

O Level Pure Chemistry MCQs

Organic Chemistry Test 8.0

Q1

Four alkanes, H, I, J and K were extracted from a fractional distillation sample of crude oil.

K is more viscous compared to I.

J burns with a less sooty flame compared to I and K.

H is less flammable than K.

Which of the following shows the sequence in which the alkanes were collected, in order of increasing boiling point?

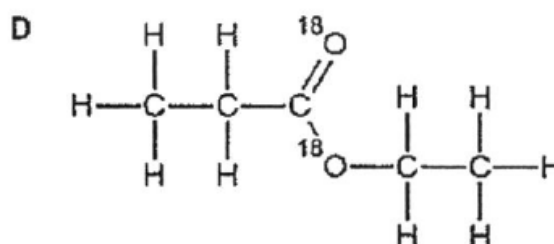
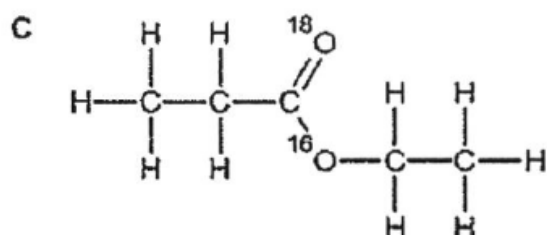
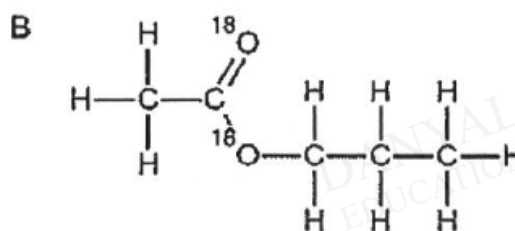
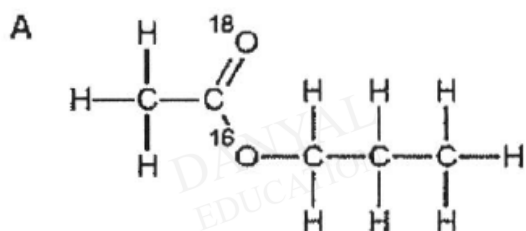
- A J, H, K, I
- B H, I, K, J
- C K, H, J, I
- D J, I, K, H

Q2

Isotopic labelling is a technique used to study reaction mechanisms by replacing specific atoms in the reactants with their isotopes. In a particular study, two isotopes of oxygen, ^{16}O and ^{18}O , are used.

The oxygen atoms of propanoic acid has been isotopically labelled to give $\text{C}_2\text{H}_5\text{C}^{18}\text{O}_2\text{H}$ and reacted with ethanol, $\text{C}_2\text{H}_5^{16}\text{OH}$.

Which structure shows the ester which is obtained in the esterification reaction?



Q3

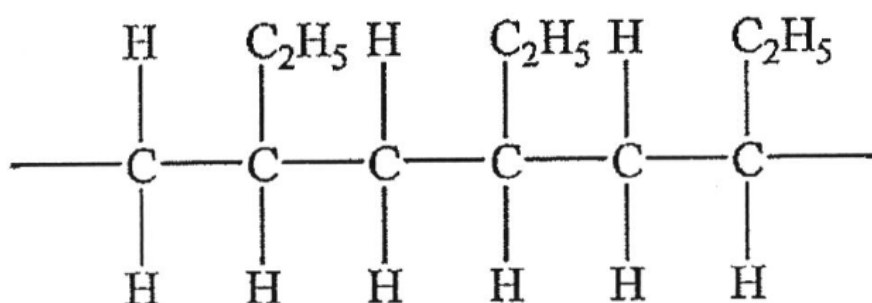
Arachidonic acid is one of the most abundant polyunsaturated fatty acids in the brain. It has a molecular formula of $C_{19}H_{31}COOH$.

How many C=C double bonds are present in 1 molecule of arachidonic acid?

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

Q4

The diagram shows a section of a polymer.

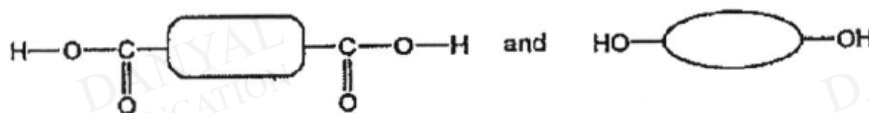


Which statement about this polymer is correct?

