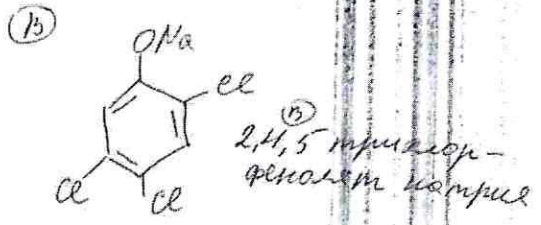
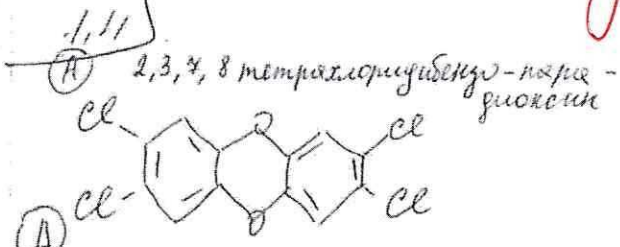


1	2	3	4	5	6	7	8	9	10
6	10	8	6	4	8	10	8	4	10

Luzul

ЧИСТОВИК
Лист № 1

ВСОШ ХИМИЯ



A) $M_r(C_{12}H_4Cl_4O_2) = 322 \text{ г/моль}$
 $n_A = 1 \text{ моль}$

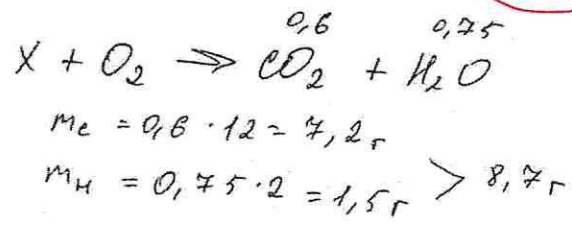
B) $M_r(C_6H_2Cl_3ONa) = 219,5 \text{ г/моль}$
 $n_B = x \text{ моль}$

1) $\frac{4 + 3x}{2 + x} = 2,2$
 $4 + 3x = 4,4 + 2,2x$
 $0,8x = 0,4$
 $x = 0,5$

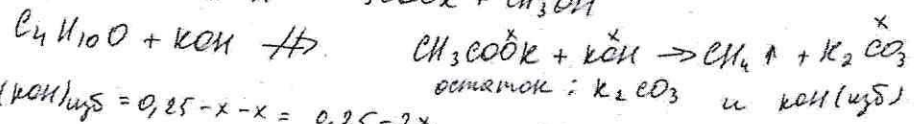
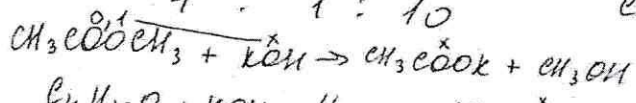
2) $w_A = \frac{322}{322 + 109,75} \cdot 100\% = 74,58\%$

3) $w_B = 25,42\%$

2.4



$m(O) = 2,4 \text{ г} \Rightarrow n = 0,15 \text{ моль}$
 $n(C) : n(O) : n(H)$
 $0,6 : 0,15 : 1,5$
 $4 : 1 : 10$
 $C_4H_{10}O$



$n(KOH)_{изб} = 0,25 - x - x = 0,25 - 2x$
 $\frac{78x + 39(0,25 - 2x)}{138x + 56(0,25 - 2x)} = 0,5873$
 $x = 0,1$

$m(CH_3COOCH_3) = 74 \cdot 0,1 = 7,4 \text{ г}$
 $m(C_4H_{10}O) = 15 \cdot 0,1 = 1,5 \text{ г}$
 $w_{C_4H_{10}O} = \frac{1,5}{7,4 + 1,5} \cdot 100\% = 50,6\%$

