



Oxford Cambridge and RSA

AS Level Chemistry A

H032/01 Breadth in chemistry

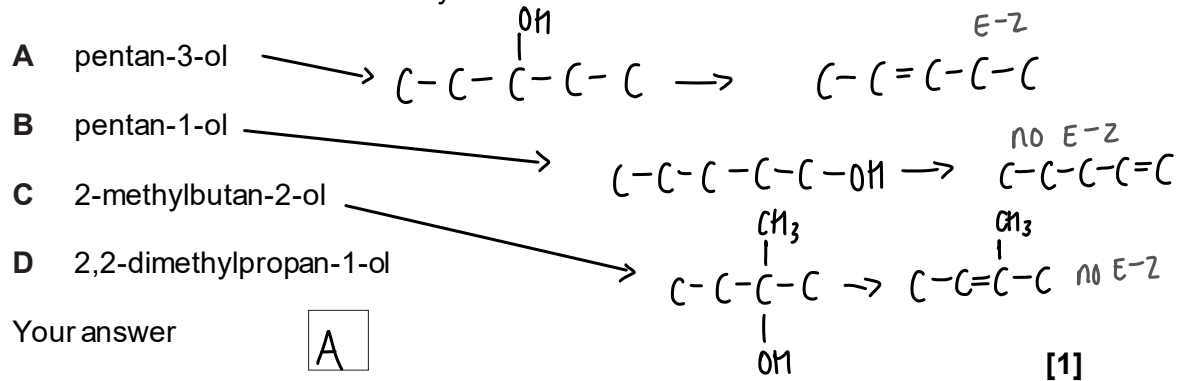
Question Set 6

4.2 Alcohols, haloalkanes and analysis

Multiple Choice Questions

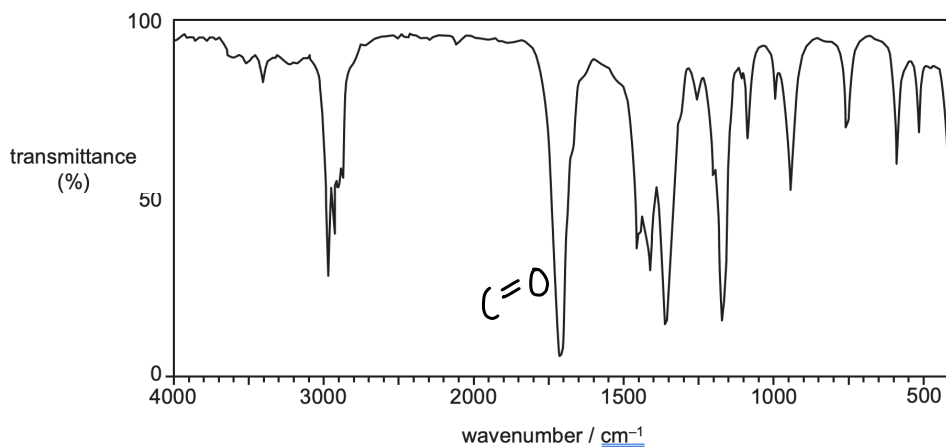
→ dehydration/elimination

1. Which alcohol reacts with an acid catalyst to form *E* and *Z* stereoisomers?

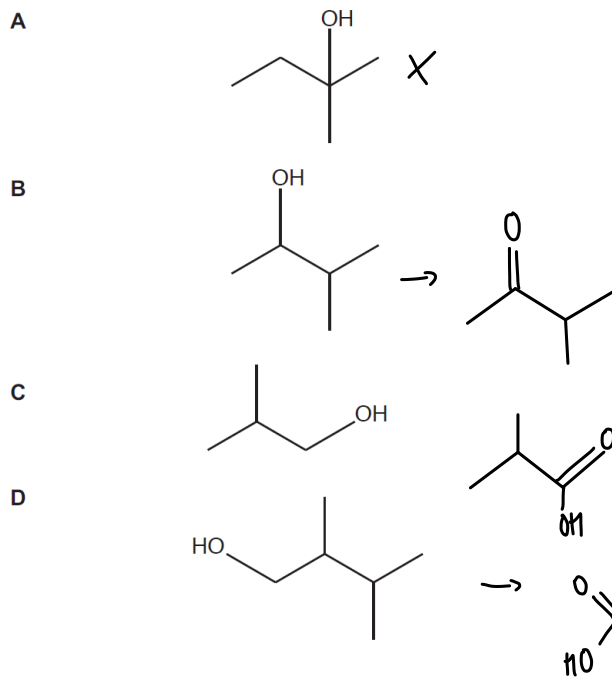


2. An alcohol **A** is heated under reflux with sulfuric acid and potassium dichromate(VI).

The organic compound formed produces the infrared spectrum below.



