

Unit 14: Hydrocarbons

Subunit 14.2: Alkenes

Topical Question No: 1

- 20 Structural isomerism and stereoisomerism should be considered when answering this question.

How many isomers with the formula C_4H_8 have structures that contain a π bond?

- A 1 B 2 C 3 D 4

Topical Question No: 2

- 23 Propene undergoes a variety of reactions.

Which row is correct?

	reagent added to propene	products include
A	$Br_2(aq)$	1-bromopropane
B	cold, dilute, acidified $KMnO_4(aq)$	propanoic acid
C	$HBr(g)$	2-bromopropane
D	hot, concentrated, acidified $KMnO_4(aq)$	propanoic acid

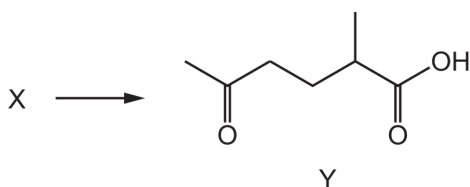
Topical Question No: 3

- 37 Which compounds can be obtained from but-2-ene in a **single** reaction?

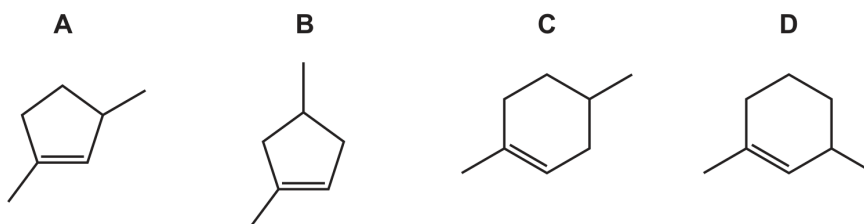
- 1 $CH_3CH(OH)CH(OH)CH_3$
2 $CH_3CH(OH)CH_2CH_3$
3 CH_3CO_2H

Topical Question No: 4

- 22 Compound X can be converted into compound Y in a single step.



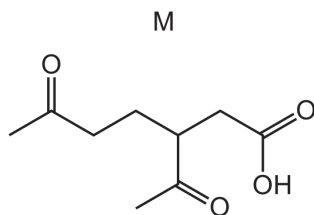
What could be the identity of X?



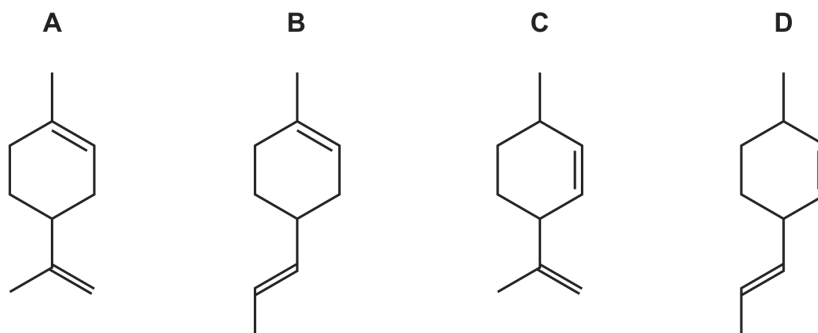
Topical Question No: 5

- 21** Compound L has the molecular formula $C_{10}H_{16}$.

A sample of L reacted with an excess of hot, concentrated, acidified potassium manganate(VII). Compound M is produced.



What could be the structure of compound L?



Topical Question No: 6

- 23** Structural isomerism and stereoisomerism should be considered when answering this question.

2-bromopentane is heated with an excess of ethanolic sodium hydroxide.

How many different hydrocarbons are produced?

- A** 1 **B** 2 **C** 3 **D** 4

Topical Question No: 7

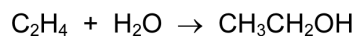
- 22** Bromine reacts with ethene to form 1,2-dibromoethane.

What is the correct description of the organic intermediate in this reaction?

- A** It has a negative charge.
B It is a free radical.
C It is a nucleophile.
D It is an electrophile.

Topical Question No: 8

- 20** Ethene reacts with steam in the presence of sulfuric acid.

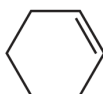


What type of reaction is this?

- A** acid/base
- B** addition
- C** hydrolysis
- D** substitution

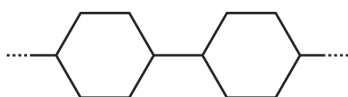
Topical Question No: 9

- 28** Cyclohexene, shown below, can form an addition polymer.

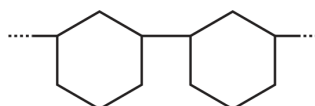


Which structure represents a section of the polymer including two cyclohexene residues?

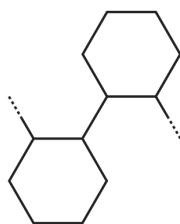
A



B



C



D



Answer Key

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2. Error
3. Error
4. Error
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6. Error
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8. Error
9. Error