ESTERS – TEST 1

QUESTION 1
Which of the following is untrue of esters?

A The ester link is COO
B Esters are essentially non polar
C Esters cannot hydrogen bond with water
D Esters are volatile molecules

QUESTION 2
Compared to ethanoic acid, methyl methanoate

A has a higher melting and boiling points
B is a smaller molecule
C is more volatile
D is more polar

QUESTION 3
As esters get larger

A their solubility significantly decreases
B the density decreases
C the viscosity increases
D the volatility increases

QUESTION 4
The strongest type of intermolecular bonding found between esters is

A dispersion forces
B dipole-dipole bonding
C hydrogen bonding
D ionic bonding

QUESTION 5
Which of the following reaction types can esters undergo?

A Combustion
B Oxidation
C Acid – Base
D Polymerisation

QUESTION 6
Explain why esters cannot hydrogen bond with themselves but can hydrogen bond with water.

Solution

QUESTION 7
Why are esters considered to be non-polar molecules?

Solution

SOLUTIONS

QUESTION 1 Answer is C

QUESTION 2 Answer is C

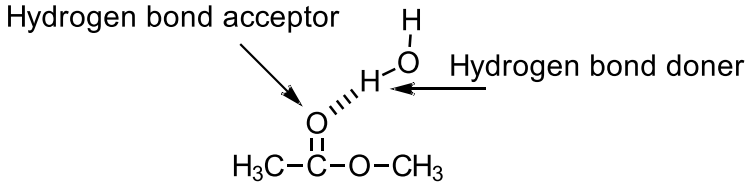
QUESTION 3 Answer is C

QUESTION 4 Answer is B

QUESTION 5 Answer is A

QUESTION 6

Within an ester, there aren't any hydrogen bonded to F, O or N. Therefore, hydrogen bonding cannot exist between ester molecules. However, the lone pair on the carbonyl group in an ester can act as a hydrogen bond acceptor and water can act as a hydrogen bond donor which allows hydrogen bonding to exist between the two molecules.



QUESTION 7

Even though esters do contain some polar bonds, they are essentially non-polar due to the two alkyl chains on either side of the ester link.