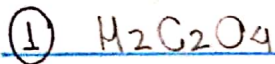


Gabriela Maria R. de Nascimento de Alcantara

Resolução: Avaliação 1

3,6734 g $H_2C_2O_4$ - 98%

$$H_2 = 2 \times 1 = 2$$

$$V_2 = 250 \text{ mL}$$

$$C_2 = 2 \times 12 = 24$$

$$O_4 = 4 \times 16 = 64$$

$$90 \text{ g/mol}$$

A- 3,6734 g $H_2C_2O_4$ - 98%

$$98 \text{ g} \text{ --- } 100 \text{ g solução}$$

$$C = \frac{3,75 \text{ g}}{0,25 \text{ L}} = 15 \text{ g/L}$$

$$3,6734 \text{ g} \text{ --- } x$$

$$0,25 \text{ L}$$

$$x = 3,75 \text{ g } H_2C_2O_4$$

B- $C_1 \cdot V_1 = C_2 \cdot V_2$

$$C_1 = 0,166 \text{ mol/L}$$

$$1 \text{ mol } H_2C_2O_4 \text{ --- } 90 \text{ g}$$

$$V_1 = 5 \text{ mL} \rightarrow 0,005 \text{ L}$$

$$x \text{ --- } 15 \text{ g}$$

$$C_2 = ?$$

$$x = 0,166 \text{ mol } H_2C_2O_4$$

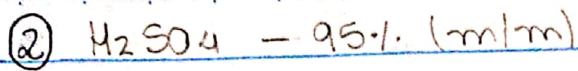
$$V_2 = 100 \text{ mL} \rightarrow 0,1 \text{ L}$$

$$C_1 \cdot V_1 = C_2 \cdot V_2$$

$$0,166 \text{ mol/L} \cdot 0,005 \text{ L} = C_2 \cdot 0,1 \text{ L}$$

$$C_2 = 0,0083 \text{ mol/L}$$

15/10/20



$$d = 1,84 \text{ g/mL}$$

$$d = \frac{m}{V}$$

$$m_m = W_n \times m_{\text{total}}$$

$$A- d = \frac{m}{V} \rightarrow m = d \cdot V \rightarrow m = 1,84 \text{ g/mL} \cdot 1.200 \text{ mL}$$
$$m = 2,208 \text{ g}$$

$$m_m = W_n \times m_{\text{total}}$$

$$m_m = 0,95 \cdot 2,208 \text{ g}$$

$$m_m = 2,097,6 \text{ g}$$

$$B- m = M_n \times V_{\text{total}}$$

$$n_{H_2SO_4} = \frac{2097,6 \text{ g}}{98,1} = 21,38 \text{ mol}$$

$$H_2 = 2 \times 1 = 2$$

$$S = 1 \times 32,1 = 32,1$$

$$O_4 = 4 \times 16 = 64$$

$$98,1 \text{ g/mol}$$

$$n_{H_2SO_4} = M_n \times V_{\text{total}}$$

$$21,38 \text{ mol} = M_n \times 1,2 \text{ L}$$

$$M_n = \frac{21,38 \text{ mol}}{1,2 \text{ L}} = 17,82 \text{ mol/L}$$

$$C- C_1 \cdot V_1 = C_2 \cdot V_2$$

$$C_1 \cdot V_1 = C_2 \cdot V_2$$

$$C_1 = 17,82 \text{ mol/L}$$

$$17,82 \text{ mol/L} \cdot V_1 = 0,25 \text{ mol/L} \cdot 0,25 \text{ L}$$

$$V_1 = ?$$

$$V_1 = 0,0035 \text{ L ou } 3,5 \text{ mL}$$

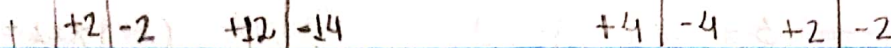
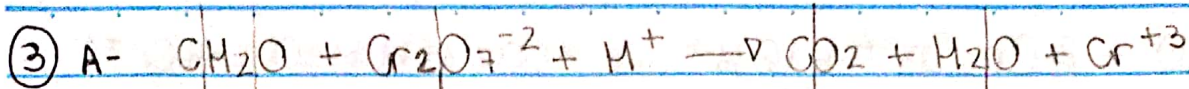
$$C_2 = 0,25 \text{ mol/L}$$

