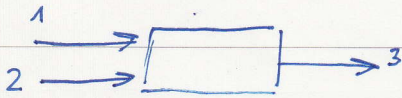
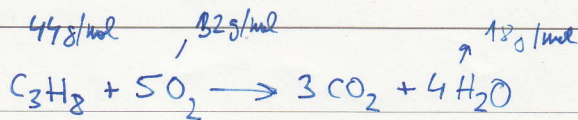


U2-12

pomocí koeficientu reakce



m_{A}	(1)	(2)	(3)
A C_3H_8	1	-	-
B O_2	-	0.233	W_{B3}
C N_2	-	0.767	W_{C3}
D CO_2	-	-	W_{D3}
E H_2O	-	-	W_{E3}
m	1 kg	m_2	m_3

1 + 6 - rovnámsch

5 bilancí

1 $\sum w_i = 1$

1 definice přebytku

$$1 = m_2 + m_3$$

$$1 \text{ mol} = \xi M_A$$

$$m_2 \cdot 0.233 = \xi \cdot 5M_B + m_3 W_{B3}$$

$$m_2 \cdot 0.767 = m_3 W_{C3}$$

$$\xi \cdot 4 \cdot M_E = m_3 W_{E3}$$

+ definice přebytku

$$w_i = \frac{x_i M_i}{\sum x_i M_i} \Rightarrow w_{\text{O}_2} \Rightarrow W_{B2} = \frac{0.21 \cdot 32}{0.21 \cdot 32 + 0.79 \cdot 28} = 0.233$$

$$w_{\text{N}_2} \Rightarrow W_{C2} = 0.767$$

$$P_B = \frac{m_B^{\text{skut}} - m_B^{\text{teor}}}{m_{\text{teor}}}$$

$$m^{\text{skut}} = m_2$$

$$m_2^{\text{teor}} \cdot 0.233 = \xi \cdot 5M_B \Rightarrow m_2^{\text{teor}} = \frac{\xi \cdot 5M_B}{0.233}$$

$$0.5 = \frac{m_2 - \xi \cdot 5M_B / 0.233}{\xi \cdot 5M_B / 0.233}$$

$$\text{z této rovnice: } \xi = \frac{1 \text{ kg}}{0.044 \text{ kg/mol}} = 22.727 \text{ mol} \Rightarrow m_2^{\text{teor}} = \frac{22.727 \cdot 5 \cdot 0.032}{0.233}$$

$$\text{z definice přebytku: } m_2 - 15.607 = 0.5 \cdot 15.607 \Rightarrow m_2 = (1 + 0.5) \cdot 15.607 = 23.41 \text{ kg-vzduch}$$