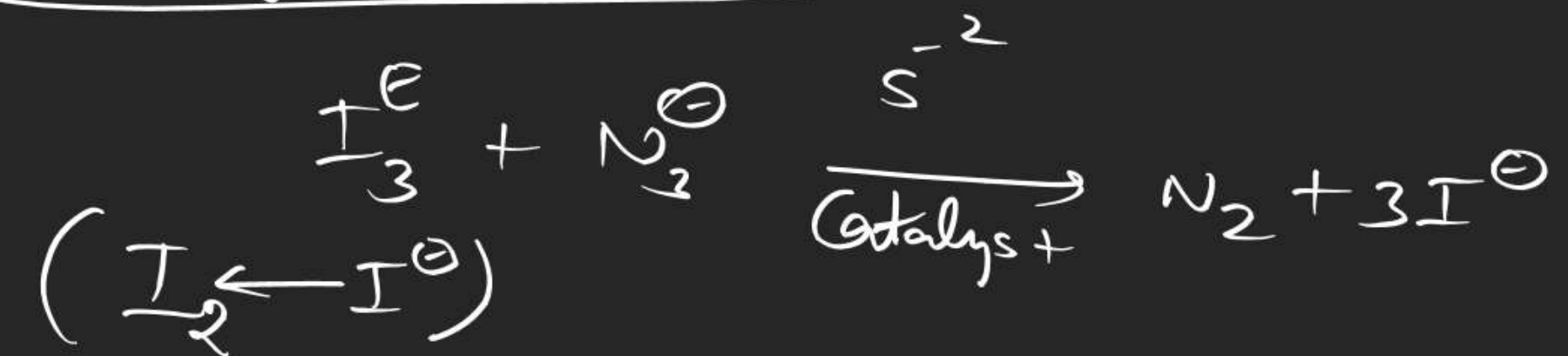
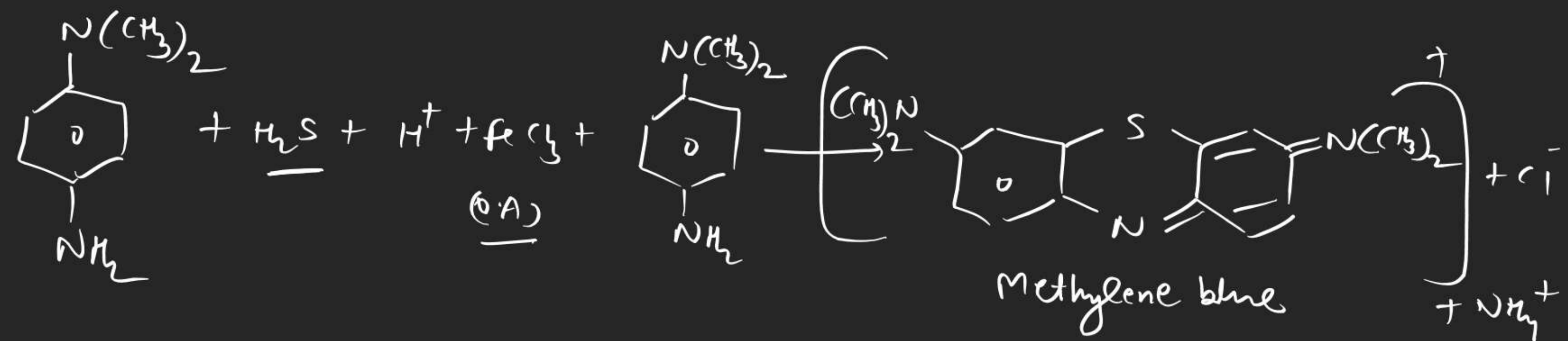


## Catalytic azide test



Note  $\Rightarrow$   $\text{S}_2\text{O}_3^{2-}$   $\text{SCN}^-$  also interfere  
this test

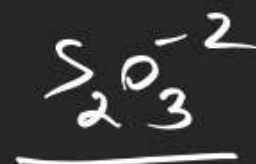
Test with para amine dimethyl aniline



Methylene blue

(Blue colour)

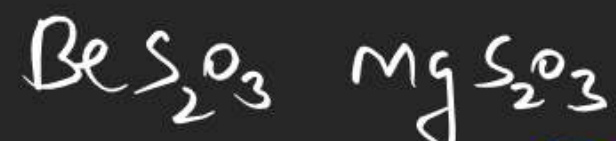
Blue colour dye stuff



I A = Soluble

II A = Soluble sparingly and insol.

(Ba | Sr | Pb | Ag | Hg | Cu | Bi) = Insoluble



Soluble



Sparingly sol.

