

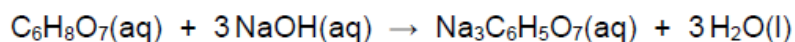
Amount of substance – AS 2022 Chemistry P1

1. June/2022/Paper_7404/1/No.2

0 2

This question is about acid–base titrations.

Citric acid reacts with sodium hydroxide.



0 2 . 1

A student makes a solution of citric acid by dissolving some solid citric acid in water.

Describe a method to add an accurately known mass of solid to a beaker to make a solution.

[2 marks]

0 2 . 2

The student dissolves 0.834 g of citric acid in water and makes the solution up to 500 cm³Calculate the concentration, in mol dm⁻³, of citric acid in this solution.**[3 marks]**Concentration _____ mol dm⁻³

0 2 . 4

Table 1 shows the student's burette readings after the mistakes in the practical procedure have been corrected.

Table 1

	Rough	Run 1	Run 2	Run 3
Final reading / cm ³	23.65	22.95	46.05	26.30
Start reading / cm ³	0.00	0.00	22.95	3.40
Titre / cm ³	23.65			

Complete Table 1.

Use the data in Table 1 to calculate the mean titre.

[2 marks]

Mean titre _____ cm³

0 2 . 5

The total uncertainty in the use of the burette is ± 0.15 cm³

Calculate the percentage uncertainty in the use of the burette in Run 1.

[1 mark]

Percentage uncertainty _____

2. June/2022/Paper_7404/1/No.14

5.0 g of an oxide contains 4.0 g of molybdenum.

What is the empirical formula of this oxide?

[1 mark]

A MoO_2

B MoO_5

C Mo_2O_3

D Mo_3O_2