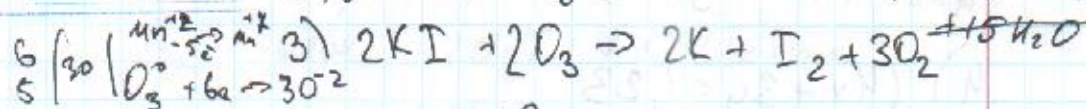
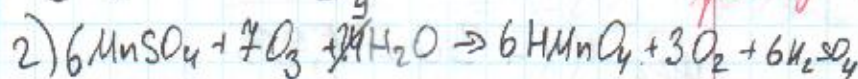
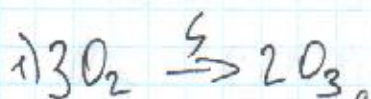


Образовавшееся вещество - озон

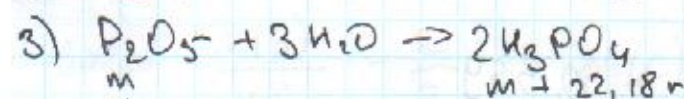
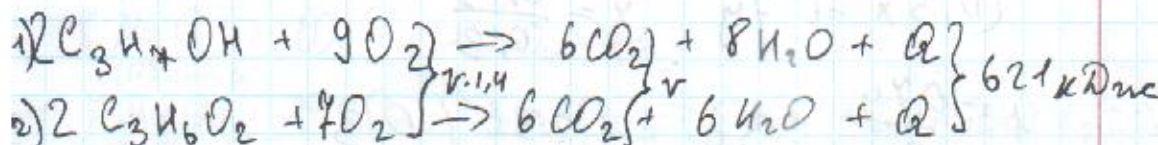
№1, 25
№2, 75
№3, 35
№4, 105
№5, 25
245

O₃

Снижение



№ 2



1) пусть $n(C_3H_8O) = x$ моль, $n(C_3H_6O_2) = y$ моль

$n_1(O_2) = 4,5x$ моль

$n_2(O_2) = 3,5y$ моль

$n_1(CO_2) = 3x$ моль

$n_2(CO_2) = 3y$ моль

$n_1(H_2O) = 4x$ моль

$n_2(H_2O) = 3y$ моль

2) $n_{общ}(O_2) = 4,5x + 3,5y$ моль

$V_{общ}(O_2) = 22,4(4,5x + 3,5y)$ л

$n_{общ}(CO_2) = 3x + 3y$ моль

$V_{общ}(CO_2) = 22,4(3x + 3y)$ л

$$\frac{V(O_2)}{V(CO_2)} = \frac{22,4(4,5x + 3,5y)}{22,4(3x + 3y)} = 1,4$$

$$4,2x + 4,2y = 4,5x + 3,5y$$

$$0,3x = 0,7y$$

$$3) n_{\text{дож}}(\text{H}_2\text{O}) = 4x + 3y$$

$$m(\text{H}_2\text{O}_5) + m(\text{H}_2\text{O}) = m(\text{H}_2\text{SO}_4) \Rightarrow m(\text{H}_2\text{O}) = 22,18 \text{ r}$$

$$n(\text{H}_2\text{O}) = \frac{22,18}{18} = 1,23 \text{ моль}$$

$$\text{Или } 4x + 3y = 1,23$$

$$4) \begin{cases} 4x + 3y = 1,23 \\ 0,3x = 0,7y \end{cases} \quad x = \frac{0,7y}{0,3}$$

$$4 \cdot \frac{0,7y}{0,3} + 3y = 1,23 \quad | \cdot 0,3$$

$$4 \cdot 0,7y + 0,9y = 0,369$$

$$3,7y = 0,369$$

$$y = 0,0997 \text{ моль} \quad x = 0,2326 \text{ моль}$$

$$n(\text{C}_3\text{H}_6\text{O}_2) = 0,0997 \text{ моль} \quad n(\text{C}_3\text{H}_8\text{O}) = 0,2326 \text{ моль}$$