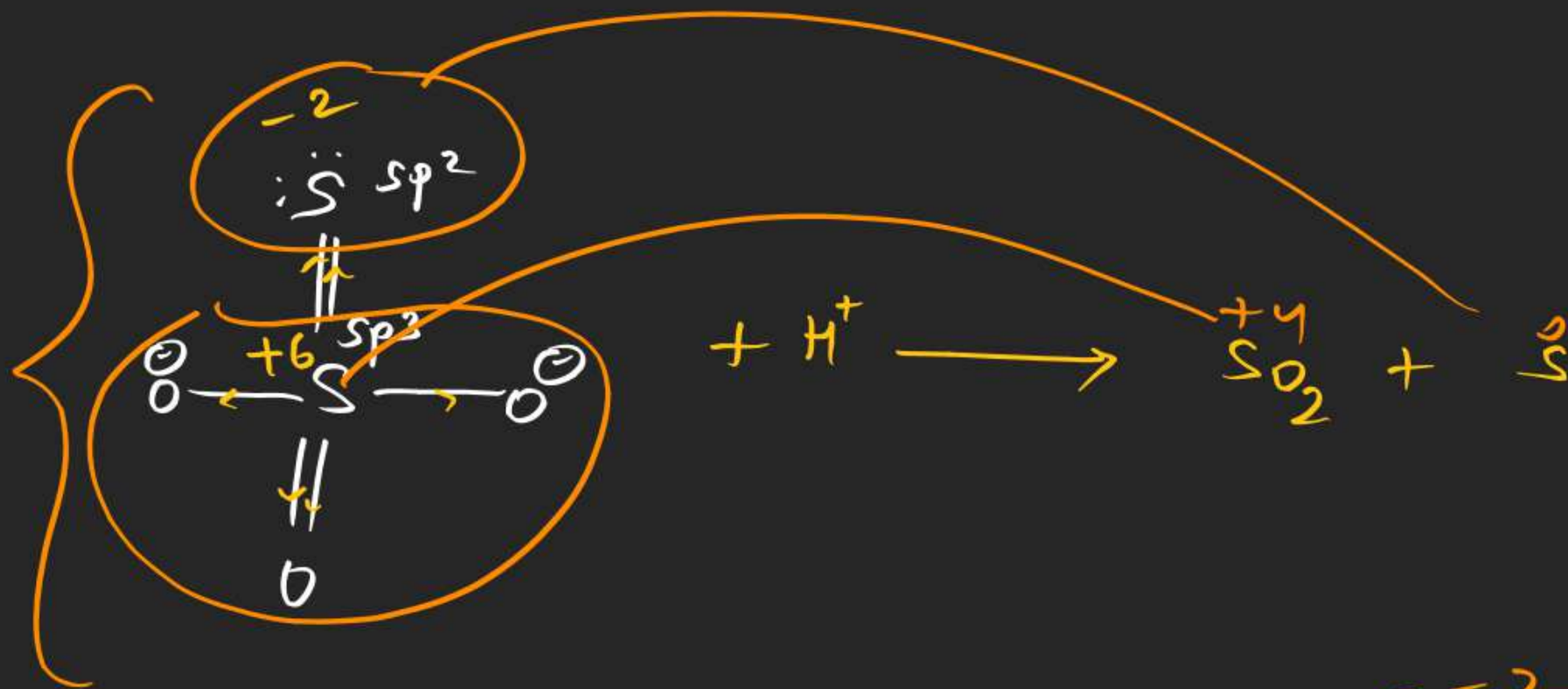


insol.

① Test with acid



Intra  
Redox  
Reaction



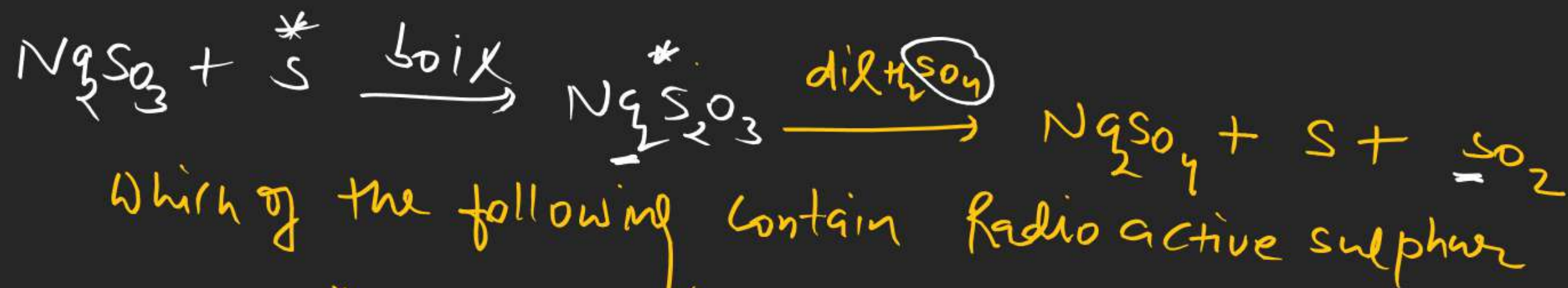
Note  $\Rightarrow$  both sulphurs of  $\text{S}_2\text{O}_3^{2-}$  are not identical



