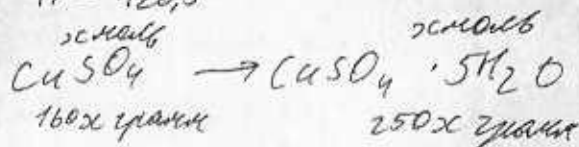


$$W(CuSO_4) = \frac{20,5}{120,5}$$



||

$$\frac{160x}{3000 + 250x} = \frac{20,5}{120,5}$$

$$19280x = 61500 + 5125x$$

$$14155x = 61500$$

$$x = 4,34475 \text{ моль}$$

$$m(CuSO_4 \cdot 5H_2O) = 4,34475 \cdot 250 = 1086,192$$

N2

$$M(b-\text{ва}) = 29 \cdot 2 \text{ моль} = 58 \text{ г/моль}$$

$$n(CO_2) = \frac{6,72}{22,4} = 0,3 \text{ моль}$$

$$n(C) = 0,3 \text{ моль}$$

$$m(C) = 0,3 \cdot 12 = 3,62$$

$$n(H_2O) = \frac{5,4}{18} = 0,3 \text{ моль}$$

$$n(H) = 0,6 \text{ моль}$$

$$m(H) = 0,62$$

$$n(C) : n(H)$$

$$0,3 : 0,6$$

$$1 : 2 \Rightarrow C_x H_{2x} O_y$$

Допустим, что O-атомы

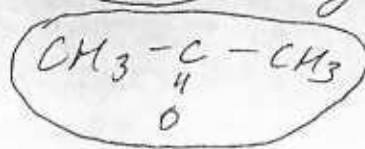
$$12x + 2x + 16 = 58$$

$$14x = 42$$

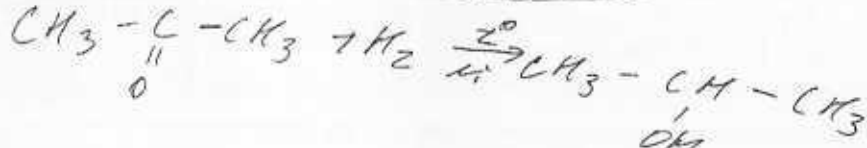
$$x = 3 \Rightarrow$$



- веу-ва А (молекулярна формула)



- веу-ва А (структурна формула)



88

105

205

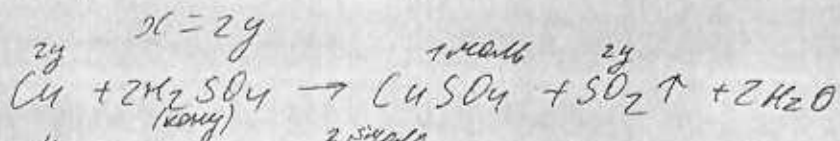
x моль Cu y моль CuO

Wангенов (Cu) = 92,31%

$$\frac{64x + 64y}{64x + 80y} = 0,9231$$

$$64x + 64y = 59,0784x + 43,848y$$

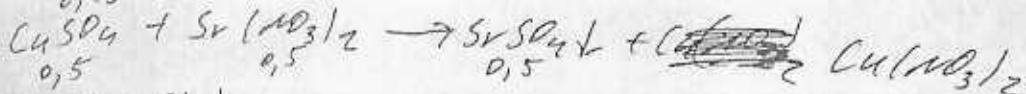
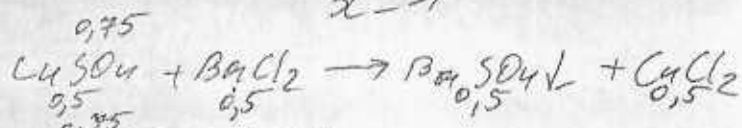
$$y,9216x = 9,848y$$



