



Oxford Cambridge and RSA

GCE A level Chemistry A (H432)

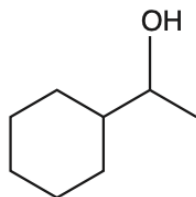
H432/02 Synthesis and analytical techniques

MCQ Question Set 3

4.1 Basic concepts and hydrocarbons

Multiple Choice Questions

1. How can the molecule below be described?

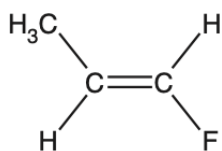


- A Aromatic and alicyclic
- B Aliphatic and unsaturated
- C Aromatic and unsaturated
- D Alicyclic and saturated

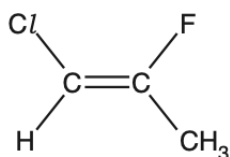
Your answer

[1]

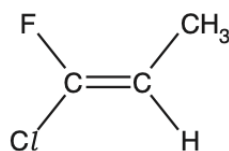
2. Which molecule is a Z-isomer?



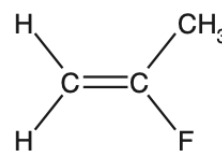
A



B



C

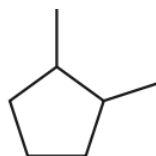


D

Your answer

[1]

3. What is the molecular formula of the compound below?



- A C_7H_{10}
- B C_7H_{12}
- C C_7H_{14}
- D C_7H_{16}

Your answer

[1]

4. Ethane reacts with chlorine by radical substitution to form chloroethane.

Which radical(s) is/are present in the mechanism?

- 1 H•
- 2 Cl•
- 3 C₂H₅•

- A** 1, 2 and 3
B Only 1 and 2
C Only 2 and 3
D Only 1

Your answer

[1]

5. Which compound(s) is a/are structural isomer(s) of C₆H₁₂O₂?

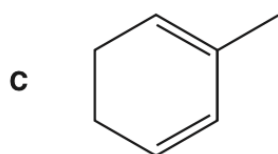
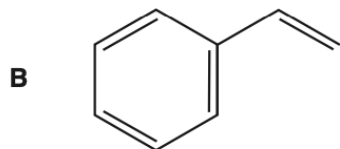
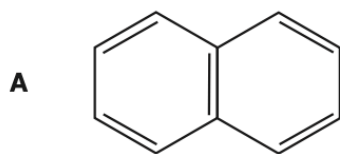
- 1 hexanoic acid
- 2 ethyl butanoate
- 3 propyl propanoate

- A** 1, 2 and 3
B Only 1 and 2
C Only 2 and 3
D Only 1

Your answer

[1]

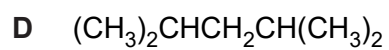
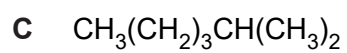
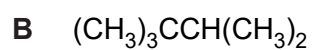
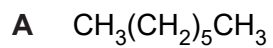
6. Which structure represents an alicyclic compound?



Your answer

[1]

7. Which alkane has the highest boiling point?



Your answer

[1]

8. Butane reacts with chlorine in the presence of ultraviolet radiation to form a mixture of organic products.

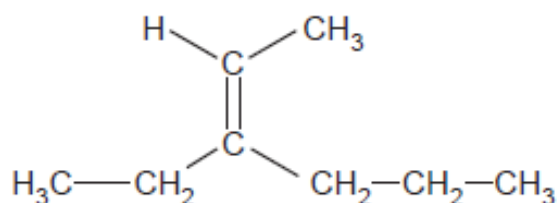
Which equation shows a propagation step in the mechanism for this reaction?

- A $Cl_2 \rightarrow \cdot Cl + \cdot Cl$
B $\cdot Cl + \cdot C_4H_8Cl \rightarrow C_4H_8Cl_2$
C $C_4H_9Cl + \cdot Cl \rightarrow C_4H_8Cl_2 + \cdot H$
D $\cdot Cl + C_4H_9Cl \rightarrow \cdot C_4H_8Cl + HCl$

Your answer

[1]

9. What is the name of the compound below?



- A 3-Propylpent-2-ene
B 3-Propylpent-3-ene
C 3-Ethylhex-2-ene
D 4-Ethylhex-4-ene

Your answer

[1]

10. Which term correctly describes this stereoisomer?

- A *cis*-
B *trans*-
C *E*-
D *Z*-

Your answer

[1]

11. Which types of bonds are broken and formed in the reaction of ethene and bromine?

	Types of bond broken	Types of bond formed
A	σ	π
B	π	σ
C	σ and π	π
D	σ and π	σ

Your answer

[1]

Total Marks for Question Set 3: 11

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