Conversion of sulphur containing ions into each other



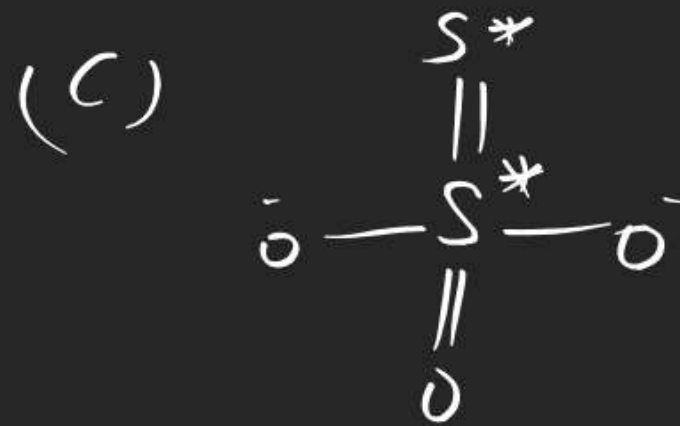
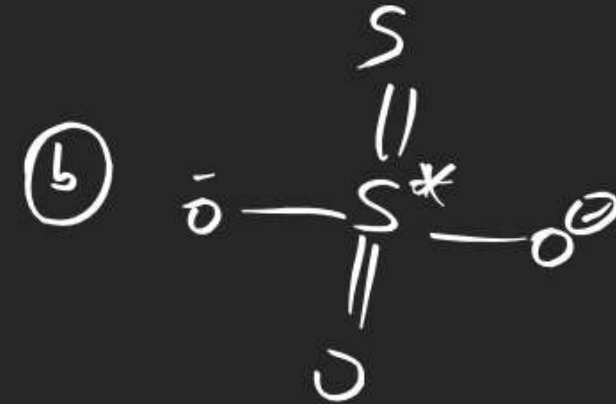
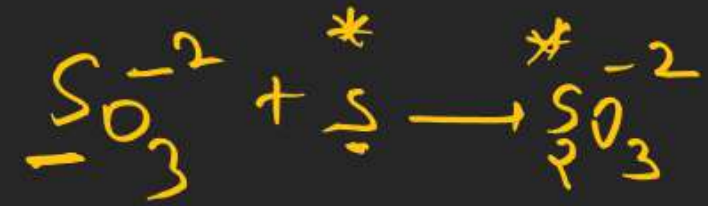
↓ Br<sub>2</sub> water



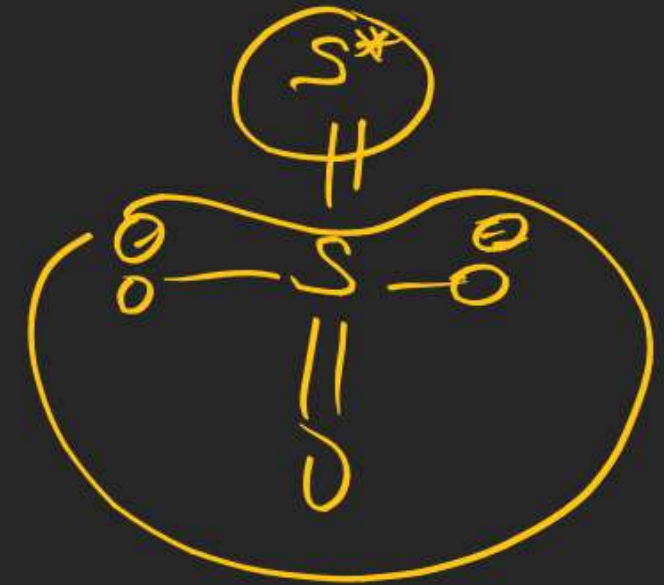
Which of the following contain radioactive sulphur



