

Puspa Shrestha

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Puspa Shrestha

EXPERIMENT NO. 11

NAME OF EXPERIMENT: TO IDENTIFY ACIDIC AND BASIC RADICAL PRESENT IN GIVEN SALT SAMPLE

APPARATUS REQUIRED

1. Test tube
2. Test tube holder

CHEMICALS REQUIRED

1. Conc. H_2SO_4
2. NH_4OH
3. $AgNO_3$
4. NH_4Cl
5. Cu-turning
6. dil. HCl
7. $BaCl_2$

THEORY

The electronegative radical which comes from an acid is called acidic radical. In other words, the radical of the acid other than H^+ ions is called acid radical. For eg: Cl^- , Br^- , I^- , etc.

The electropositive radical which comes from base is called basic radical. In other words, the radical of bases other than the OH^- ions is called basic radical. For eg: Na^+

OBSERVATION

To identify acidic radical

Dry test:

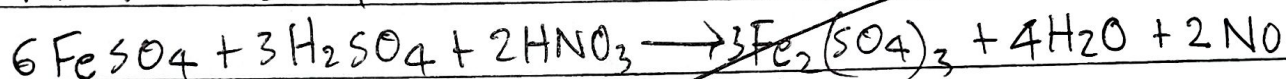
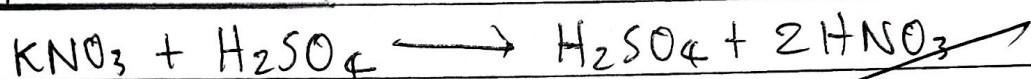
Experiment	Observation	Inference
1. A pinch of salt was taken in clean and dry test tube and dil. HCl was added.	1. No gas was seen.	1. Absence of SO_3 , CO_3
2. A pinch of salt was taken in clean and dry test tube and conc. H_2SO_4 was added.	2. Gas was evolved. not evolved.	2. Absence of halogen.
3. Cu-turning was added in exp. (2).	3. Brown fume was seen.	3. Presence of NO_3^-

Wet test

Experiment	Observation	Inference
1. Salt solution was taken in test tube and BaCl_2 was added. (If ppt was appeared, dil. HCl was added.)	1. No ppt was dissolved in HCl.	1. Absence of SO_4^{2-} , CO_3^{2-}
2. Salt solution was taken in test tube and dil. HNO_3 was added and boiled	2. Brown ring was formed.	2. Presence of NO_3^-

Experiment	Observation	Inference
then it was cooled and AgNO_3 was added.		
3. Salt solution was taken and FeSO_4 was added and conc. H_2SO_4 was added.	3. No ppt was formed.	3. Absence of halogen.

REACTIONS

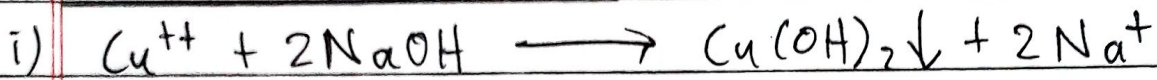


To identify basic radical

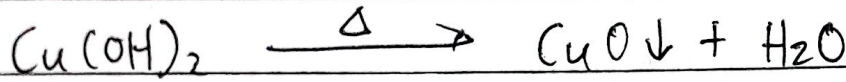
Wet test

Experiment	Observation	Inference
1. 1 ml of salt solution was taken in test tube and dil. HCl was added.	1. Blue ppt was turned black when boiled.	1. Presence of Cu^{++}
2. 2 ml of salt solution was taken in test tube and few drop of NH_4OH was added.	2. Deep blue colour was formed.	2. Presence of Cu^{++} .

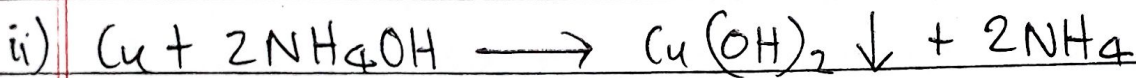
REACTION INVOLVED



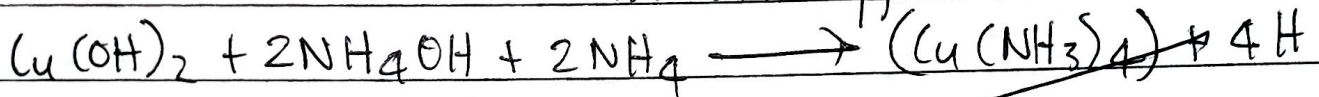
bluish white ppt



black ppt



bluish white ppt



Dry test

Experiment	Observation	Inference
A pinch of salt was taken in a clean, dry test tube and then was heated Salt turned to white again to blue on added water.	Black ppt was seen.	May be presence of Cu^{++} .

Charcoal cavity test

In this test, metallic salt and sodium carbonate react together and give metallic character. The carbonate is decomposed to metallic oxide. This metallic oxide is reduced by reducing flame and carbonate charcoal black to metallic bend or scales.

Charcoal black was taken and was made small

cavity with the help of bayer. 1 part of the sample was taken and then mixed it with 1 part of charcoal and 2 part of Na_2CO_3 . This mixture was moistured with few drops of water and was placed in its cavity. This mixture was heated strongly by deflecting the reducing flame of the burner with the help of blow pipe.

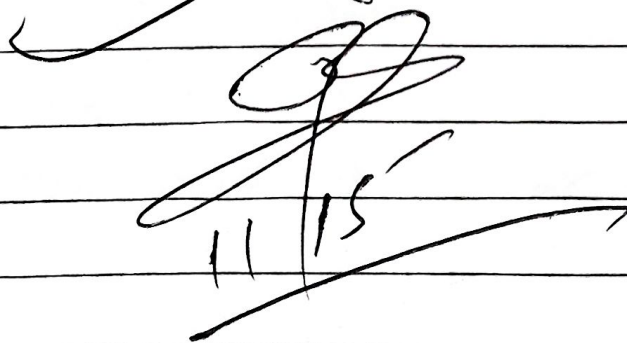
Experiment	Observation	Inference
Charcoal cavity test was performed.	Reametallic bend was seen.	Presence of Cu^{++} .

RESULT

Hence, acidic and basic radical in the given sample salts were detected i.e. NO_3^- and Cu^{++} .

PRECAUTION

1. Apparatus must be handled properly.
2. Conc. acid must be used carefully.
3. The process of drying should be done properly.


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