

№1.

Саватиков ИИ

Дано

$$V_{H_2O} = 3 \text{ л}$$

растворимость

при 20° $CuSO_4$

$$20,52 / 100$$

$m_{CuSO_4 \cdot 5H_2O} = ?$

$$100 \text{ г } H_2O \text{ растворяет } 20,52 \text{ г } CuSO_4$$

$$3000 \text{ г } H_2O \text{ — " — } x \text{ г } CuSO_4$$

$$x = 615,2 \text{ (г } CuSO_4)$$

$$M_r(CuSO_4) = 160$$

$$M_r(CuSO_4 \cdot 5H_2O) = 250$$

$$250 \text{ г } CuSO_4 \cdot 5H_2O \text{ сод.}$$

$$160 \text{ г } CuSO_4$$

$$x_2 \text{ — " — " — } 615,2 \text{ — " —}$$

$$x = 960,942$$

$$\text{Отв.: } 960,92$$

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№2.

Дано.

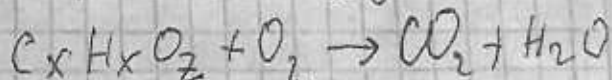
$$M_r A = 29$$

$$M_r H_2$$

$$V_{CO_2} = 6,72 \text{ л}$$

$$m_{H_2O} = 5,42$$

$$M_r A = 29 \cdot 2 = 58$$



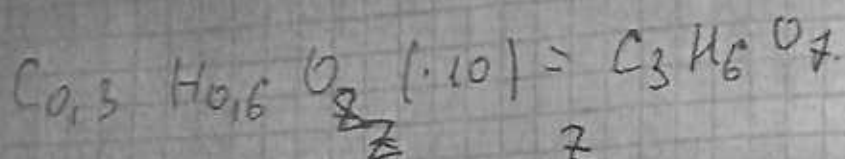
$$V_{CO_2} = \frac{V}{\frac{M_r}{V_H}} = \frac{6,72 \text{ л}}{22,4 \text{ л/моль}} = 0,3 \text{ моль}$$

$$V_{CO_2} = V_C = 0,3 \text{ моль}$$

$$m_C = 0,3 \text{ моль} \cdot 12 \text{ моль} = 0,36 \text{ г}$$

$$V_{H_2O} = \frac{m}{M} = \frac{5,42}{18 \text{ г/моль}} = 0,3 \text{ моль}$$

$$V_H = 2 V_{H_2O} = 0,6 \text{ моль} \cdot \frac{1}{2} \text{ моль} = 0,3 \text{ г}$$

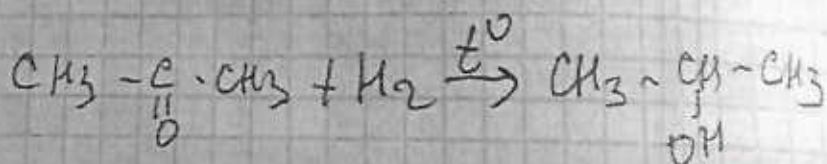
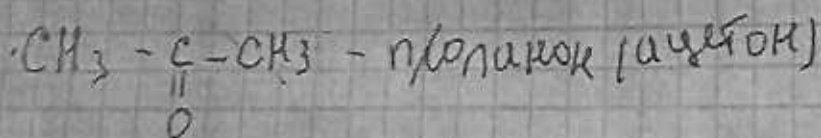
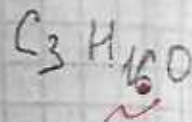