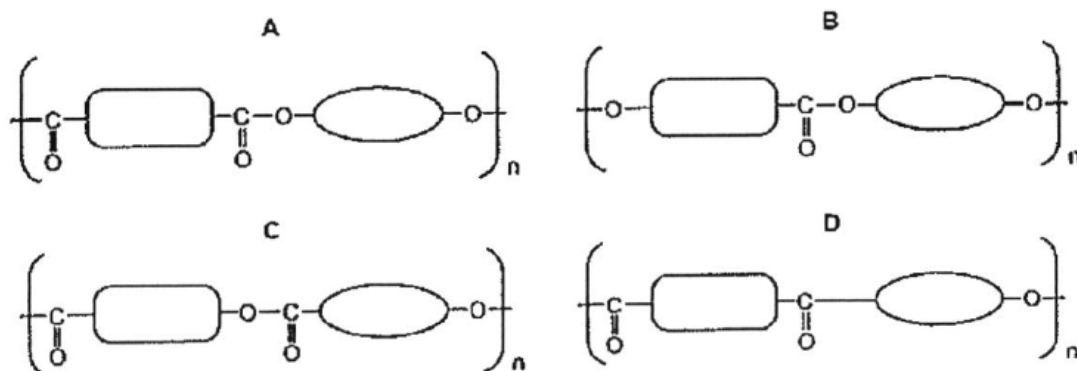
- A Its monomer is butane.
- B It is a condensation polymer.
- C It decolourises aqueous bromine.
- D Both the polymer and its monomers have the same empirical formula.

Q5

Terylene is made by the condensation polymerisation of the two monomers shown.



Which diagram represents the structure of the polymer formed?



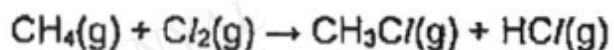
Q6

Which substance, present in car exhaust fumes, is **not** produced by the combustion of hydrocarbons?

- A carbon
B carbon monoxide
C oxides of nitrogen
D water vapour

Q7

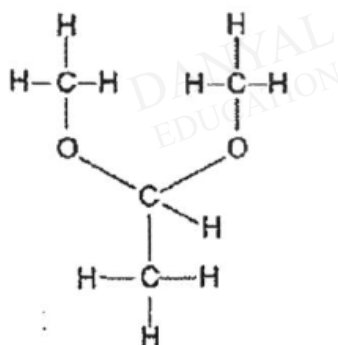
What change will decrease the speed of the following reaction?



- A decreasing the intensity of sunlight
B increasing the amount of chlorine used
C increasing the temperature
D using a larger reaction vessel

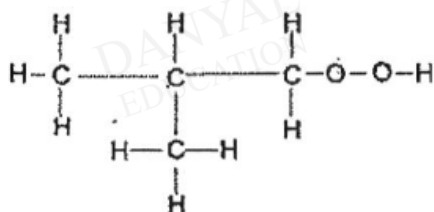
Q8

Acetaldehyde dimethyl acetal is used in making fragrance and flavour compounds. The structural formula of acetaldehyde dimethyl acetal is shown.

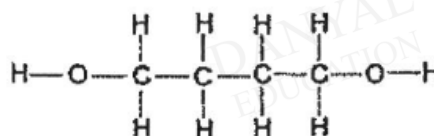


Which compound is not an isomer of acetaldehyde dimethyl acetal?

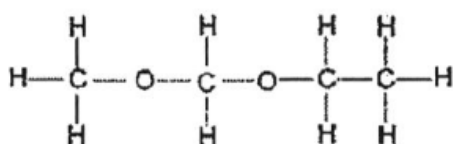
A



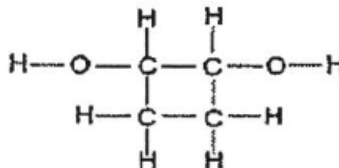
B



C



D



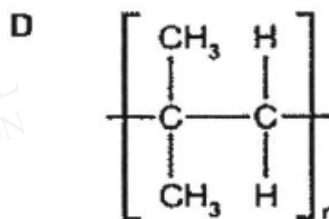
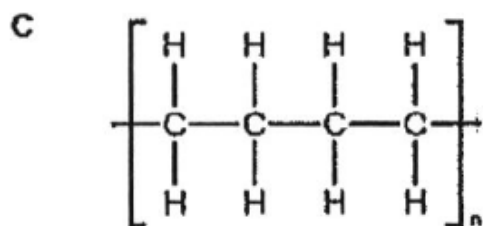
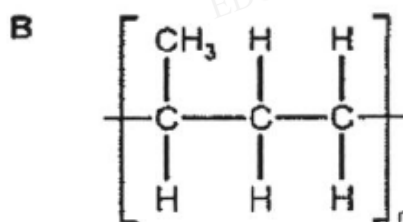
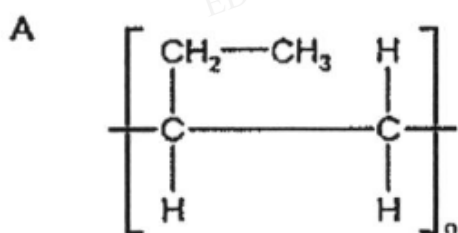
Q9

How does the number of carbon, hydrogen and oxygen atoms in an ester differ from the total number of carbon, hydrogen and oxygen atoms in the alcohol and carboxylic acid from which the compound was derived?

| | carbon atoms | hydrogen atoms | oxygen atoms |
|---|--------------|----------------|--------------|
| A | less | less | less |
| B | less | same | less |
| C | same | less | less |
| D | same | same | same |

Q10

Which formula is correct for the product of polymerisation of butene, $\text{CH}_2=\text{CHCH}_2\text{CH}_3$?



Answers

Organic Chemistry Test 8.0

Q1 D

Q2 C

Q3 D

Q4 D

Q5 A

Q6 C

Q7 A

Q8 D

Q9 C

Q10 A

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