



6. 1 mol of an organic compound X required 2 mol of  $O_2$  for complete combustion, and produced 2 mol of  $CO_2$  and 2 mol of  $H_2O$  as the only products.  
The molecular formula of X is  
(1)  $C_2H_4$  (2)  $C_2H_6$  (3)  $C_2H_4O$  (4)  $CH_4O$  (5)  $C_2H_4O_2$
7. 1.92 g of the hydrocarbon  $C_9H_{20}$  gave on complete combustion, 5.94 g of  $CO_2(g)$  and 2.70 g of water vapour.  
The mass of oxygen reacted is (H = 1, C = 12, O = 16)  
(1) 6.72 g (2) 4.02 g (3) 3.86 g (4) 8.64 g (5) 3.24 g
8. What is the empirical formula of a substance containing 39.02 % S, 58.54 % O and 2.44 % H ?  
(H = 1, O = 16, S = 32 )  
1)  $H_2SO_3$  2)  $H_2SO_4$  3)  $H_2S_2O_3$   
4)  $H_2S_2O_7$  5)  $HSO_4$
9. The relative molecular mass of an organic compound containing only C, H and O is 88. This compound contains 55% of C and 8% of H according to mass. The number of O atoms in a molecule of this compound is,  
1) 1 2) 2 3) 3 4) 4 5) 5
10. When 80  $cm^3$  of 0.5  $mol\ dm^{-3}$  NaCl solution, 40  $cm^3$  of x  $mol\ dm^{-3}$   $Na_2SO_4$  solution and 80  $cm^3$  of 0.2  $mol\ dm^{-3}$   $Na_3PO_4$  solution were mixed together, the concentration of  $Na^+$  ions in the solution was 0.6  $mol\ dm^{-3}$ . What is the value of x ?  
1) 0.27  $mol\ dm^{-3}$  2) 0.20  $mol\ dm^{-3}$  3) 0.45  $mol\ dm^{-3}$  4) 0.40  $mol\ dm^{-3}$  5) 0.36  $mol\ dm^{-3}$

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