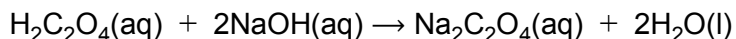


0 5

Ethanedioic acid ( $\text{H}_2\text{C}_2\text{O}_4$ ) is a diprotic acid. Beekeepers use a solution of this acid as a pesticide.

A student carried out a titration with sodium hydroxide solution to determine the mass of the acid in the solution. The student repeated the titration until concordant titres were obtained.



0 5 . 1

The student found that  $25.0 \text{ cm}^3$  of the ethanedioic acid solution reacted completely with  $25.30 \text{ cm}^3$  of  $0.500 \text{ mol dm}^{-3}$  sodium hydroxide solution.

Calculate the mass, in mg, of the acid in  $25.0 \text{ cm}^3$  of this solution.

**[4 marks]**

Mass of acid \_\_\_\_\_ mg

0 5 . 2

The student used a wash bottle containing deionised water when approaching the end-point to rinse the inside of the conical flask.

Explain why this improved the accuracy of the titration.

**[1 mark]**

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0 5 . 3

Give the meaning of the term concordant titres.

**[1 mark]**

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6