$$V_2 = 250 \text{ mL} \rightarrow 0,25 \text{ L}$$

$$1 \text{ mol } H_2SO_4 \text{ --- } 98,1 \text{ g}$$

$$x \text{ --- } 25 \text{ g}$$

$$x = 0,25 \text{ mol/L}$$



C ganha $4e^-$ - reduzido

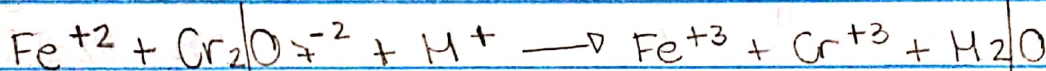
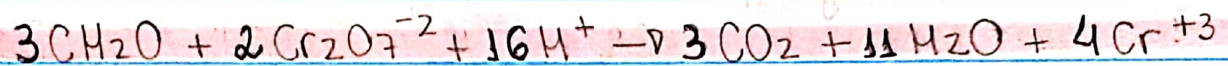
$$\text{C} = 4e^- \times 1 \text{ átomo} = \Delta 4e^-$$

Cr perde $3e^-$ - oxidado

$$\text{Cr} = 3e^- \times 2 \text{ átomos} = \Delta 6e^-$$

$$\Delta \text{C} = 4e^- \quad \left\{ \begin{array}{l} n_{\text{C}} = 6 \div 2 = 3 \\ n_{\text{Cr}} = 4 \div 2 = 2 \end{array} \right.$$

$$\Delta \text{Cr} = 6e^- \quad \left\{ \begin{array}{l} n_{\text{C}} = 6 \div 2 = 3 \\ n_{\text{Cr}} = 4 \div 2 = 2 \end{array} \right.$$



Fe ganha $1e^-$ - reduzido

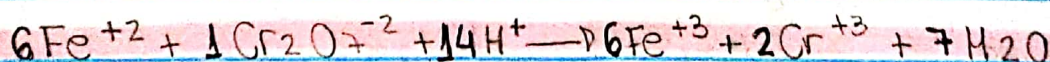
$$\text{Fe} = 1e^- \times 1 \text{ átomo} = \Delta 1e^-$$

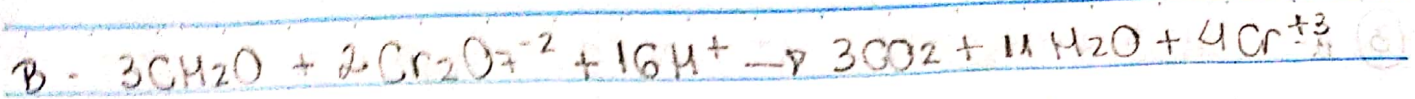
Cr₂ perde $3e^-$ - oxidado

$$\text{Cr}_2 = 3e^- \times 2 \text{ átomos} = \Delta 6e^-$$

$$\Delta \text{Fe} = 1e^- \quad \left\{ \begin{array}{l} n_{\text{Fe}} = 6 \\ n_{\text{Cr}} = 1 \end{array} \right.$$

$$\Delta \text{Cr} = 6e^- \quad \left\{ \begin{array}{l} n_{\text{Fe}} = 6 \\ n_{\text{Cr}} = 1 \end{array} \right.$$





