



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

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

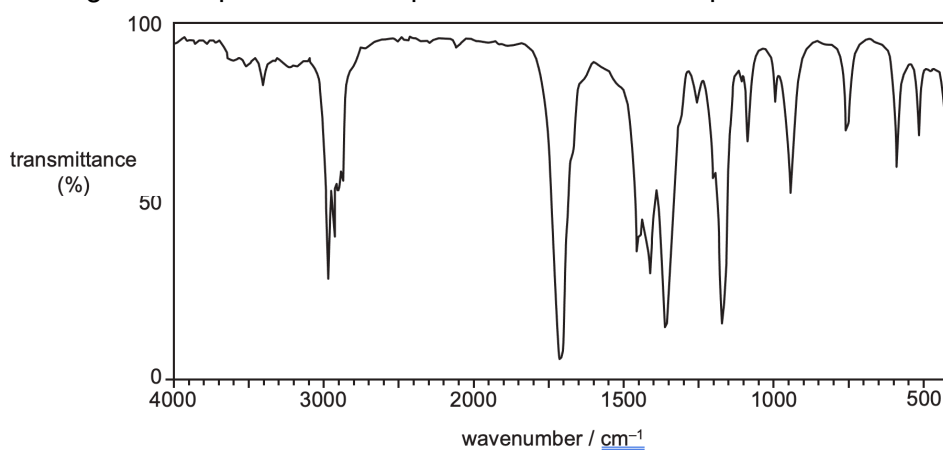
- A pentan-3-ol
- B pentan-1-ol
- C 2-methylbutan-2-ol
- D 2,2-dimethylpropan-1-ol

Your answer

[1]

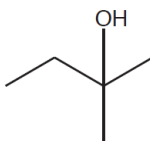
2. An alcohol **A** is heated under reflux with sulfuric acid and potassium dichromate(VI).

The organic compound formed produces the infrared spectrum below.

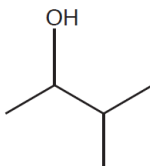


Which compound could be alcohol **A**?

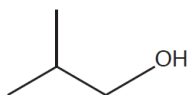
A



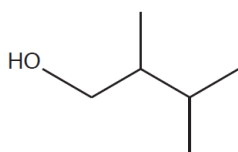
B



C



D



Your answer

[1]

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

- A $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_3$
- B $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$
- C $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}_2\text{CH}_3$
- D $(\text{CH}_3)_2\text{CHCH}_2\text{OH}$

Your answer

[1]

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

- A $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_3$
- B $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\text{OH})(\text{CH}_3)_2$
- C $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}_2\text{CH}_3$
- D $(\text{CH}_3)_2\text{CHCH}_2\text{OH}$

Your answer

[1]

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

A	
B	
C	
D	

Your answer

[1]

6.

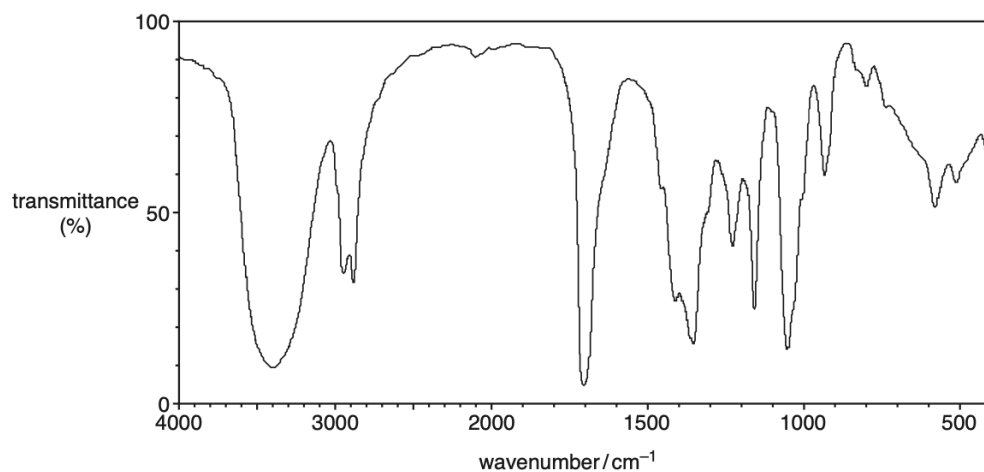
Which statement about infrared radiation is **not** correct?

- 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.

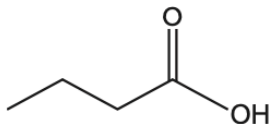
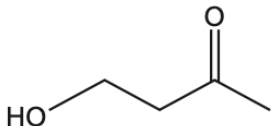
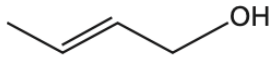
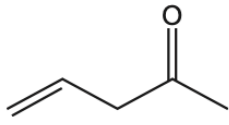
Your answer

[1]

7. An unknown compound produces the infrared spectrum below.



Which compound could have produced the infrared spectrum?

A	
B	
C	
D	

Your answer

[1]

Total Marks for Question Set 6: 7

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