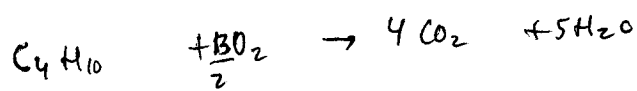


AUTOEVALUACIÓN

1)



$$M_{\text{m C}_4\text{H}_{10}} = 12 \cdot 4 + 10 = 58 \text{ g/mol}$$

$$1 \text{ mol C}_4\text{H}_{10} \text{ — } 58 \text{ g C}_4\text{H}_{10}$$

$$x = 215,51 \text{ mol C}_4\text{H}_{10} \quad 12500 \text{ g C}_4\text{H}_{10}$$

$$1 \text{ mol C}_4\text{H}_{10} \text{ — } \frac{13}{2} \text{ mol O}_2$$

$$215,51 \text{ mol C}_4\text{H}_{10} \text{ — } x = 1400,86 \text{ mol O}_2$$

$$P V = n R T$$

$$\frac{740}{760} \cdot V = 1400,86 \cdot 0,082 \cdot (273 + 27)$$

$$V = 35392 \text{ l} \approx 35,4 \text{ m}^3$$

2)

0,728 mol átomos

$$1 \text{ mol Ag} \text{ — } 107,9 \text{ g Ag}$$

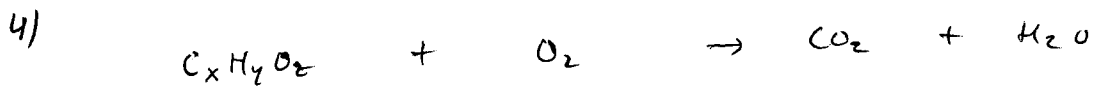
$$0,728 \text{ mol Ag} \text{ — } x = 78,55 \text{ g Ag}$$

$$6,022 \cdot 10^{23} \text{ átomos Ag} \text{ — } 107,9 \text{ g Ag}$$

$$8,92 \cdot 10^{22} \text{ átomos Ag} \text{ — } x = 15,98 \text{ g}$$

$$M_{\text{TOTAL}} = 78,55 + 11,105 + 15,98 = \boxed{105,6 \text{ g Ag}}$$

3) d) Behar beste disolbatzaile disoluzioa 1000cm³-raino heldu arte



$$M_m CO_2 = 12 + 16 \cdot 2 = 44g$$

$$M_m H_2O = 2 + 16 = 18g$$

$$44g CO_2 \text{ ————— } 12g C$$

$$5,143g CO_2 \text{ ————— } x = 1,4026$$

$$18g H_2O \text{ ————— } 2g H$$

$$0,9015g H_2O \text{ ————— } x = 0,1g H$$

$$m_{Oxigeno} = 2,573 - 1,4026 - 0,1 = 1,07g \text{ Oxigeno}$$

$$C \quad \frac{1,4026}{12} = 0,1168$$

$$H \quad \frac{0,1}{1} = 0,1$$

$$O \quad \frac{1,07}{16} = 0,0669$$

$$\frac{0,1168}{0,0669} = 1,745$$

$$\frac{0,1}{0,0669} = 1,49$$

$$\frac{0,0669}{0,0669} = 1$$

$$1,745 \cdot 4 \approx 6,98 \approx 7$$

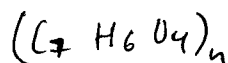
$$1,49 \cdot 4 \approx 6$$

$$1 \cdot 4 = 4$$

Formula empirica $C_7 H_6 O_4$

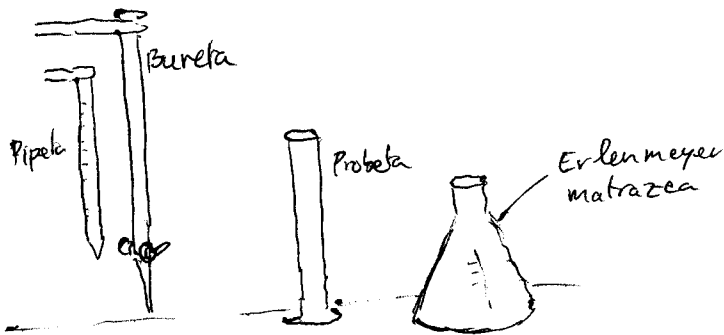
$$M_{C_7 H_6 O_4} = 12 \cdot 7 + 1 \cdot 6 + 16 \cdot 4 = 154$$

$$n = \frac{308}{154} = 2$$



Formula molecular $C_{14} H_{12} O_8$

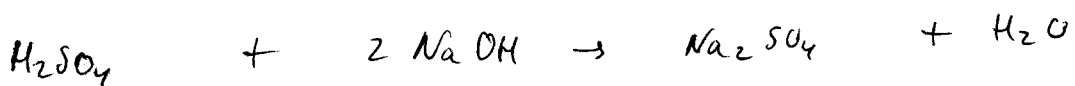
5)