$$V(\text{SO}_2) = \frac{2,29}{22,4} = 0,1 \text{ моля}$$

$$2y = 1 \Rightarrow y = 0,5$$

$$x = 1$$



$$m(\text{BaCl}_2) = 104,2 = 7n = 0,5 \text{ моля} - \text{недостаток}$$

$$m(\text{Sr}(\text{NO}_3)_2) = 108,92 = 7n = 0,5 \text{ моля} - \text{недостаток}$$

$$n_{\text{ост}}(\text{CuSO}_4) = 0,5 \text{ моля} = 7 \text{ моль} / (\text{CuSO}_4) = 80,2$$

$$m(\text{р-ра}) = 64 \cdot 1 + 80 \cdot 0,5 + 196 - 64 \cdot 1 + 104,2 + 353 - 0,5 \cdot 233 - 0,5 \cdot 189 = 1420,52$$

$$m(\text{CuCl}_2) = 135 \cdot 0,5 = 67,22$$

$$m(\text{Cu}(\text{NO}_3)_2) = 188 \cdot 0,5 = 94,2$$

$$W(\text{CuSO}_4) = \frac{80}{1420,5} = 5,63\%$$

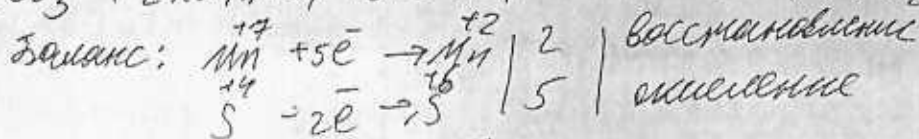
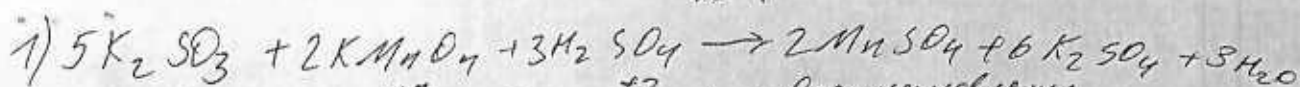
$$W(\text{CuCl}_2) = \frac{67,2}{1420,5} \cdot 100\% = 4,73\%$$

$$W(\text{Cu}(\text{NO}_3)_2) = 6,62$$

Ответ: $W(\text{CuSO}_4) = 5,63\% -$
 $W(\text{CuCl}_2) = 4,73\% -$
 $W(\text{Cu}(\text{NO}_3)_2) = 6,62\% -$

180

№4

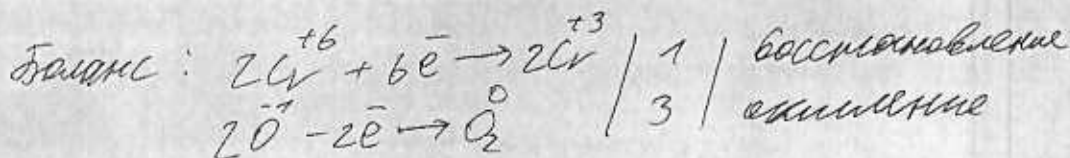


Окислитель $Mn^{+7} (KMnO_4)$

Восстановитель $S^{+4} (K_2SO_3)$

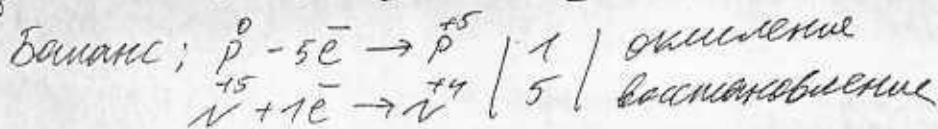
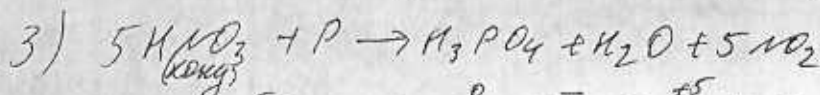


