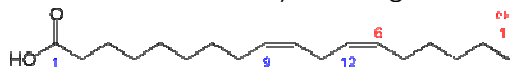


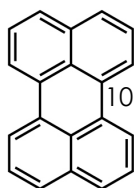
Practice Quiz
Solutions

Name _____

1. Determine the molality of 71.5 g linoleic acid, $C_{18}H_{32}O_2$, in 525 g of hexane, C_6H_{12} ?



2. A student wants to make a 0.150 M aqueous solution of silver nitrate using all of the silver nitrate in the bottle (11.27 g). What volume of solution can be prepared from this quantity of silver nitrate, $AgNO_3$?
3. What mass of urea, NH_2CONH_2 , must be dissolved in 2250 mL of water ($d = 1.00$ g/mL) to prepare a 1.50 molal solution?
4. A saline solution is 0.90% (w/w) NaCl. What masses of NaCl and water would be required to prepare 50.0 L of this saline solution. Assume that the density of water is 1.000 g/mL and that the NaCl does not add to the volume of the solution.
5. The density of ethyl acetate at 20.0°C is 0.902 g/mL. What volume of ethyl acetate at 20.0°C would be required to prepare a 2.0% by mass solution of cellulose nitrate using 25 g of cellulose nitrate? (This is not an aqueous solution.)
6. What is the mass of sulfuric acid contained in 60.00 mL of 5.85 M solution?
7. What is the mole fraction of water in a 8.2 molal aqueous solution of sodium chloride?
8. How much water would you have to add to 2.40 kg of nickel (II) sulfate hexahydrate in order to prepare a 25.00 % by mass aqueous solution?
9. An aqueous sulfuric acid solution containing 571.6 g of sulfuric acid per liter of solution has a density of 1.329 g/mL. Find the mass percentage, the mole fraction, the molality and the molarity of this solution?



10. Perylene ($C_{20}H_{12}$) is a constituent of coal tar. How many grams of perylene must be dissolved in 66.9 g of chloroform ($CHCl_3$) in order to lower the freezing point by 2.75 degrees? K_f for chloroform is 4.68°C/molal.