



Oxford Cambridge and RSA

AS Level Chemistry A

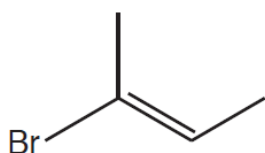
H032/01 Breadth in chemistry

MCQ Question Set 5

4.1 Basic concepts and hydrocarbons

Multiple Choice Questions

1. What is the systematic name of the compound below?



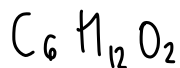
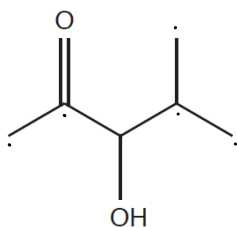
- A E-2-bromobut-2-ene
- B Z-2-bromobut-2-ene
- C E-1,2-dimethyl-1-bromoethene
- D Z-1,2-dimethyl-1-bromoethene

Your answer

A

[1]

2. The skeletal formula of an organic compound is shown below.



What is the molecular formula of the organic compound?

- A $C_6H_{10}O_2$
- B $C_6H_{11}O_2$
- C $C_6H_{12}O_2$
- D $C_6H_{13}O_2$

Your answer

C

[1]

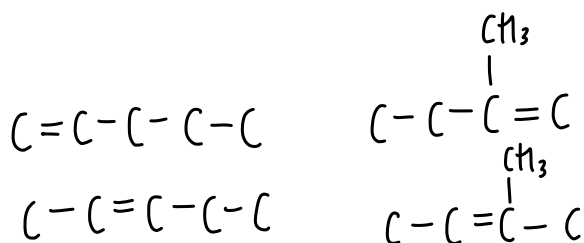
3. How many structural isomers have the molecular formula C_5H_{12} ?

A 2

B 3

C 4

D 5



Your answer

[1]

4. Which organic compound has the lowest boiling point?

A 2,3,4-trimethylpentane

↳ most branched

B 2,3-dimethylhexane

C 2-methylheptane

D octane

Your answer

[1]

5. 1 mol of a compound reacts with 8 mol O_2 for complete combustion.

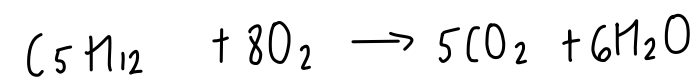
What is the formula of the compound?

A C_4H_8

B C_4H_9OH

C $C_5H_{11}OH$

D C_5H_{12}



C_3H_{20}

C_4H_{16}

C_5H_{12}

Your answer

[1]

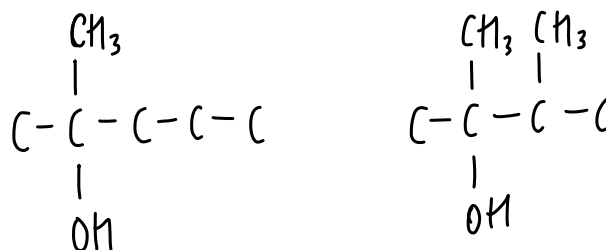
6. How many structural isomers of $C_6H_{14}O$ are tertiary alcohols?

A 1

B 2

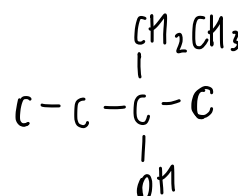
C 3

D 4

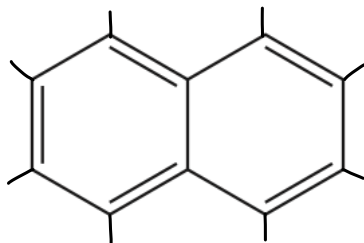


Your answer

[1]



7. The structure of naphthalene is shown below.



What is the molecular formula of naphthalene?

- A $C_{10}H_8$
- B $C_{10}H_{10}$
- C $C_{12}H_{10}$
- D $C_{12}H_{12}$

Your answer

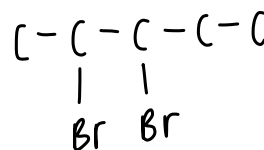
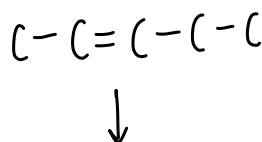
A

[1]

8. A student reacts pent-2-ene with bromine in the laboratory.

Which compound is formed?

- A 1,1-dibromopentane
- B 1,2-dibromopentane
- C 2,2-dibromopentane
- D 2,3-dibromopentane

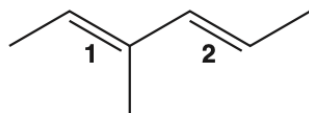


Your answer

D

[1]

9. The molecule below has two double bonds, labelled **1** and **2**.



The arrangement around each double bond can be identified as *E* or *Z*.

Which row in the table is correct for double bond **1** and double bond **2**?

	Double bond 1	Double bond 2
A	<i>E</i>	<i>Z</i>
B	<i>Z</i>	<i>E</i>
C	<i>E</i>	<i>E</i>
D	<i>Z</i>	<i>Z</i>

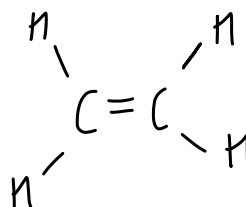
Your answer

B

[1]

10. What is the best description for the bonding between the carbon atoms in an ethene molecule?

- A One σ -bond and one π -bond
B One π -bond
C Two σ -bonds
D Two π -bonds

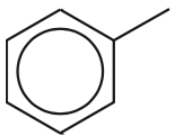
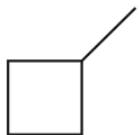
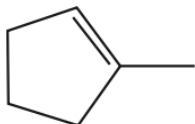
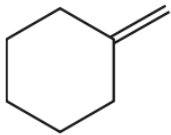


Your answer

A

[1]

11. Which compound is unsaturated, alicyclic and contains an alkyl group?

A	
B	
C	
D	

alicyclic \neq aromatic

→ saturated

→ unsaturated (containing one or more double covalent bonds)

→ no alkyl group

Your answer

C

[1]

12. Which statement about an electrophile is correct?

- A It is an electron pair acceptor.
- B It is a proton donor.
- C It is a negative ion.
- D It is a species with an unpaired electron.

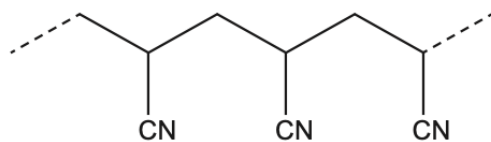
Your answer

A

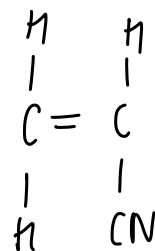
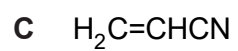
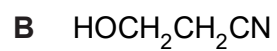
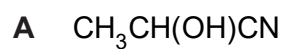
[1]

13.

A section of a polymer is shown below.



Which monomer could form this polymer?



Your answer

[1]

Total Marks for Question Set 5: 13

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