Marks

- A concentration cell containing aqueous solutions of $Cu(NO_3)_2$ and solid copper metal is constructed so that the Cu^{2+} ion concentration in the cathode half-cell is 0.66 M. Calculate the concentration of the Cu^{2+} ion in the anode half-cell if the cell potential for the concentration cell at 25 °C is 0.03 V. **2**

Answer:

- In **acid solution**, dichromate ion oxidises iron(II) to iron(III) as illustrated in the partial equation: **3**

$$Fe^{2+} + Cr_2O_7^{2-} \rightarrow Fe^{3+} + Cr^{3+}$$

Write a balanced equation for this reaction.

What would happen to the cell potential if the concentration of Cr^{3+} were increased?