In above reaction Draw the  
Structure of  $\text{Na}_2\text{S}_2\text{O}_3^*$

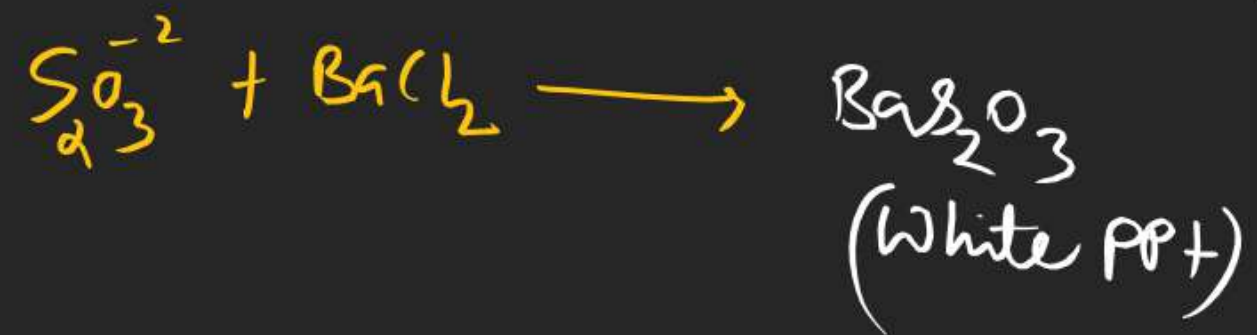
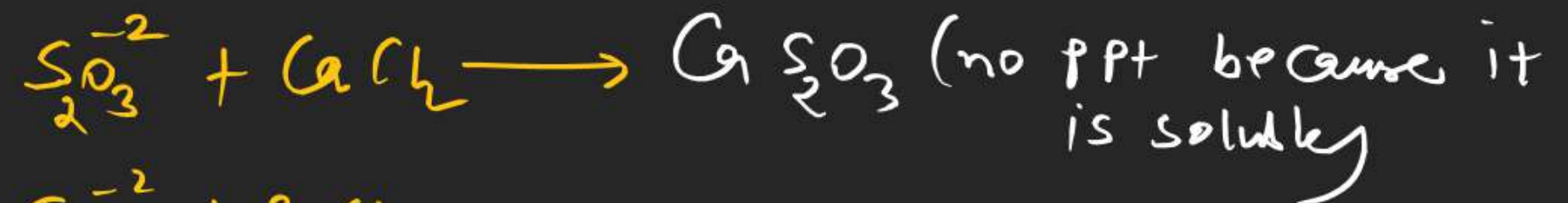


(d) none

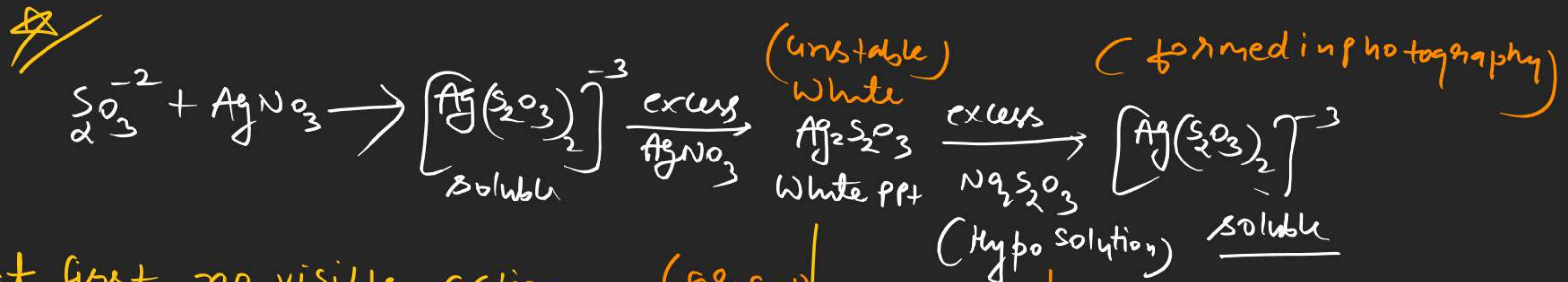


Test based on ppt.

① Test with  $\text{BaCl}_2/\text{CaCl}_2$



## Test with $\text{AgNO}_3$



at first no visible action  
due to formation of  
soluble complex

but on addition of excess of  $\text{AgNO}_3$   
white ppt of  $\text{Ag}_2\text{S}_2\text{O}_3$  is formed.

(aq. soln)  $\downarrow \Delta$

$\text{Ag}_2\text{S} + \text{H}_2\text{SO}_4$   
(Black ppt.)

$\downarrow$   
used in  
(photography)