Which compound could be alcohol **A**?



o organic compound must be aldehyde or ketone

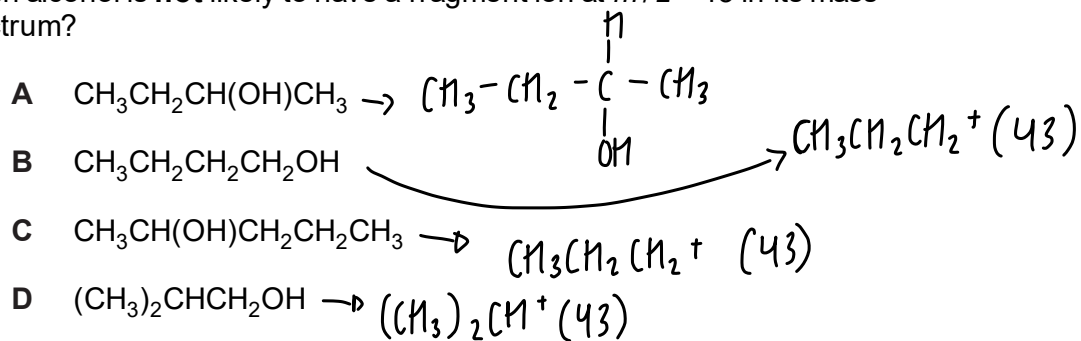
↓
 1° alcohol 2° alcohol

o must be ketone as heating under REFLUX would oxidise an aldehyde to a carboxylic acid, but there is no O-H (acid) peak in the spectrum.

Your answer B

[1]

3. Which alcohol is **not** likely to have a fragment ion at $m/z = 43$ in its mass spectrum?

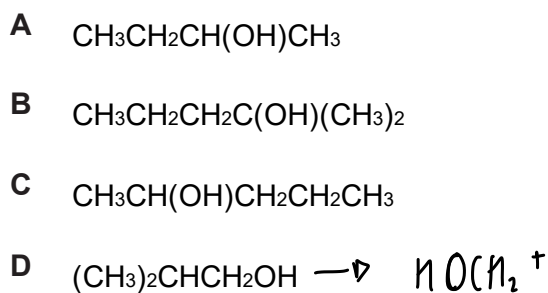


Your answer

A

[1]

4. Which alcohol is likely to have a fragment ion at $m/z = 31$ in its mass spectrum?



Your answer

D

[1]

5. Which compound is **not** likely to have a fragment ion at $m/z = 43$ in its mass spectrum?

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

Your answer

B

[1]

6. Which statement about infrared radiation is **not** correct?

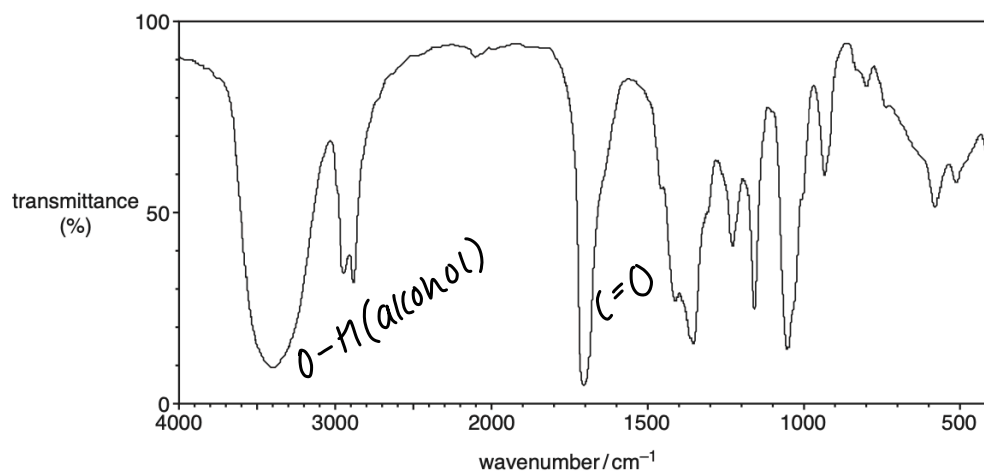
- A The energy from IR radiation causes some covalent bonds to vibrate more.
- B Absorption of IR radiation by some atmospheric gases is linked by some scientists to global warming.
- C IR radiation is used to monitor gases causing air pollution.
- D The action of IR radiation on CFCs in the upper atmosphere leads to the formation of chlorine radicals.

Your answer

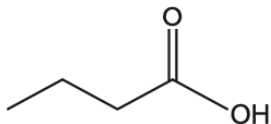
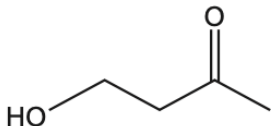
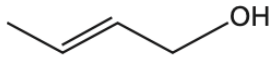
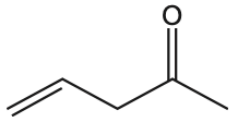
D

[1]

7. An unknown compound produces the infrared spectrum below.



Which compound could have produced the infrared spectrum?

A	
B	
C	
D	

Your answer

B

[1]

Total Marks for Question Set 6: 7

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