

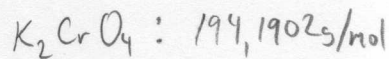
Chimie 308
Révision: Solutions (corrigé)

1. $0,24 = \frac{m}{(7504m)}$

$180 + 0,24m = m$

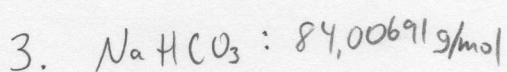
$180 = 0,76m$

$236,8421053g = m$



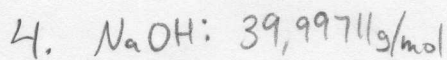
$236,8421053g \left(\frac{1mol}{194,1902g} \right) = 1,22 mol K_2CrO_4$

2. $\% V/V = \frac{20,3mL}{85,1mL} = 23,85\%$



$C = \frac{0,82 mol}{1,0 L} = 0,82 mol/L$

$69,0g \left(\frac{1mol}{84,00691g} \right) = 0,82 mol$



$C = \frac{1,430103325 mol}{0,1 L} = 14,30 mol/L$

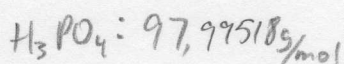
$57,2g \left(\frac{1mol}{39,99711g} \right) = 1,430103325 mol$

5. 4 tasses = 0,946 L

1 tasse = 0,2365 L \approx 236,5g

$\frac{0,3g}{236,5g} \times 10^6 = 1268,50 ppm$

6. $85\% m/V = \frac{85g}{100mL} \left(\frac{1mol}{97,99518g} \right) \left(\frac{1000mL}{1L} \right) = 867 mol/L$



7. $n = (0,1255 mol/L)(0,02646 L) = 3,32 \times 10^{-3} mol$

8. $C' = 0,3M$

$V' = 500mL$

$C = 18,0M$

$V = ?$

$V = \frac{C'V'}{C} = \frac{(0,3M)(500mL)}{18,0M} = 8,33mL$

Nous avons besoin 491,67 mL d'eau.

9. $n = (0,5L)(0,150 mol/L) = 0,125 mol$ de $C_{12}H_{22}O_{11}$

$0,125 mol \left(\frac{342,30008g}{1mol} \right) = 42,79g$

Ajouter 42,79g à 500mL d'eau.

$$10. \quad m_{\text{H}_2\text{SO}_4} = (0,97) 184\text{g} \quad \text{H}_2\text{SO}_4: 98,07948\text{g/mol}$$

$$= 178,48\text{g}$$

$$178,48\text{g} \left(\frac{1\text{mol}}{98,07948\text{g}} \right) = 1,8197\text{mol}$$

$$C = \frac{1,8197\text{mol}}{0,1\text{L}} = 18,20\text{mol/L}$$

$$11. \quad m_{\text{Cl}} = \frac{2(76000000\text{g})}{10^6} = 152\text{g}$$

$$12. \quad 2,5\text{mol} \left(\frac{39,99711\text{g}}{1\text{mol}} \right) = 99,992775\text{g}$$

$$\% \text{m/m} = \frac{99,992775\text{g}}{1000\text{g}} = 10,00\% \text{ m/m}$$

$$13. \quad \frac{15\text{g}}{100\text{mL}} = \frac{15\text{g}}{0,1\text{L}} = \frac{150\text{g}}{\text{L}} (1,5\text{L}) = 225\text{g}$$

$$14. \quad \frac{0,00025\text{g}}{1000\text{g}} \times 10^9 = 250\text{ppb}$$

$$15. \quad \frac{25,21\text{g}}{100\text{mL}} \cdot \frac{2}{5} = \frac{126,05\text{g}}{500\text{mL}} \quad \text{HCl}: 36,46064\text{g/mol}$$

$$126,05\text{g} \left(\frac{1\text{mol}}{36,46064\text{g}} \right) = 3,457152699\text{mol}$$

$$C = \frac{3,457152699\text{mol}}{0,5\text{L}} = 6,914305399\text{mol/L}$$

$$V = 500\text{mL}$$

$$C' = 1,5\text{M}$$

$$V' = \frac{6,91\text{M} \cdot 0,5\text{L}}{1,5\text{M}} = 2,30\text{L}$$