$$5) M(\text{C}_3\text{H}_6\text{O}_2) = 74 \text{ r/моль}$$

$$m(\text{C}_3\text{H}_6\text{O}_2) = 74 \cdot 0,0997 = 7,3778 \text{ r}$$

$$1 \text{ r} - 20,62 \text{ кг/моль}$$

$$7,3778 \text{ r} - Q \text{ кг/моль}$$

$$Q_2 = 7,3778 \cdot 20,62 = 152,1302 \text{ кг/моль}$$

КОД 111402



$$Q_1 = 621 - 152,1302 = 468,8698 \text{ кДж}$$

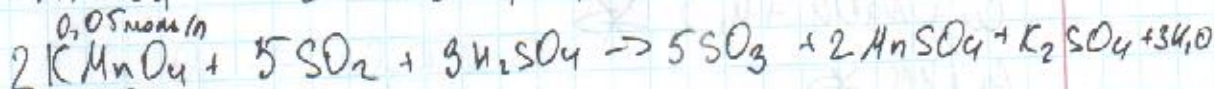
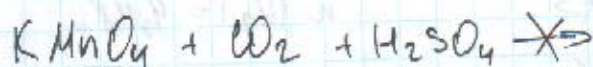
$$6) Q, 2326 \text{ моль} - 468,8698 \text{ кДж}$$

$$1 \text{ моль} - Q_3 \text{ кДж}$$

$$Q_3 = \frac{468,8698}{0,2326} = 2015,7773 \text{ кДж}$$

Ответ: 2015,7773 кДж

N3



$$\text{масса} \quad \frac{N(\text{S})}{N(\text{O})} = \frac{2}{9} \quad N(\text{C}) = \frac{1}{2} N_A$$

$$1) N(\text{C}) = \frac{1}{2} N_A = \frac{6,02 \cdot 10^{23}}{2} = 3,01 \cdot 10^{23}$$

$$n(\text{C}) = \frac{3,01 \cdot 10^{23}}{6,02 \cdot 10^{23}} = 0,5 \text{ моль}$$

$$n(\text{CO}_2) = n(\text{C}) = 0,5 \text{ моль}$$

$$2) \frac{N(\text{S})}{N(\text{O})} = \frac{6,02 \cdot 10^{23} \cdot x}{6,02 \cdot 10^{23} (2x + 2 \cdot 0,5)} = \frac{2}{9}$$

$$\frac{x}{2x+1} = \frac{2}{9}$$

$$4x+2 = 9x$$

$$x = 0,4 \text{ моль}$$

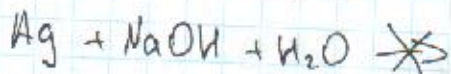
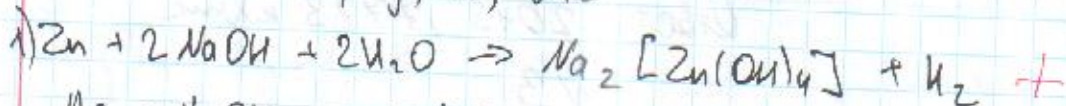
$$n(\text{SO}_2) = 0,4 \text{ моль}$$

