

## Synthesis (MCQ)

1. A student plans the two-step synthesis below.



Which compound could be the student's intermediate?

- A HOOCCH=CHCOOH
- B HOCH<sub>2</sub>CH<sub>2</sub>CHICOOH
- C HOCH<sub>2</sub>CH<sub>2</sub>CH(OH)CH<sub>2</sub>OH
- D HOCH<sub>2</sub>CH(OH)CH(OH)CH<sub>2</sub>OH

Your answer

[1]

2. A student wants to remove an acid impurity from an organic liquid.

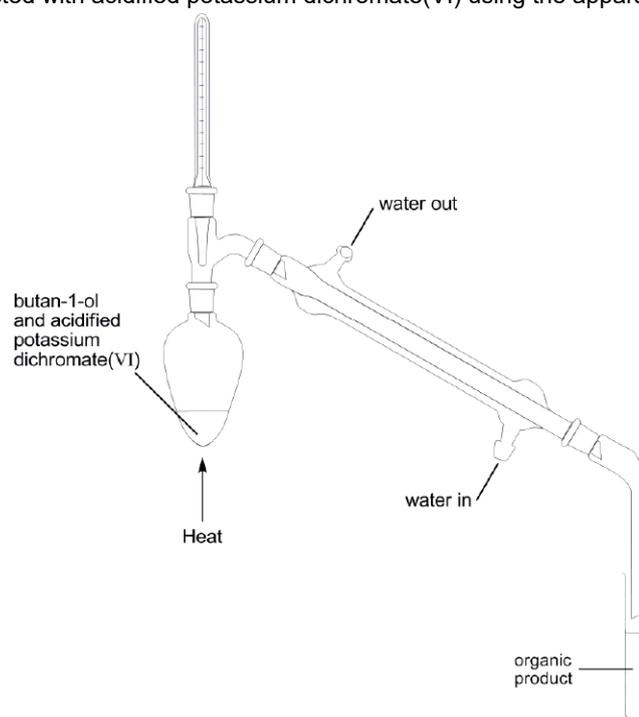
What should the student do?

- A. Add Na<sub>2</sub>CO<sub>3</sub>(aq)
- B. Reflux the mixture
- C. Add Br<sub>2</sub>
- D. Add MgSO<sub>4</sub>

Your answer

[1]

3. Butan-1-ol is reacted with acidified potassium dichromate(VI) using the apparatus shown below.



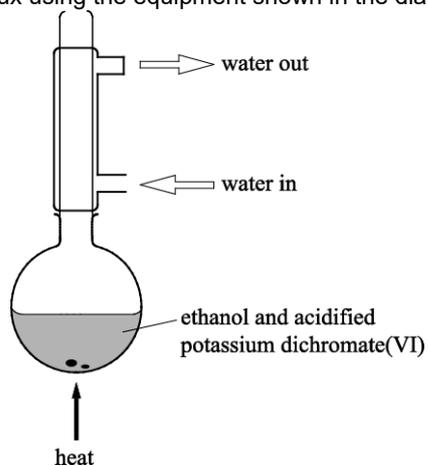
What is the organic product of this reaction?

- A. But-1-ene
- B. Butanone
- C. Butanal
- D. Butanoic acid

Your answer

[1]

4. Ethanol is oxidised to ethanoic acid using acidified potassium dichromate(IV) solution. The reaction is heated under reflux using the equipment shown in the diagram below.



What is the reason for heating under reflux?

- A. to ensure even heating
- B. to prevent any substances escaping
- C. to boil the mixture at a higher temperature
- D. to allow efficient mixing

Your answer

[1]

END OF QUESTION PAPER

## Mark scheme – Synthesis (MCQ)

Question			Answer/Indicative content	Marks	Guidance
1			C	1	
			<b>Total</b>	<b>1</b>	
2			A	1	
			<b>Total</b>	<b>1</b>	
3			C	1	
			<b>Total</b>	<b>1</b>	
4			B	1	
			<b>Total</b>	<b>1</b>	