+ 65

105

+

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3.4

Дано:
 $h = 30 \text{ см}$
 $r = 7 \text{ см}$

$$V_1 = \pi r^2 h = 1153,95 \text{ см}^3$$

$$V_2 = 1153,95 \cdot 0,7 = 807,765 \text{ мл}$$

$$m_{\text{CH}_3\text{COOH}} = 50 \cdot 1,0666 \cdot 0,65 = 34,66 \text{ г}$$

$$c_M = \frac{0,5776}{0,807765} = 0,715 \text{ M}$$

$$n = \frac{34,66}{60} = 0,5776 \text{ моль}$$

$$K_g = 1,7378 \cdot 10^{-5}$$

$$K_g = d^2 \cdot c_M$$

$$d = \sqrt{\frac{K_g}{c_M}} = 0,00493$$

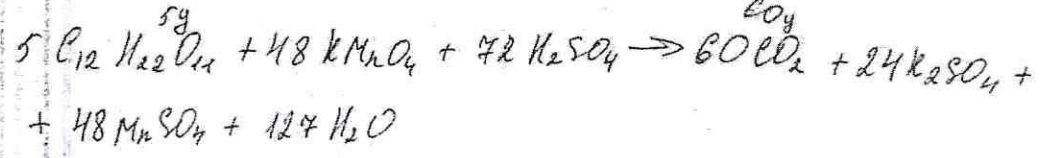
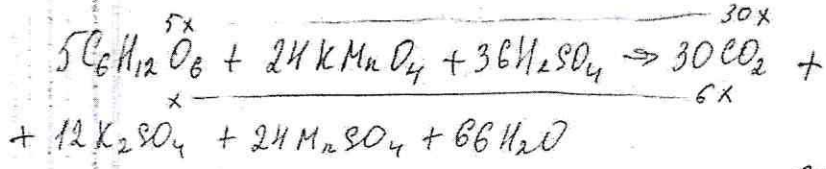
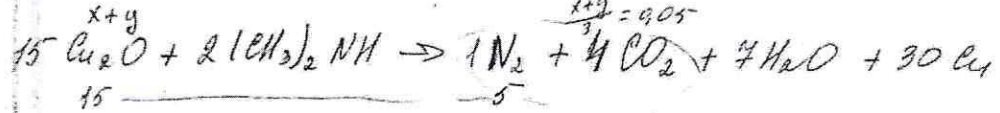
$$[H^+] = 0,715 \cdot 0,00493 = 3,525 \cdot 10^{-3}$$

$$pH = -\lg[H^+] = 2,45$$

+

8

4.4.



$$6x + 12y = 1,2$$

$$\frac{x+y}{3} = 0,05$$

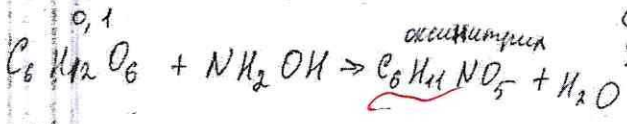
$$x+y = 0,15$$

$$\begin{cases} x+2y = 0,2 \\ x+y = 0,15 \end{cases}$$

$$\begin{cases} x+2y = 0,2 \\ x+y = 0,15 \end{cases}$$

$$y = 905 \cdot 342 = 17,1$$

$$x = 0,1 \cdot 180 = 18$$



$$m_{\text{оксимурин}} = 0,1 \cdot 0,9 \cdot 187 = 16,83 \text{ г}$$

$$+ m_{\text{мелл}} = 35,12$$

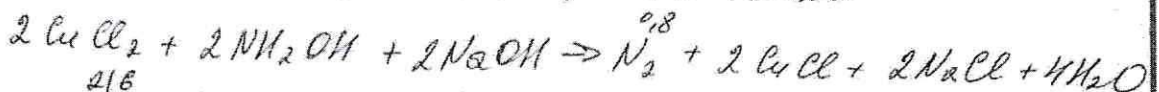
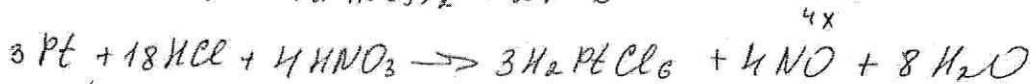
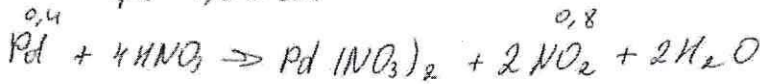
60

11x133

5.4.