$$M_r = 58 = 12 \cdot 3 + 6 \cdot 1 + 8 \cdot 16$$

$$58 - 42 = 164$$

$$Z=1 \Rightarrow \varphi - 10$$

36



+

буто
 $\omega_{cm} = 82,5^\circ$
 тр 180

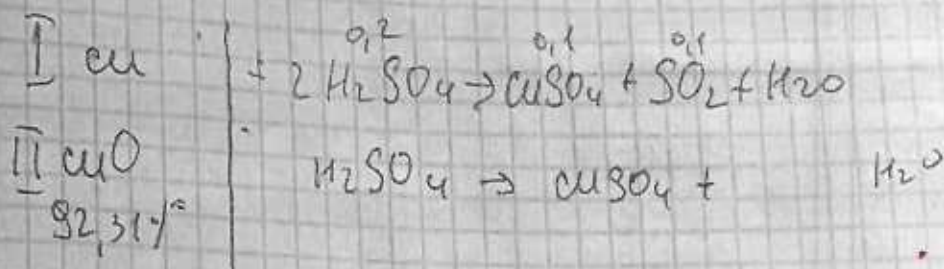
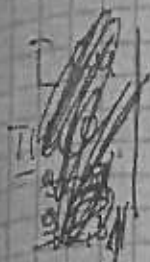
f.

№3

Смесь

W_{акт} = 82,31%

mp 490



$$n \text{H}_2\text{SO}_4 = \frac{19609}{98} = 1,8 \text{ (моль)}$$

$$n \text{SO}_2 = \frac{2,24}{22,4} = 0,1 \text{ моль} = n \text{Cu} \Rightarrow m \text{Cu} = 6,4$$

$$n \text{H}_2\text{SO}_4 \text{ II} = 1,8 \text{ моль} - 0,2 = 1,6 \text{ моль} = n \text{CuSO}_4$$

$$\Sigma \text{CuSO}_4 = 0,1 + 1,6 = 1,7 \text{ моль} \Rightarrow m$$

$$m_{\text{Cu}} = (0,1 + 1,6) \cdot 64 = 108,8(2)$$

$$82,31\% = \frac{108,8}{m_{\text{смеси}}}$$

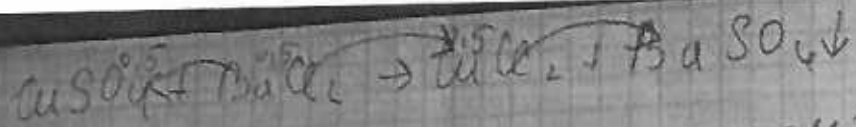
$$100\% = X$$

$$X = 117$$

$$117,862$$

масса

$$mp = m_{\text{Cu}} + m_{\text{H}_2\text{SO}_4} - m_{\text{SO}_2} = 307,462$$

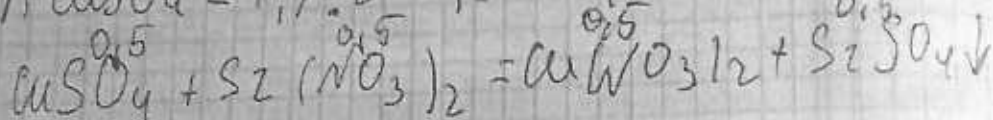


$$n \text{BaCl}_2 = 1040 : 208 = 0,5 \text{ (моль)}$$

$$m \text{CuCl}_2 = 0,5 \cdot 135 = 67,52 \quad m \text{BaSO}_4 \downarrow = 0,5 \cdot 233 = 116,5$$



$$n \text{CuSO}_4 = 1,7 : 2 - 0,5 = 0,35 \text{ (моль)} = 56,2$$



$$n \text{Si(NO}_3)_2 = \frac{355 \cdot 0,3}{212} = 0,5 \text{ моль}$$

$$m \text{Cu(NO}_3)_2 = 0,5 \cdot 188 = 94,2; \quad m \text{SiSO}_4 \downarrow =$$

