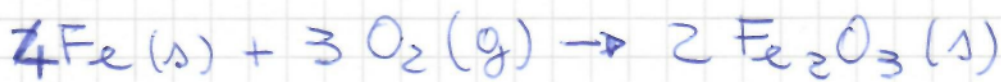
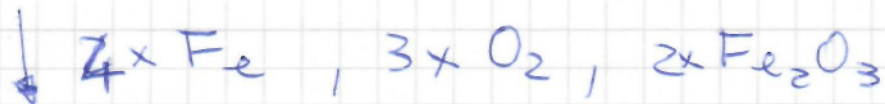
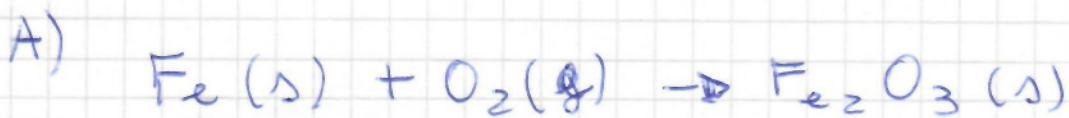


PG. 158 (11)

OSSIDO FERRO (III) Fe_2O_3



B) 2.68 g di Fe (s)

$$n_{\text{Fe}} = \frac{2.68}{55.845} = 0.0480 \text{ mol}$$

CIFRE SIGNIFICATIVE $\Rightarrow \frac{2.68}{55.8} = 0.0480 \text{ mol}$

MASSA di Fe_2O_3 :

$$\begin{aligned} M(\text{Fe}_2\text{O}_3) &= 2 \cdot 55.845 + 3 \cdot 15.999 \\ &= 159.687 \text{ g/mol} \end{aligned}$$

$$\begin{aligned} \text{MASSA}(\text{Fe}_2\text{O}_3) &= n_{\text{Fe}} \cdot \frac{2}{4} \cdot M(\text{Fe}_2\text{O}_3) \\ &= 3.83 \text{ g} \end{aligned}$$

C) MASSA di O_2

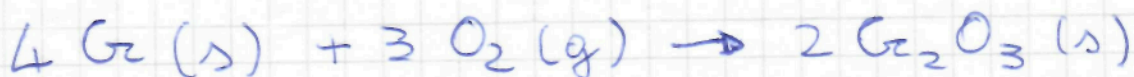
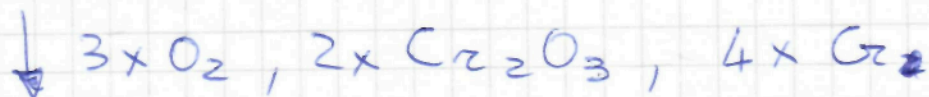
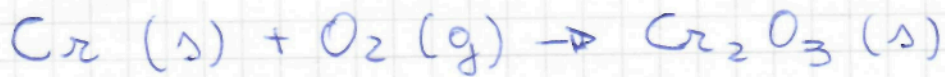
$$n_{\text{O}_2} = n_{\text{Fe}} \cdot \frac{3}{4} = 0.0360 \text{ mol}$$

$$\text{Masse}(\text{O}_2) = n_{\text{O}_2} \cdot (15.999 \cdot 2) = 1.15 \text{ g}$$

17 PG. 159

OSSIDO DI CROMO (III) Cr_2O_3

A)



B)

$$\text{MASSA (Cr)} = 0.175 \text{ g}$$

$$n_{\text{Cr}} = \frac{0.175}{51.996} = 0.00337 \text{ mol}$$

$$= 3.37 \cdot 10^{-3} \text{ mol}$$

$$n_{\text{Cr}_2\text{O}_3} = n_{\text{Cr}} \cdot \frac{2}{4} = 1.68 \cdot 10^{-3} \text{ mol}$$

$$\text{MASSA (Cr}_2\text{O}_3) = n_{\text{Cr}_2\text{O}_3} \cdot (2 \cdot 51.996 + 3 \cdot 15.999)$$

$$= 1.68 \cdot 10^{-3} \cdot 151.989$$

$$= \underline{0.255 \text{ g}}$$

C)

$$n_{\text{O}_2} = n_{\text{Cr}} \cdot \frac{3}{4} = 2.52 \cdot 10^{-3} \text{ mol}$$

$$\text{MASSA (O}_2) = 2.52 \cdot 10^{-3} \cdot (2 \cdot 15.999) = \underline{0.081 \text{ g}}$$



$$\text{MASSA}(\text{CH}_4) = 995 \text{ g}$$

$$\text{MASSA}(\text{H}_2\text{O}) = 2510 \text{ g}$$

$$\begin{aligned} \text{A)} \quad n_{\text{CH}_4} &= \frac{995}{(4 \cdot 1.008) + (12.011)} \\ &= \frac{995}{16.043} = 62 \text{ moli} \end{aligned}$$

$$n_{\text{H}_2\text{O}} = \frac{2510}{(2 \cdot 1.008) + 15.999} = 139 \text{ moli}$$

REAGENTE LIMITANTE CH_4 $n_{\text{CH}_4} < n_{\text{H}_2\text{O}}$
E COEF. STECHIOMETRICI UGUALI.