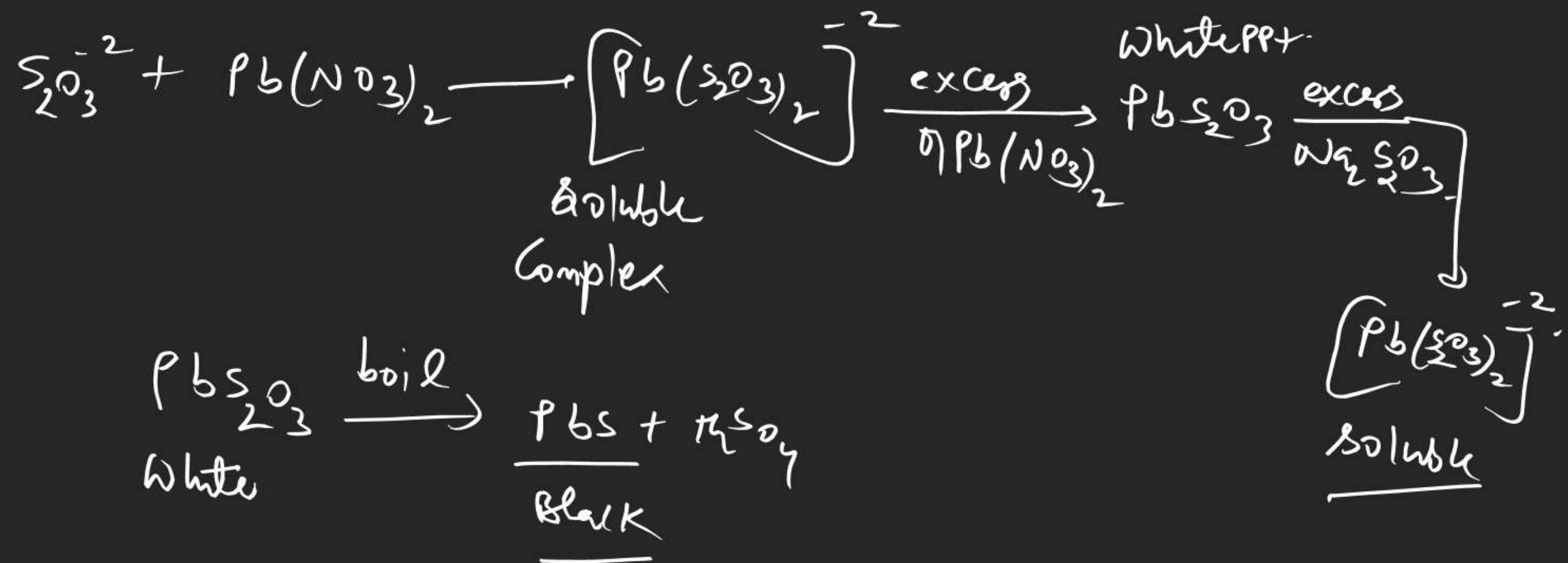


Ans

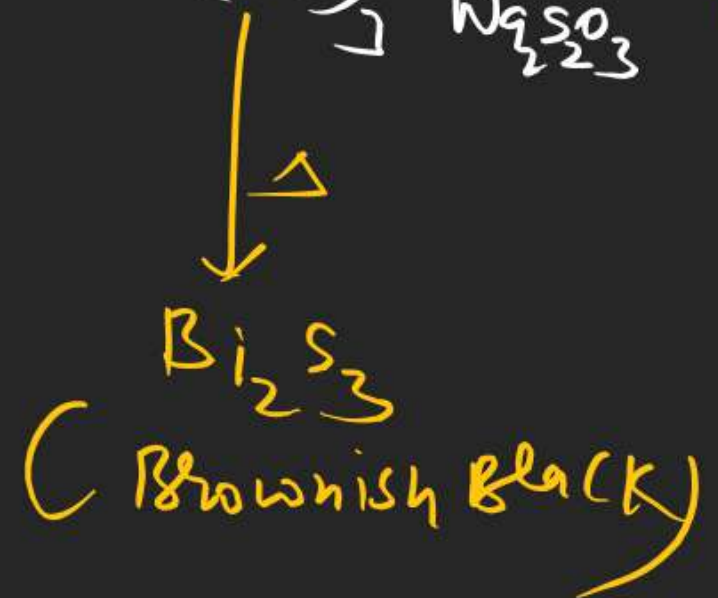
