

# AQA Chemistry A-Level

## RP11 - Identifying transition metal ions

### Flashcards

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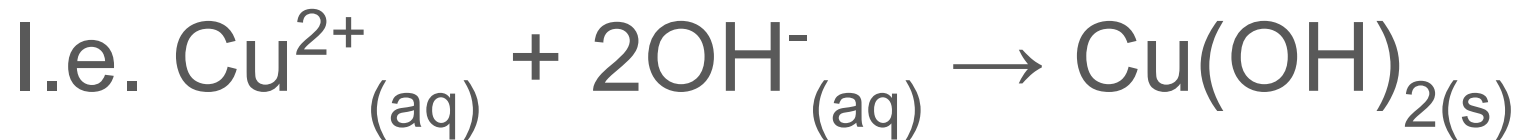


How do transition metals undergo precipitation reactions?



How do transition metals undergo precipitation reactions?

They react with hydroxide ions to form a metal hydroxide precipitate.



What can be reacted with transition metals for a precipitation reaction to occur?



What can be reacted with transition metals for a precipitation reaction to occur?

- Aqueous sodium hydroxide
- Ammonia



What is the first test that can be carried out to identify transition metal ions?



# What is the first test that can be carried out to identify a transition metal ion?

- Place 10 drops of each solution (Q, R, S) in a test tube. Add NaOH solution drop-by-drop to each until in excess. Record any observations.
- Stand in a beaker of hot water for 10 minutes.

## Sample results

### Test 1(a) and (b)

	<b>Q</b>	<b>R</b>	<b>S</b>
<b>Initial</b>	yellow solution	light blue solution	pale green solution
<b>Add NaOH</b>	orange/brown precipitate	deep blue precipitate	grey/green precipitate
<b>On standing in hot water</b>	no visible change	no visible change	no visible change



What is the second test that can be carried out to identify transition metal ions?





# What is the second test that can be carried out to identify transition metal ions?

- Add about 10 drops of each solution (Q, R, S) into a different test tube with  $\text{Na}_2\text{CO}_{3(aq)}$ . Shake and record observations.

## Test 2

	Q	R	S
Addition of sodium carbonate	orange/brown precipitate and effervescence	blue/green precipitate	grey/green precipitate



What can we conclude about Q, R and S?



What can we conclude about Q, R and S?

- Q - Iron (III) ions
- R - Copper (II) ions
- S - Iron (II) ions