$+ 4H_2O$



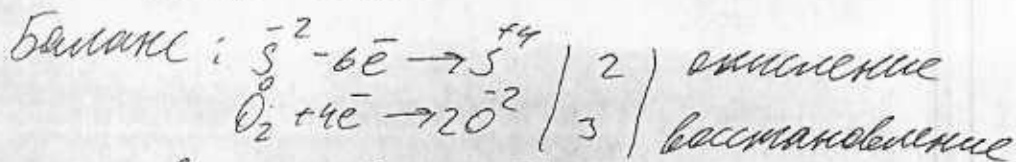
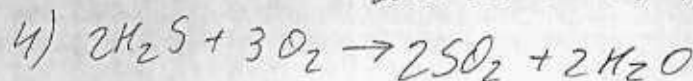
Окислитель $2Cr^{+6} (Na_2Cr_2O_4)$

Восстановитель $2O^{0} (H_2O_2)$



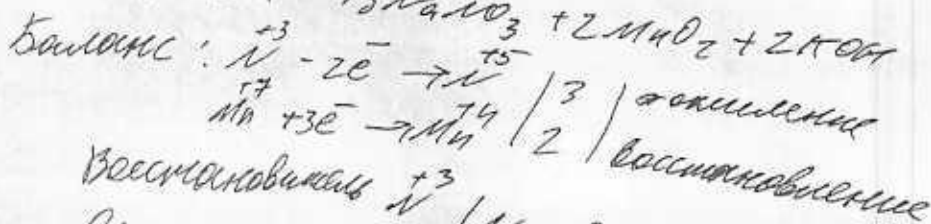
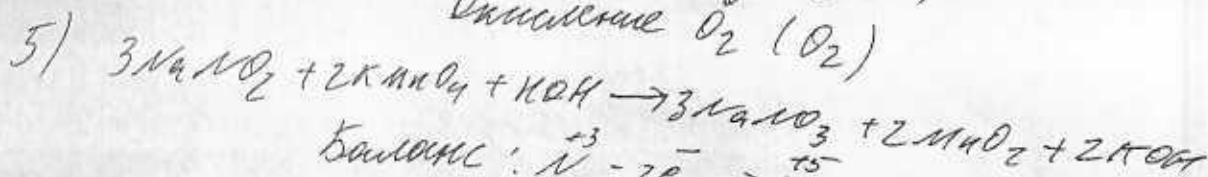
Окислитель $N^{+5} (HNO_3)$