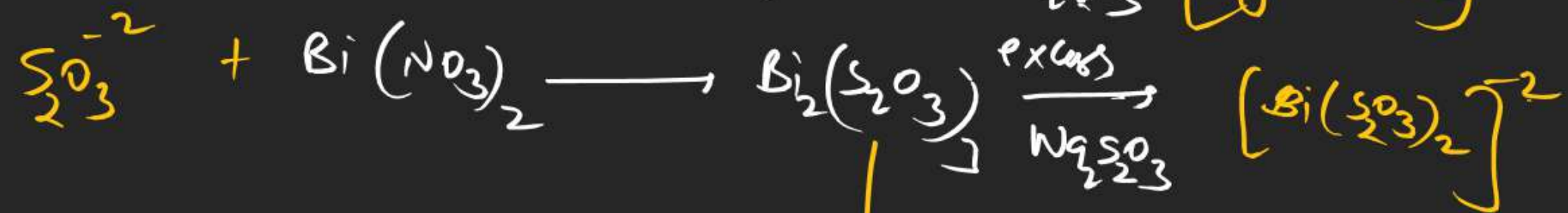
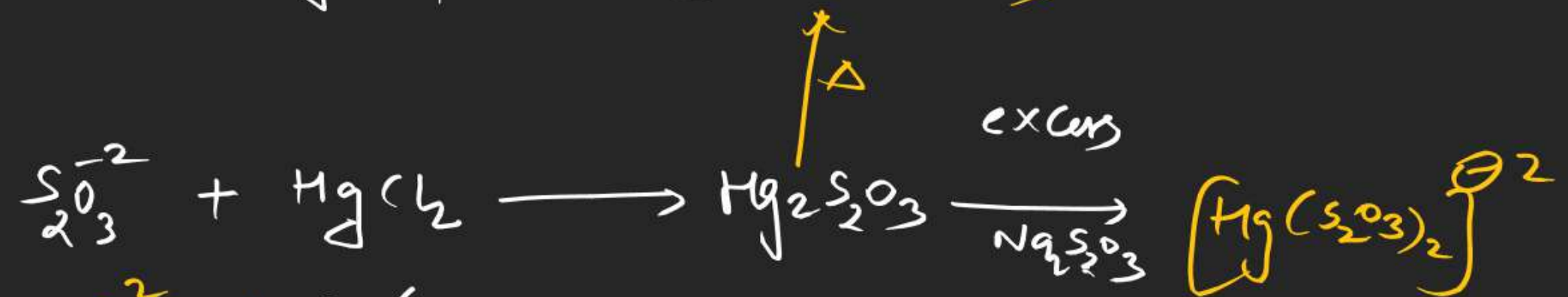
White ppt excess of  $\text{AgNO}_3$  formed

