

Risposte compito

1 D	11 B	21 D
2 B	12 B	22 B
3 A	13 D	23 E
4 C	14 C	24 C
5 E	15 E	25 D
6 D	16 C	26 E
7 B	17 B	27 C
8 A	18 A	28 A
9 E	19 A	29 B
10 B	20 E	30 A

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$$\text{massa atômica média} = \frac{(65 \cdot 23,28) + (25 \cdot 24,98) + (10 \cdot 25,98)}{100}$$

$$= \frac{1558 + 624,5 + 259,8}{100} = 24,42 \quad E$$

10) $PM_{NH_3} = 17 \text{ g/mol}$

$$m = \text{mol} \cdot PM = 25 \cdot 17 = 425 \text{ g} \quad B$$

14) $PA_u = 51,99 \text{ g/mol}$

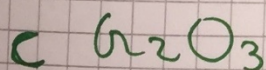
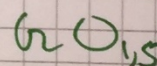
$PA_o = 16 \text{ g/mol}$

$$\text{mol}_u = \frac{2,24 \text{ g}}{51,99 \text{ g/mol}} = 0,04 \text{ mol}$$

$$\text{mol}_o = \frac{1,02 \text{ g}}{16 \text{ g/mol}} = 0,06 \text{ mol}$$

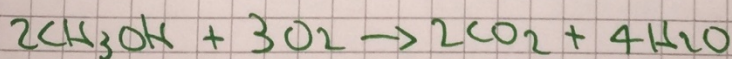
$$u_{0,04} \quad o_{0,06}$$

$$\frac{u_{0,04}}{0,04} \quad \frac{o_{0,06}}{0,04}$$



Si molt, plus x2
per rendere
interi i pedici

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Seguendo la stechiometria: $\frac{5 \text{ mol } CH_3OH}{2} = 2,5 \text{ mol } CH_3OH$

mol CO_2 :

$$3 : 4 = 6 : X$$

$$X = \frac{6 \cdot 4}{3} = 4 \quad E$$

$$\frac{6 \text{ mol } O_2}{3} = 2 \text{ mol } O_2$$

O_2 reagente limitante!!

$$(20) \quad d_{\text{glicerina}} = 1,06 \text{ g/ml} \quad V = 1 \text{ L} = 1000 \text{ ml}$$

$$\text{massa soluzione} = d \cdot V = 1,06 \text{ g/ml} \cdot 1000 = 1060 \text{ g}$$

$$25\% \text{ di } 1060 : \quad 25 : 100 = x : 1060$$

$$x = \frac{25 \cdot 1060}{100} = 265 \text{ g di glicerina}$$

$$d_{\text{solvente}} = 1060 \text{ g} - 265 \text{ g} = 795 \text{ g} \quad E$$

$$(21) \quad M = \frac{n_{\text{mol}}}{V} \rightarrow n_{\text{mol}} = M \cdot V = 2,50 \cdot 0,2 = 0,5 \text{ mol}$$

$$m(\text{g}) = n_{\text{mol}} \cdot P_M = 0,5 \text{ mol} \cdot 32 \text{ g/mol} = 16 \text{ g} \quad D$$

$$(22) \quad P_{\text{in atm}} = \frac{582000}{101325} = 5,74 \text{ atm}$$

$$V = \frac{nRT}{P} = \frac{8,5 \cdot 0,082 \cdot 298}{5,74} = 36,2 \text{ L} \quad B$$

$$(23) \quad \text{HCl } 0,200 \text{ M } 75 \text{ ml} \rightarrow n_{\text{mol}} = M \cdot V = 0,200 \cdot 0,075 = 0,015 \text{ mol}$$

$$\text{HCl } 0,450 \text{ M } 25,8 \text{ ml} \rightarrow n_{\text{mol}} = M \cdot V = 0,450 \cdot 0,0258 = 0,011 \text{ mol}$$

$$n_{\text{mol tot HCl}} = 0,015 + 0,011 = 0,026 \text{ mol}$$

$$V_{\text{tot}} = 75 \text{ ml} + 25,8 \text{ ml} = 100,8 \text{ ml} = 0,1 \text{ L}$$

$$M = \frac{n_{\text{mol}}}{V} = \frac{0,026}{0,1} = 0,26 \text{ M} \quad E$$

(24)

$$n_{\text{mol urea}} = \frac{3,50 \text{ g}}{60 \text{ g/mol}} = 0,058 \text{ mol}$$

$$m = \frac{n_{\text{mol urea}}}{\text{kg H}_2\text{O}} = \frac{0,058}{0,0983} = 0,59$$

$$\Delta t_{\text{eb}} = K_{\text{eb}} \cdot m = 0,512 \cdot 0,59 = 0,30^\circ \text{C}$$

$$t_{\text{eb}} = 100 + 0,30 = 100,30^\circ \text{C}$$