

GENERAL FLOWCHART FOR GROUP B CATIONS

CA1: CATIONS FOR OTHER GROUPS

Add 6 M NH_3 dropwise until the solution is neutral (Red litmus paper should stay red, while the blue litmus paper should stay blue)

Add 12 drops of 6 M NH_3 using a Pasteur pipet and Centrifuge

RESIDUE

CENTRIFUGATE

Add 10 drops of 6 M NaOH and 2 drops of 3% H_2O_2 . Stir thoroughly and allow the solution to settle for 2 minutes. Centrifuge.

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Add 2 mL distilled water, stir and heat for 10 minutes in a boiling water bath. Centrifuge and discard centrifugate/liquid.

B

CB1: CATIONS FOR OTHER GROUPS

CB2 in a Centrifuge

Heat the liquid for 10 minutes in boiling water bath. Cool for 2 minutes in a cold water bath then add 6 M HCl dropwise until acidic (the blue litmus paper should turn red).

Add 1 M NaHCO_3 dropwise until neutral (Red litmus paper should stay red, while the blue litmus paper should stay blue). Discard any precipitate/solids.

Take 2 drops of the liquid and place onto a centrifuge tube. Add 6 M HCl dropwise until acidic (the blue litmus paper should turn red).

Add 1 drop of 3% H_2O_2 and make sure to watch closely for a BLUE color flash

Your sample is Cr^{3+}

B

Wash the residue/solids with 2 mL distilled water then add 10 drops of 6 M HCl. Stir and heat for two minutes. Discard any precipitates/solids.

10 drops of sample

Add 2 drops of 3% H_2O_2 . Add a pinch of solid NaBiO_3 then centrifuge.

The solution should be **PURPLE** to indicate presence of Mn^{4+}

Your sample is Mn^{4+}

10 drops of sample

Add 3 drops of 0.1 M KSCN

The solution should turn **BLOOD-RED** to indicate presence of Fe^{3+} .

Your sample is Fe^{3+}

10 drops of sample

Add 10 drops of 6 M NaOH. Add a pinch of solid SnCl_2 then centrifuge.

A **BLACK** precipitate/solid should be produced to indicate presence of Bi^{3+} .

Your sample is Bi^{3+}