Ans = (B)

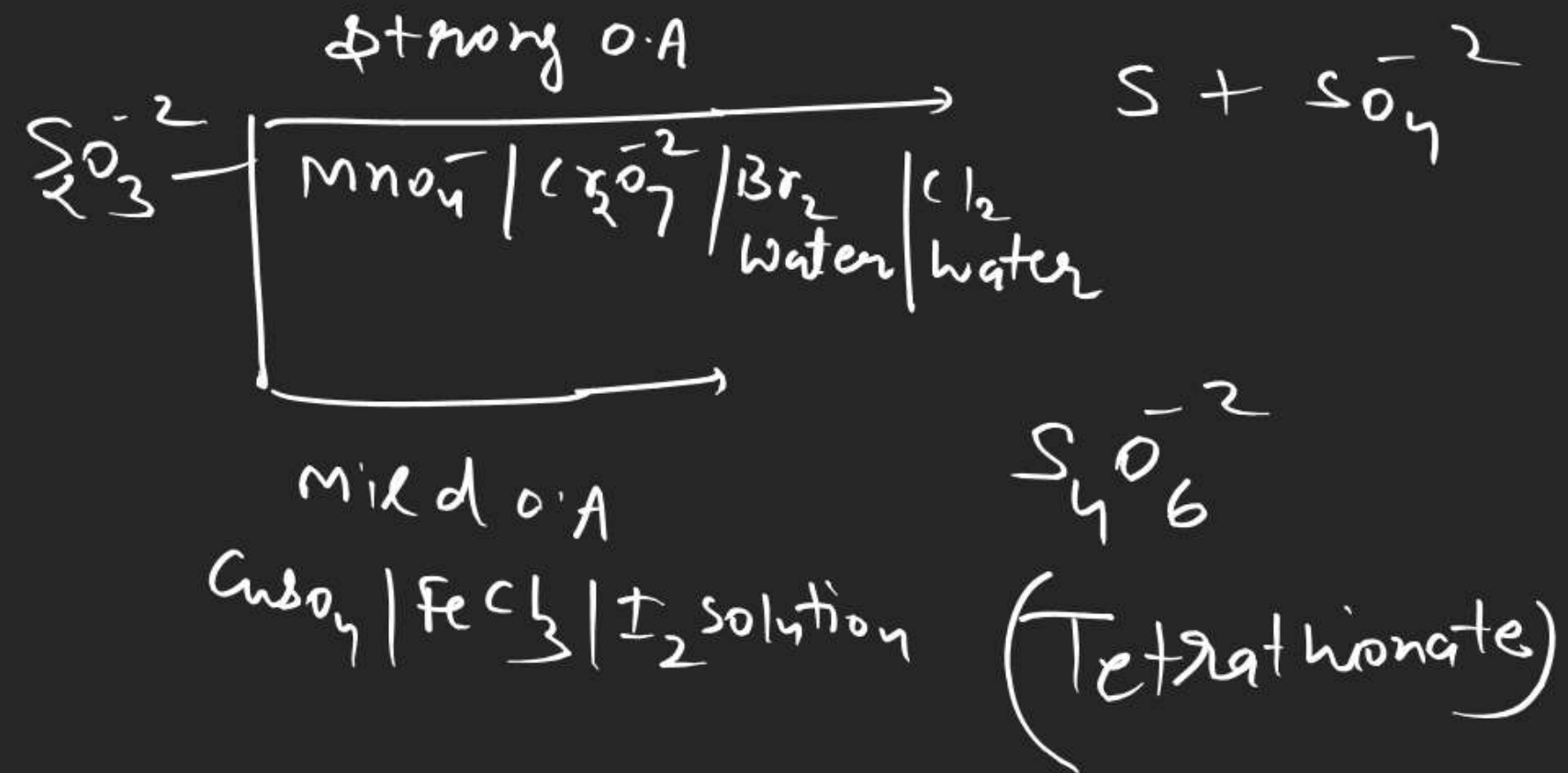
Test with  $Pb(NO_3)_2$



Test with  $\text{HgCl}_2 / \text{Bi}(\text{NO}_3)_3$   $\text{HgS (Black)}$



# Redox Reaction





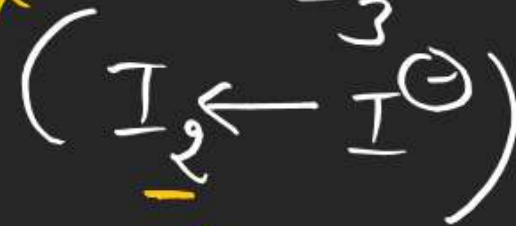
## ★ Test with $I_2$

$I_2$  is non polar so it donot dissolve in water



Iodometry test

(Brown  
sol.)



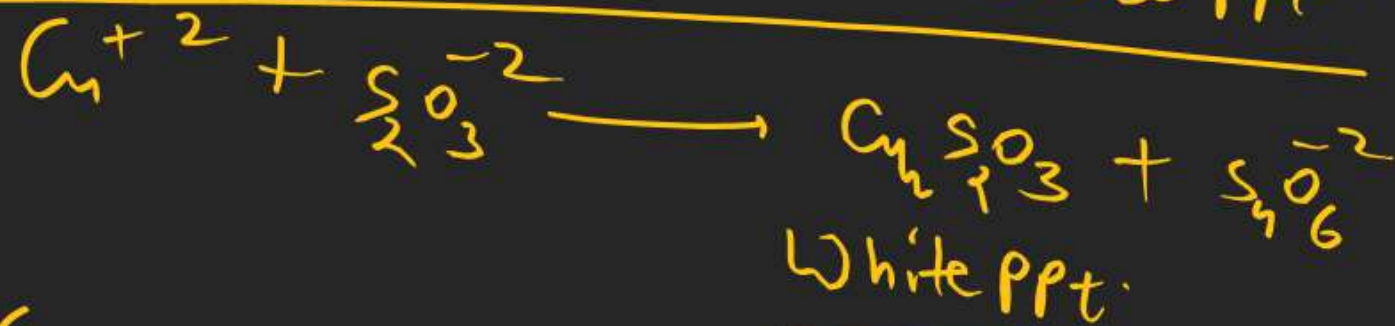
(sol. lens)

oxidation

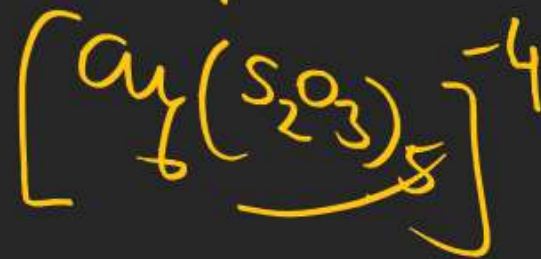
Reduction

Test with  $\text{CuSO}_4$ 

Note  $\rightarrow$  first Redox  
followed by ppt.  
reaction.

