

[4]

3. A student investigates the rate of hydrolysis of different iodoalkanes using aqueous silver nitrate in ethanol.

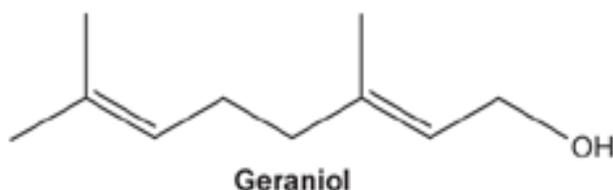
What colour of precipitate is seen?

- A Brown
- B Cream
- C White
- D Yellow

Your answer

[1]

4. Geraniol, shown below, is a component in many natural oils.



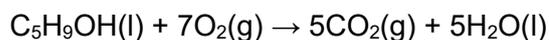
Which pair of reagents identifies both functional groups in geraniol?

- A Acidified dichromate(VI) and 2,4-dinitrophenylhydrazine.
- B Bromine water and 2,4-dinitrophenylhydrazine.
- C Bromine water and acidified dichromate(VI).
- D Tollens' reagent and aqueous silver nitrate in ethanol.

Your answer

[1]

5. 4.30 g of the alcohol C_5H_9OH , ($M_r = 86.0$), is burned in oxygen.



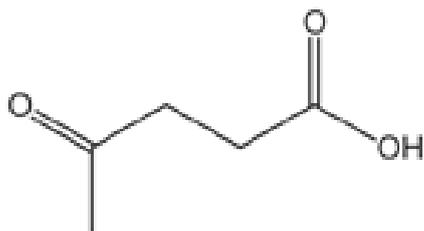
Which volume of oxygen gas is needed, in dm^3 , for this complete combustion of C_5H_9OH , at RTP?

- A 1.2
- B 2.4
- C 5.8
- D 8.4

Your answer

[1]

6. Which functional groups are present in the compound below?



- A** Alcohol and aldehyde.
B Alcohol and ketone.
C Carboxylic acid and aldehyde.
D Carboxylic acid and ketone.

Your answer

[1]

7. A student has planned the two-stage synthesis shown below.



Which compound could be the intermediate for this synthesis?

A	$\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}_3\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{CH}_3 \quad \text{H} \end{array}$
B	$\begin{array}{c} \text{Br} \quad \text{H} \\ \quad \\ \text{H}_3\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{CH}_3 \quad \text{H} \end{array}$
C	$\begin{array}{c} \text{OH} \quad \text{H} \\ \quad \\ \text{H}_3\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{CH}_3 \quad \text{H} \end{array}$
D	$\begin{array}{c} \text{Br} \quad \text{Br} \\ \quad \\ \text{H}_3\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{CH}_3 \quad \text{H} \end{array}$

Your answer

[1]

mass = g [3]

- ii. The student mixes butan-2-ol, sodium bromide and sulfuric acid in a pear-shaped flask, and refluxes the mixture.

After 1 hour, the mixture in the flask has separated into two layers: an aqueous layer and an organic layer.

Describe the procedures the student would need to carry out to obtain a pure, dry sample of 2-bromobutane from this mixture.

----- [3]

END OF QUESTION PAPER