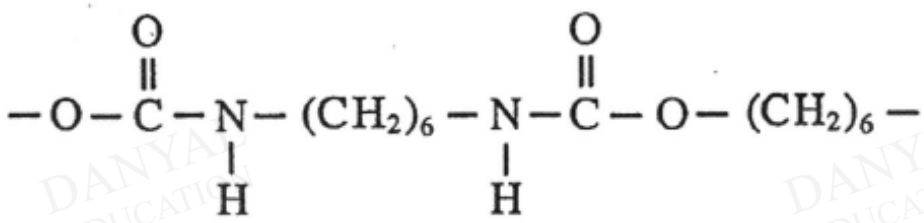
O Level Pure Chemistry MCQs

Organic Chemistry Test 2.0

Q1

The diagram shows the structure of a synthetic polymer **P**.



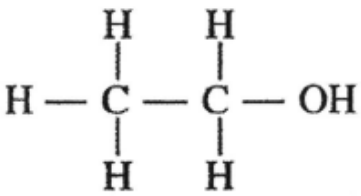
Which of the following air pollutants could be released when polymer **P** is burnt in air?

A sulfur dioxide
B soot particles and methane
C nitrogen dioxide and carbon monoxide
D carbon monoxide, oxygen and hydrogen gas

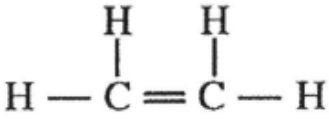
Q2

A neutral organic liquid is burnt in air completely, producing carbon dioxide and water. Which of the following is most likely to be that liquid?

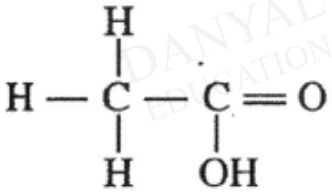
A



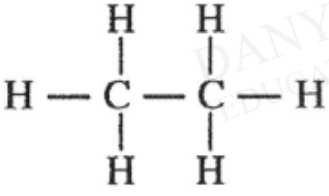
C



B

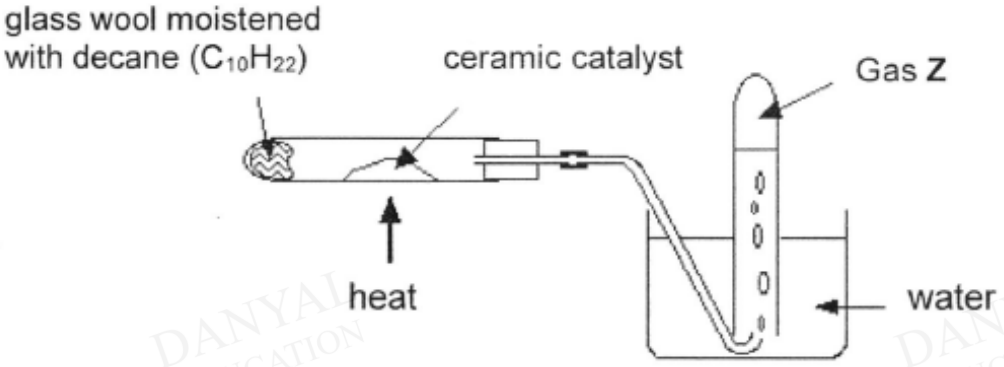


D



Q3

The diagram below shows the apparatus set-up used to produce gas **Z**.



Which of the following is a property of the gas **Z**?

A reacts with ethanol to form an ester
B soluble in water
C forms white precipitate with limewater
D decolourises bromine water

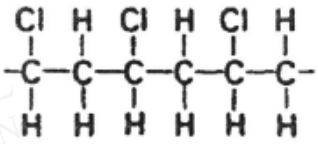
Q4

What is the formula of the ester formed when propanoic acid reacts with ethanol?

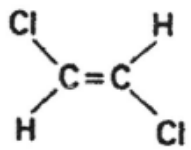
A $CH_3CO_2C_3H_7$
B $C_2H_5CO_2C_2H_5$
C C_4H_9COOH
D C_5H_9OH

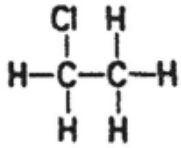
Q5

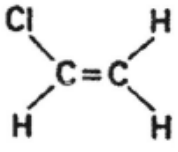
A polymer formed by addition polymerisation has the following structure:

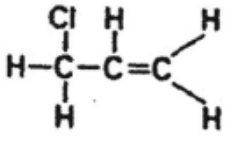


What is the structure of the monomer?