$$C = 1 \times 12 = 12$$

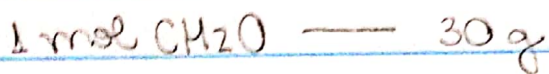
$$H_2 = 2 \times 1 = 2$$

$$O = 1 \times 16 = 16$$

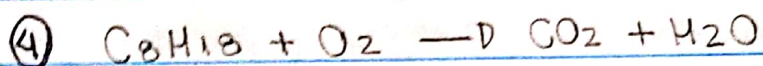


$$x = 6 \text{ mols } CO_2$$

$$30 \text{ g/mol}$$



$$y = 540 \text{ g } CH_2O$$



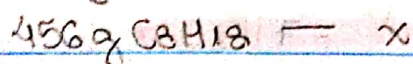
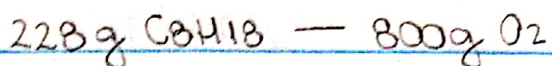
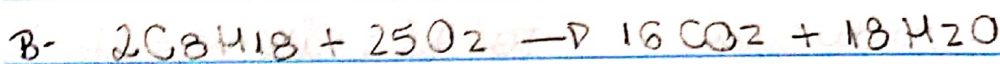
$$C_8H_{18} = 114 \text{ g/mol}$$

$$O_2 = 32 \text{ g/mol}$$

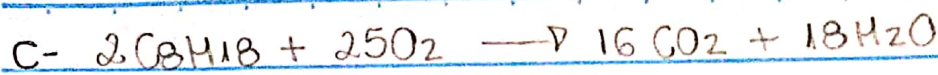


$$CO_2 = 44 \text{ g/mol}$$

$$H_2O = 18 \text{ g/mol}$$



$$x = 1.600 \text{ g } O_2$$



2 mols \rightarrow 16 mols

Estuq:	228 Kg	800 Kg	704 Kg	324 Kg
	114 Kg	32 Kg	44 Kg	18 Kg (use 100%)
	456 Kg	1600 Kg	1056 Kg	18 Kg

$$1 \text{ mol } C_8H_{18} = 114 \text{ g}$$

$$x = 456$$

$$x = 4 \text{ mol}$$

$$1 \text{ mol } CO_2 = 44 \text{ g}$$

$$x = 1056 \text{ g}$$

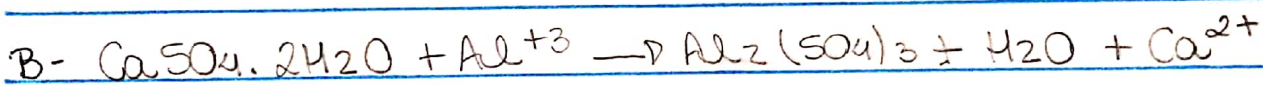
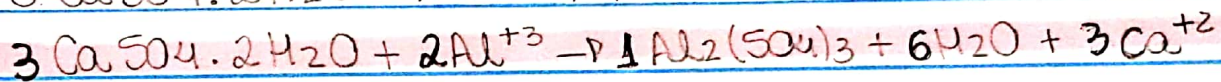
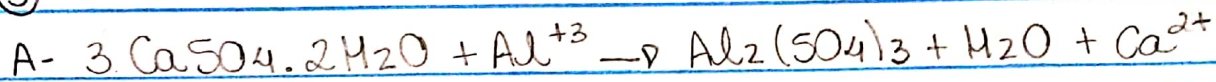
$$x = 24 \text{ mol}$$

$$R = \frac{24 \cdot 100}{32} = 75\%$$

32

4 mol \rightarrow 24 mol, mas deveria gerar 32 mol.

⑤



Estuq:	3 mols	2 mols	1 mol	6 mol	3 mol
	408,3 g	54 g	27 g	108 g	120 g

Para $CaSO_4 \cdot 2H_2O$ = 965 g $x = 127,63$ $y = 63,81$ g **EXCESSO**

$CaSO_4 \cdot 2H_2O$

Para Al^{+3} = $x = 604,88$ g 80 g $y = 40$ g **LIMITANTE**

Produto: 40 g $Al_2(SO_4)_3$

Excesso: $965 - 604,88 = 360,12$ g

Pureza $CaSO_4 \cdot 2H_2O = 1000 \cdot 0,965 = 965$ g