$$= 0,5 \cdot 184 = 92,2$$

$$m \text{CuSO}_4 = 56,2$$

$$2 \text{ мб} - \text{мв} = 307,422 + 1040 + 353 - 92 - 116,5 =$$

$$= 1491,962$$

$$\omega \text{CuSO}_4 = \frac{182 \cdot 100}{1492} \approx 12,2\%$$

$$\omega \text{CuCl}_2 = \frac{67,5 \cdot 100}{1492} \approx 4,5\%$$

$$\omega \text{Cu(NO}_3)_2 = \frac{94 \cdot 100}{1492} \approx 6,3\%$$

$$H_2O = 100 - 4,5 - 4,5 - 6,3 = 84,7\%$$

$$\text{Orbit: } CuSO_4 = 4,5\%$$

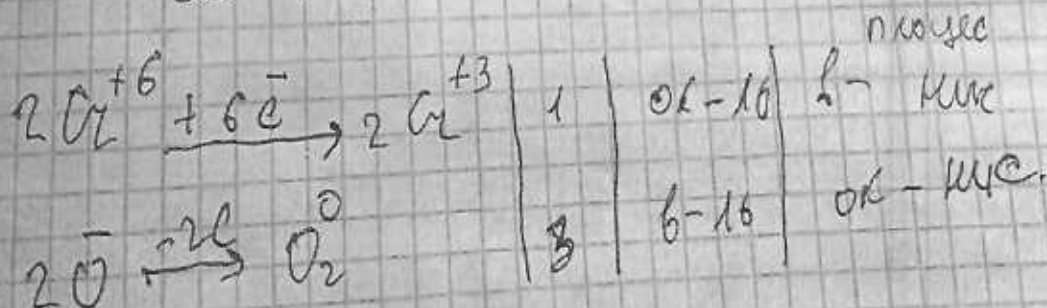
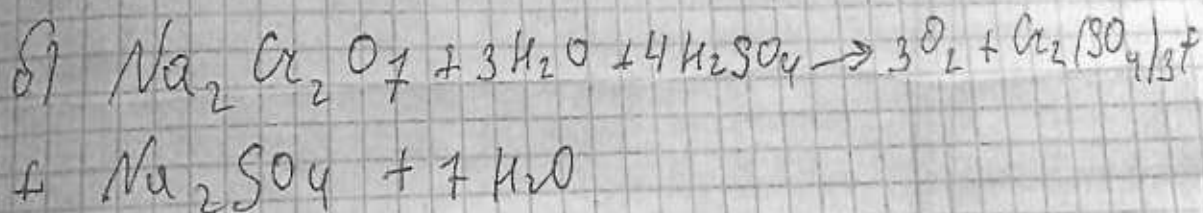
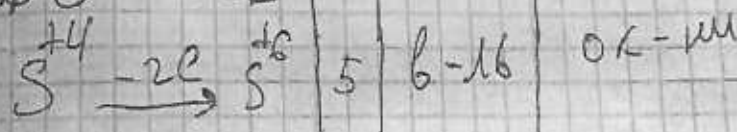
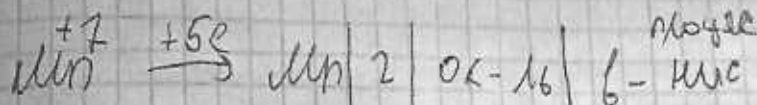
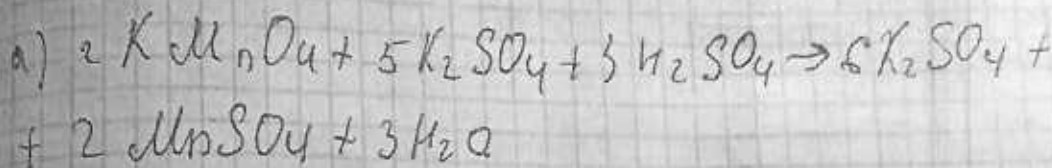
$$Cu(NO_3)_2 = 6,3\%$$