Восстановитель $P^0 (P)$



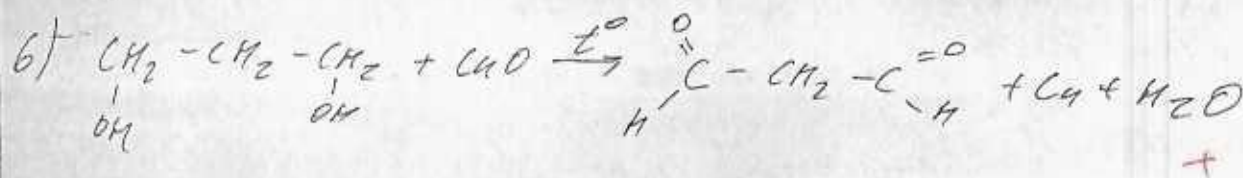
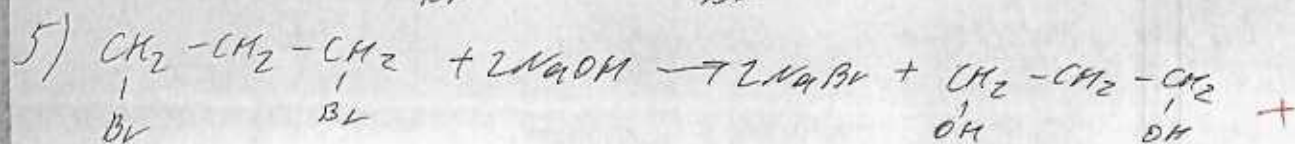
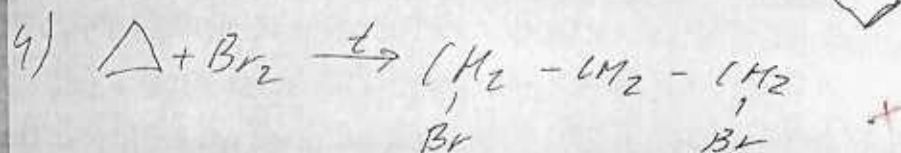
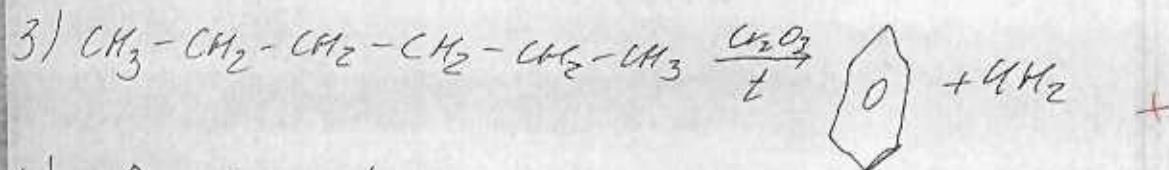
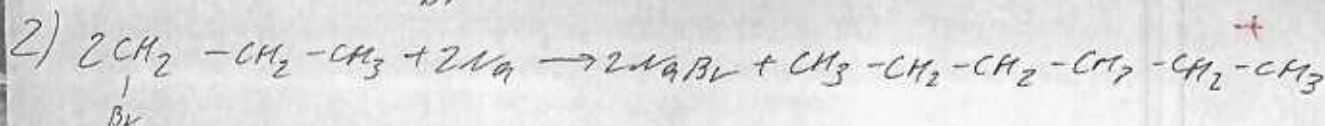
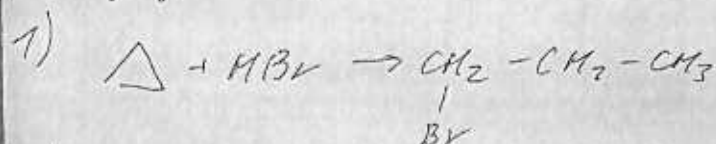
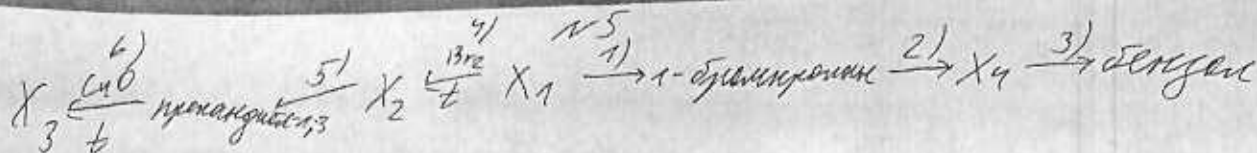
Восстановитель $S^{-2} (H_2S)$

Окислитель $O_2^0 (O_2)$



Восстановитель $N^{+3} (NaNO_2)$

Окислитель $Mn^{+7} (KMnO_4)$



$X_1 - \triangle$ - циклопропан

$X_2 - \begin{array}{c} \text{CH}_2 - \text{CH}_2 - \text{CH}_2 \\ | \quad \quad | \\ \text{Br} \quad \quad \text{Br} \end{array}$ - 1,3-дибромпропан

$X_3 - \begin{array}{c} \text{O} \\ || \\ \text{H} - \text{C} - \text{CH}_2 - \text{C} = \text{O} \\ | \quad \quad | \\ \text{H} \quad \quad \text{H} \end{array}$ - малоновый альдегид

$X_4 - \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$ - гексан

(205)