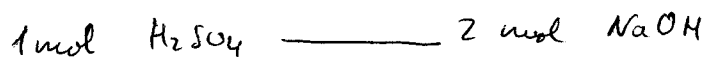
6)

$$8,87 \cdot 12 = 106,49$$

7) 10 cm^3 azido sulfuroko disoluzio kontzentratu hartu dugu. Ura gehitu diogu 200 cm^3 -ko volumena bete arte; Hartuik 25 cm^3 hartu eta balorazioa egin da, 1 Molar NaOH disoluzio gutxiak $39,7 \text{ cm}^3$ gastatuz kalkulatu disoluzio kontzentrazioa molartatuta.



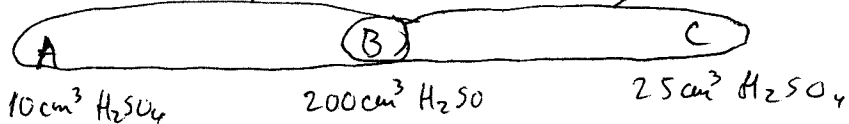
$$39,7 \text{ cm}^3 \text{ NaOH } 1 \text{ Molar} \rightarrow M = \frac{n}{V} \rightarrow 1 = \frac{n}{0,0397} \rightarrow \boxed{n = 0,0397 \text{ mol NaOH}}$$



$$x = 0,01985 \text{ mol H}_2\text{SO}_4 \quad \text{---} \quad 0,0397 \text{ mol NaOH}$$

mol kopuru bera dute

Molartasun bera dute



$$M_C = \frac{0,01985}{0,025} = 0,794 = M_B$$

$$M_B = \frac{n_B}{V_B} \rightarrow 0,794 = \frac{n_B}{0,2} \rightarrow n_B = 0,1588 = n_A$$

$$M_A = \frac{n_A}{V_A} = \frac{0,1588}{0,01} = \boxed{15,88 \text{ M}}$$

8)

$$pV = nRT$$

$$pV = \frac{m}{M_m} RT$$

$$\frac{756}{760} \cdot 0,252 = \frac{1,29}{M_m} \cdot 0,082 \cdot (273+72)$$

$$\boxed{M_m = 146 \text{ g}}$$

9) 100g HCl

$$d = \frac{m}{V} \quad 1,19 = \frac{100}{V} \rightarrow V = 84 \text{ ml}$$

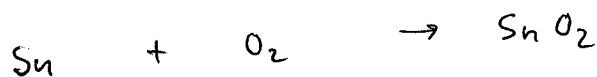
$$m_s = 100 \cdot \frac{37}{100} = 37 \text{ g} \rightarrow n_s = \frac{37}{36,5} = 1,013 \text{ mol}$$

$$M = \frac{1,013}{0,084} = \boxed{12,06 \text{ M}}$$

$$M_1 = \frac{n_1}{V_1} = \frac{M_0 \cdot V_0}{V_1} = \frac{12,06 \cdot 0,1}{0,1+V} = 0,1$$

$$V = 11,76 \approx \boxed{12 \text{ l}}$$

10)

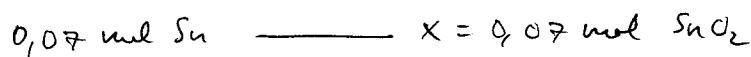
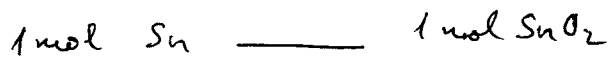


$$M_{m, \text{Sn}} = 118,7$$

$$n_{\text{Sn}} = \frac{8,32}{118,7} = 0,07 \text{ mol Sn}$$

→ erreaktivt reagiert

$$n_{\text{O}_2} = \frac{2,51}{32} = 0,0784 \text{ mol O}_2$$



$$M_{m, \text{SnO}_2} = 118,7 + 16 \cdot 2 = 150,7$$