$$n(\text{KMnO}_4) = \frac{2}{5} n(\text{SO}_2) = 0,16 \text{ моль}$$

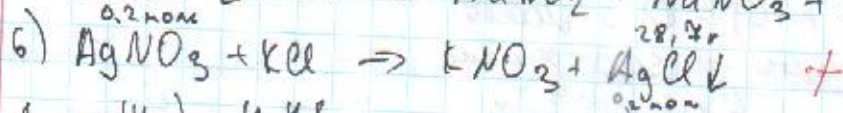
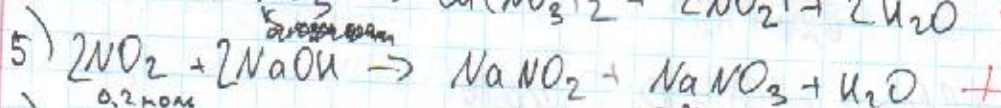
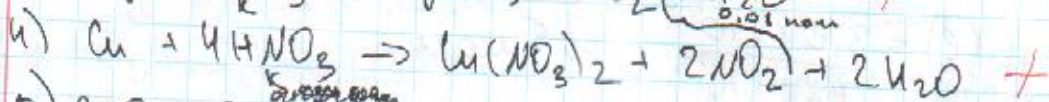
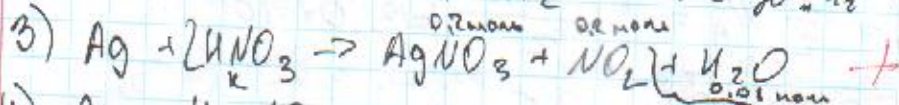
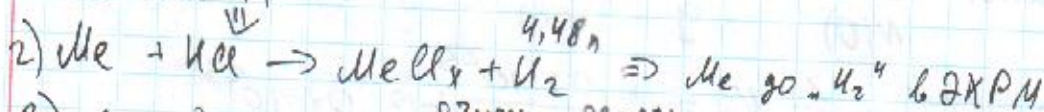
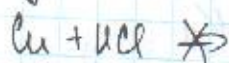
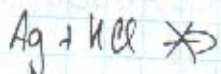
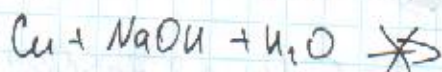
$$V(\text{KMnO}_4) = \frac{0,16}{0,05} = \underline{3,2 \text{ л}}$$

Ответ: 3,2 л

64,8 г N 4
 смесь: Zn, Ag, Cu, Me



$$n(\text{H}_2) = 4,48 \text{ л}$$



$$1. n(\text{H}_2) = \frac{4,48}{22,4} = 0,2 \text{ моль} \Rightarrow n(\text{Zn}) = 0,2 \text{ моль}$$

$$m(\text{Zn}) = 0,2 \cdot 65 = 13 \text{ г}$$

$$2) n_5(\text{NaOH}) = c \cdot V = 0,1 \cdot 0,8 = 0,08 \text{ моль}$$

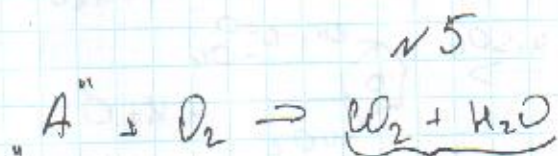
100 мл
 0,1 н

$$n(\text{NO}_2) = n(\text{NaOH}) = 0,08 \text{ моль}$$

$$3. n_6(\text{AgCl}) = \frac{28,7}{143,5} = 0,2 \text{ моль}$$

$$n(\text{AgNO}_3) = n(\text{AgCl}) = 0,2 \text{ моль}$$

$$n_3(\text{NO}_2) = n(\text{AgNO}_3) = 0,2 \text{ моль}$$



$$p = 1 \frac{\text{г}}{\text{г}}$$

$$p = 101,3 \text{ кПа}$$

$$T = 150^\circ \text{C} = 423 \text{ K}$$

По уравнению Клайперона-Менделеева:

$$pV = n \cdot R \cdot T$$

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

$$n = \frac{m}{M}$$

$$\rho \cdot \frac{m}{\rho} = \frac{m}{M} \cdot R \cdot T$$

$$\frac{\rho}{\rho} = \frac{R \cdot T}{M}$$

$$M = \frac{\rho \cdot R \cdot T}{\rho}$$

$$4,2x + 4,2u = 4,5x + 2,5$$

$$M = \frac{1 \cdot 8,314 \cdot 423}{101,3} = 34,7 \text{ г/моль}$$

бензойно "А" - OC(=O)c1ccccc1