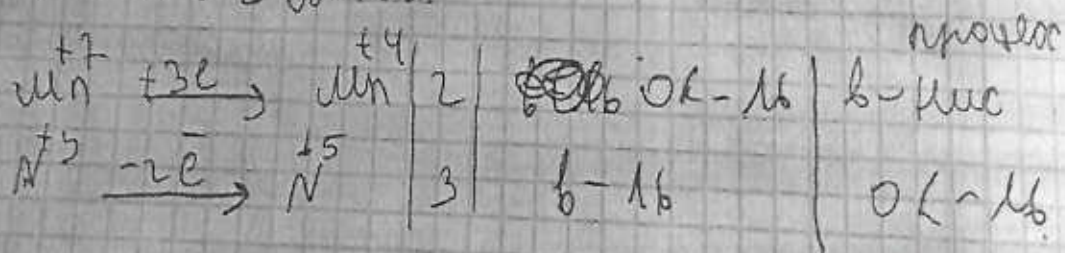
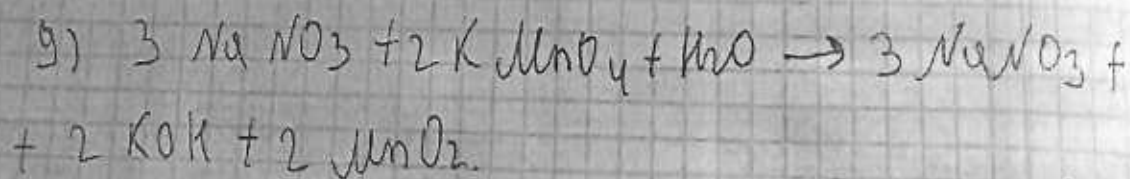
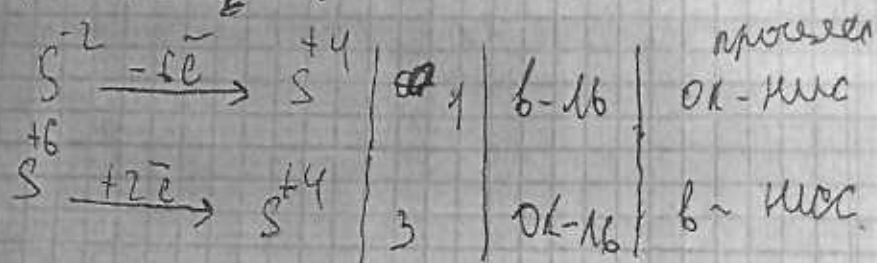
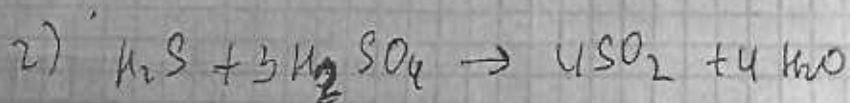
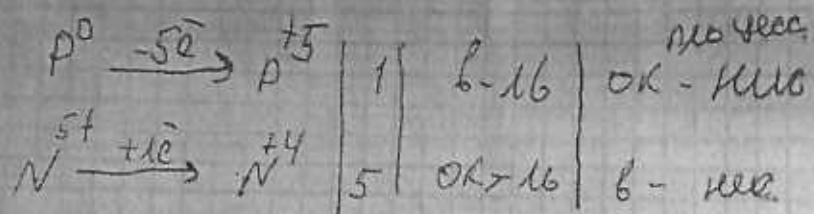
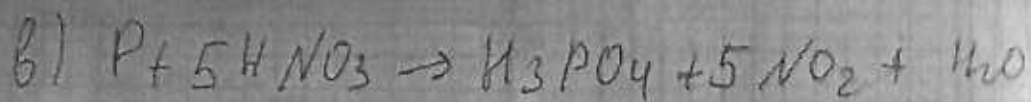
$$CuCl_2 = 4,5\%$$

$$H_2O = 84,7\%$$

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NU





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20

→ 1-Бромпропан → γ -бу → Бензол