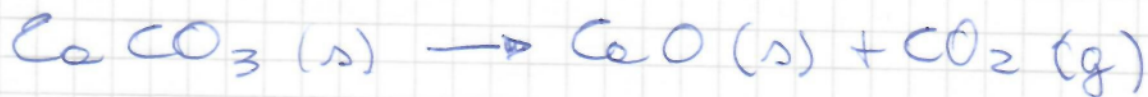
$$\text{B)} \quad n_{\text{H}_2} = 3 \cdot n_{\text{CH}_4} = 186.0 \text{ moli}$$

$$\begin{aligned} \text{MASSA}(\text{H}_2) &= 186.0 \cdot (1.008 \cdot 2) \\ &= \underline{\underline{375 \text{ g}}} \end{aligned}$$

$$\begin{aligned} \text{C)} \quad \text{MASSA DI H}_2\text{O NON REAGITA} \quad n_{\text{H}_2\text{O}} = n_{\text{CH}_4} \\ \text{moli H}_2\text{O che non reagiscono} &= 139 - 62 \\ &= 77 \text{ moli} \end{aligned}$$

$$\begin{aligned} \text{MASSA}(\text{H}_2\text{O}) &= 77 \cdot (2 \cdot 1.008 + 15.999) \\ &= \underline{\underline{1387 \text{ g}}} \end{aligned}$$

33) PG. 160



1.506 g MISCELA CaCO_3 + ALTRO

MASSA (CO_2) = 0.558 g

$$n_{\text{CO}_2} = \frac{0.558}{12.011 + 2 \cdot 15.9994}$$

$$= \frac{0.558}{44.001} = 0.0127 \text{ moli}$$

$$n_{\text{CaCO}_3} = n_{\text{CO}_2}$$

$$\text{MASSA} (\text{CaCO}_3) = (12.011 + 3 \cdot 15.9994 + 40.078)$$

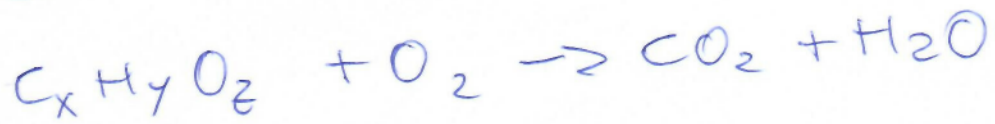
$$\cdot 0.0127$$

$$= 100.087 \cdot 0.0127$$

$$= 1.27 \text{ g}$$

$$\% \text{CaCO}_3 = 1.27 / 1.506 \cdot 100$$

$$= \underline{\underline{84.3}}$$



$$n_{CO_2} = \frac{m_{CO_2}}{PM(CO_2)} = \frac{0.1356}{12+32} = 0.00308 \text{ mol}$$

$$n_{H_2O} = \frac{m_{H_2O}}{PM(H_2O)} = \frac{0.0833}{18} = 0.00463 \text{ mol}$$

$$n_H = 2 \cdot n_{H_2O} = 0.00926 \text{ mol}$$

$$m_C = m_C \cdot 12 = n_{CO_2} \cdot 12 = 0.0370 \text{ gr}$$

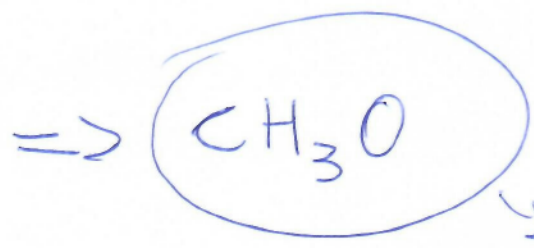
$$m_H = m_H \cdot 1 = 2 \cdot n_{H_2O} \cdot 1 = 0.00926 \text{ gr}$$

$$m_O = m_{TOT} - m_C - m_H = 0.04934 \text{ gr}$$

$$n_O = \frac{m_O}{PA(O)} = 0.00308 \text{ mol}$$

$$\frac{n_C}{n_O} = 1$$

$$\frac{n_H}{n_O} = 3$$



FORMULA MINIMA EMPIRICA

$\rightarrow 12+3+16$

$$n = \frac{P. MOLECOLARE}{P. FORMULA MIN} = \frac{62.1}{31} = 2$$