A 

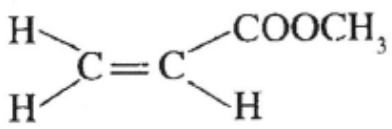
B 

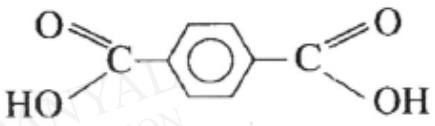
C 

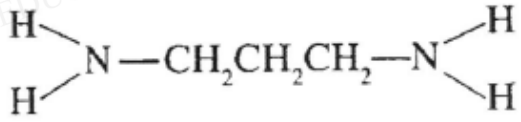
D 

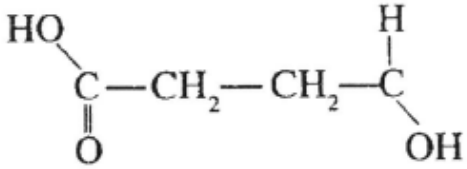
Q6

The following are monomers of a few compounds. Which of them can be used to produce a polymer via condensation polymerisation?

I 

II 

III 

IV 

A I and III only
B II and IV only
C I, II and IV only
D II, III and IV only

Q7

Which of the following shows the correct order of fuels which produce decreasing amounts of carbon dioxide per mole of fuel?

A petrol, methane, ethanol, hydrogen

B petrol, ethanol, methane, hydrogen

C methane, ethanol, petrol, hydrogen

D ethanol. petrol, methane , hydrogen

Q8

Methane in the form of compressed natural gas (CNG) is being used as a fuel for cars. Which of the following show the advantages of using methane as a car fuel compared to petrol?

1 Produces more heat per unit mass

2 Enables car to travel longer distance for each tank of fuel

3 Produces lower level of carbon dioxide per unit of energy released

A 1 and 2

B 1 and 3

C 2 and 3

D 1, 2 and 3

Q9

The reaction of different vegetable oils with hydrogen was investigated.

100 cm^3 of hydrogen was passed through 1 g samples of vegetable oils containing a suitable catalyst. The volume of hydrogen gas that remained after each reaction was recorded in the table below.

vegetable oil	volume of hydrogen gas that remained after the reaction / cm^3
P	100
Q	87
R	63
S	0

Which vegetable oil(s) is/ are unsaturated?

A P only

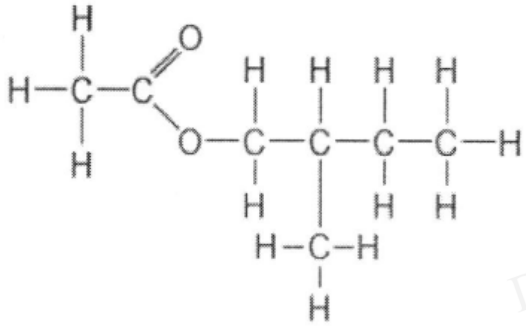
B Q, R and S

C P, Q and R

D S only

Q10

Bees use 2-methylbutyl ethanoate as an 'alarm' pheromone. When disturbed, individual bees on guard will raise their abdomen and emit the alarm pheromone, fanning their wings to aid its dispersal



2-methylbutyl ethanoate

Which starting materials would be required to form 2-methylbutyl ethanoate?

A CH_3CH_2OH and $CH_3CH_2CH(CH_3)CO_2H$

B CH_3CO_2H and $CH_3CH_2CH(CH_3)CH_2OH$

C CH_3CH_2OH and $CH_3CH_2CH(CH_3)CH_2CO_2H$

D CH_3CO_2H and $CH_3CH_2CH(CH_3)CH_2CO_2H$

Answers

Organic Chemistry Test 2.0

Q1 C

Q2 A

Q3 D

Q4 B

Q5 C

Q6 D

Q7 B

Q8 B

Q9 B

Q10 B