

Acid–alkali conductometric titration

This resource accompanies the Exhibition Chemistry video and article Shocking revelations, which demonstrates a conductometric titration of barium hydroxide with sulfuric(VI) acid and can be viewed at: <https://rsc.li/3ldVQoD>

Learning objectives

- Identify the ions present in acidic and alkaline solutions.
- Describe the changes in ionic concentrations in an acid-alkali neutralisation.

Questions

1. (a) What do you call the particles in a solution that conducts electricity?

(b) What are the names of these particles in the two solutions being used? Write the symbols for these particles.

2. (a) What has happened to the number of ions present in the solution when the end point is reached?

(b) If the precipitate is barium sulfate, which ions does this remove from the solution?

3. (a) What other ions are present at the start of the titration?

(b) What must have happened to these ions when the endpoint is reached?

4. Write an ionic equation for the reaction between the ions identified in question 3.

5. Why did the solution conduct again when more barium hydroxide was added after the end point?

Acknowledgements

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