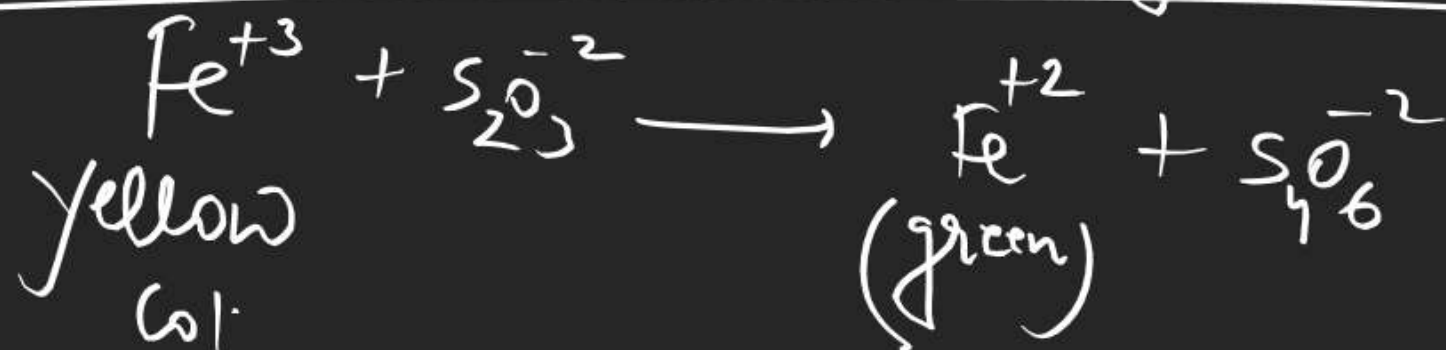
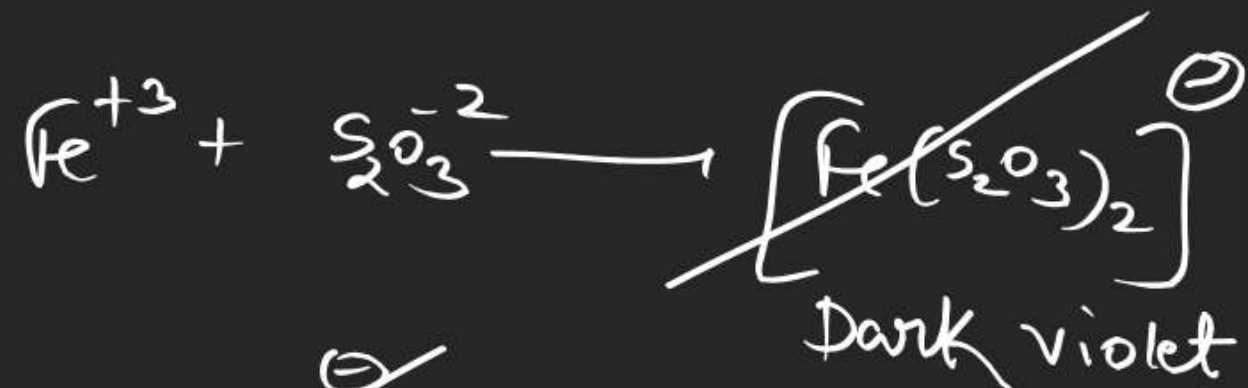


$\text{Cu}_2\text{S}_2\text{O}_3$  Soluble in hypo solution due to formation  
of soluble complex



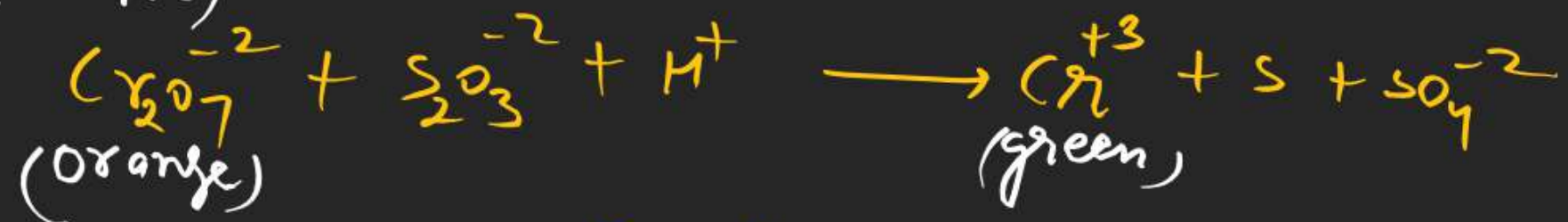
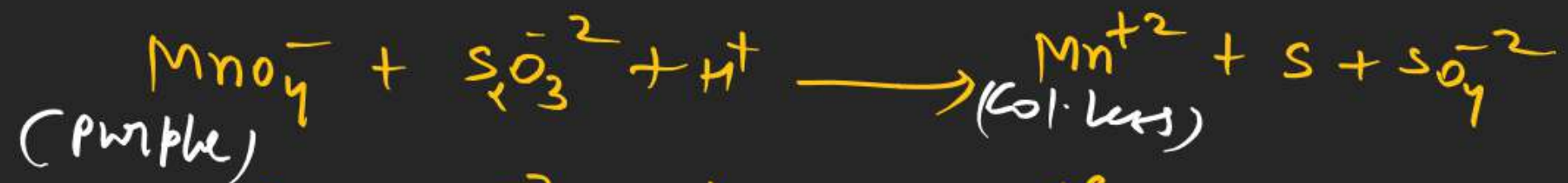
# Test with $\text{FeCl}_3$

Note  $\Rightarrow$  First complex formation followed by Redox





## Redox with strong oxidising agent



Note  $\Rightarrow$  In Redox Reaction for acidic medium  
 we can not use HCl acid because it is  
 also a R.A





$\text{Cl}_2$  water is a strong oxidising agent as well as strong bleaching agent and it is used to bleach Hard Cotton fabrics

excess amount of  $\text{Cl}_2$  water is removed by treating it with hypo solution ( $\text{Na}_2\text{S}_2\text{O}_3$ )  
So hypo solution also called antichlor.

Note  $\Rightarrow$   $\text{Cl}_2$  water is strong bleaching agent and its bleaching action is permanent due to oxidation.

mild bleaching agent



$\text{SO}_2$  water is mild bleaching agent and <sup>it's</sup> bleaching  
action temporary due to reduction