

(Instrumental analysis: flame emission spectroscopy)

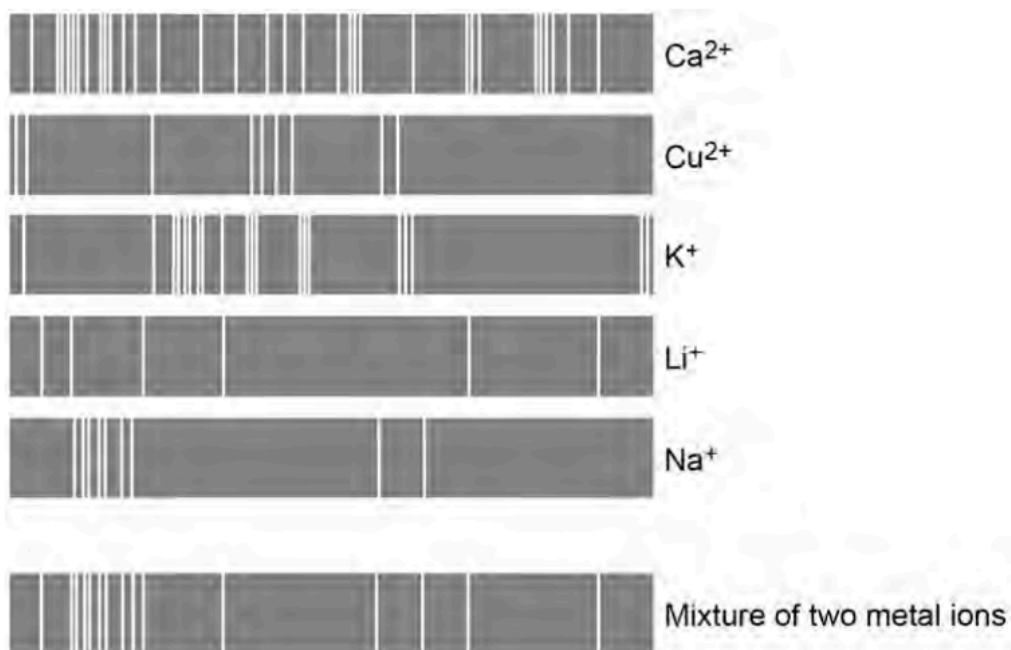
Q1. (2018)

Flame emission spectroscopy is used to identify metal ions in a firework.

Figure 1 shows:

- the flame emission spectra of five individual metal ions
- a flame emission spectrum for a mixture of two metal ions.

Figure 1



Which **two** metal ions are in the mixture?

[2 marks]

Tick **two** boxes.

Ca²⁺

☐

Cu²⁺

☐

K⁺

☐

Li⁺

☐

Na⁺

☐

Q2. (2021)

Name **one** instrumental method that could identify the Group 1 metal ion **and** show the concentration of the ion in a solution of potash alum.

[1 mark]

Q3. (2024)

Another type of chromatography is called gas chromatography.

Gas chromatography is an instrumental method of chemical analysis.

Scientists tested the orange dyes using gas chromatography.

Suggest **two** advantages of using the instrumental method of gas chromatography rather than paper chromatography.

[2 marks]

1 _____

2 _____
