•	Consider t	he following	balanced	redox reaction.
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$$2In(s) + 3MnO_2(s) + 12H^+(aq) \rightarrow 2In^{3+}(aq) + 3Mn^{2+}(aq) + 6H_2O$$

If  $E^{0} = 1.568 \text{ V}$ , what would be the measured potential of this cell at 298 K at the following concentrations?

$$[H^{+}(aq)] = 0.25 \text{ M}; \quad [In^{3+}(aq)] = 0.20 \text{ M}; \quad [Mn^{2+}(aq)] = 0.42 \text{ M}$$

Answer:

• What is the value of the equilibrium constant for the following reaction at 298 K?

$$Cu^{2+}(aq) + Zn(s) \rightarrow Zn^{2+}(aq) + Cu(s)$$

Relevant electrode potentials can be found on the data page.

2

Marks 2

Answer: