OCR (B) Chemistry A-Level

PAG 04 - Qualitative analysis of ions

Flashcards

Describe the chemical test for halide ions

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Add dilute nitric acid to react with carbonate ions so no Ag_2CO_3 forms (white solid).

Add silver nitrate. Precipitate forms:

- White: AgCl (soluble in dilute ammonia)
- Cream: AgBr (soluble in concentrated ammonia)
- Yellow: AgI (insoluble in ammonia)

How can SO_4^{2-} ions be identified?

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Add aqueous barium nitrate. A white precipitate ($BaSO_4$) will form if sulfate ions are present. This precipitate is insoluble in excess dilute strong acids.

Describe the chemical test used to detect CO_3^{2-} and HCO_3^- ions

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- Add aqueous acid
- If either ion is present bubbles of CO_2 will be released
- Test the gas by bubbling it through limewater via a delivery tube. If it is CO_2, the limewater will turn cloudy

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Mg - soluble

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What are the solubilities of the first 3 group 2 metals (Mg, Sr, Ba) in sulfate solution?

Mg - soluble

Sr - soluble

Ba - insoluble