$$\rho = 13032 \text{ кг/м}^3$$

$$V_{\text{шара}} = 1,02 \text{ см}^3$$



$$r = \frac{216}{135} = 1,6$$

$$\begin{cases} 4x + y = 0,086 \\ 3x \cdot 185 + y \cdot 187 = 15,46 \end{cases}$$

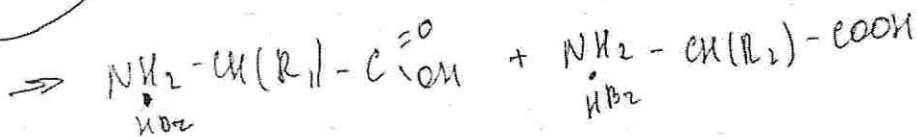
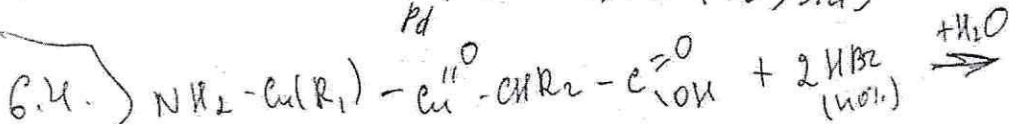
$$x = 0,017$$

$$y = 0,028$$

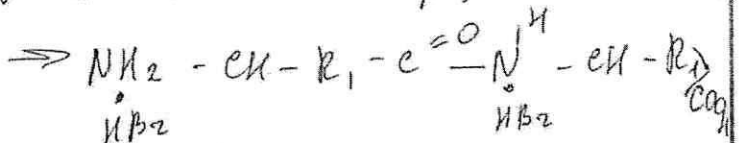
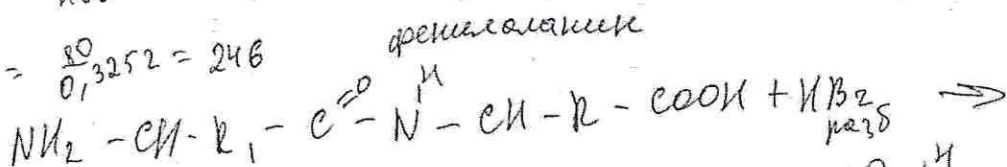
$$V_{\text{шара}} = \frac{4}{3} \pi r^3 = \frac{4}{3} \cdot 3,14 \cdot 1,02^3 = 4,44 \text{ см}^3$$

$$m_{\text{шара}} = V \cdot \rho = 4,44 \text{ см}^3 \cdot 13,032 \text{ г/см}^3 = 57,86 \text{ г}$$

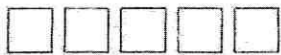
$$57,86 - 42,4 = 15,46 \text{ (Pt, Au)}$$



$$M_r = \frac{80}{0,3252} = 246$$



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МХ133

$$M_r = \frac{80}{0,18144} = 441 \text{ г/моль}$$

$$M_r(\text{гидрат}) = 441 - 162 (2H_2O) = 279 \text{ г/моль}$$

$$M_r(2AK) = 279 + 18 = 297 \text{ г/моль}$$

$$M_r(AK_1) = 165 \text{ г/моль} \rightarrow CsK_11NO_2$$

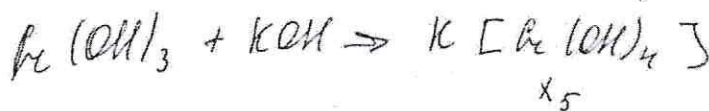
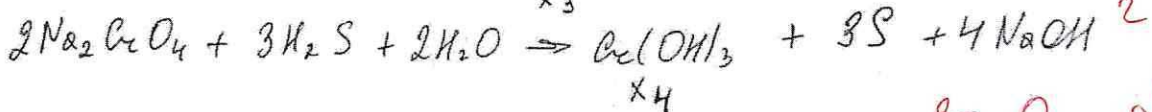
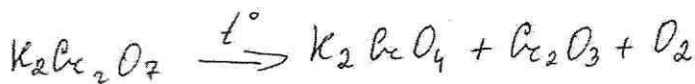
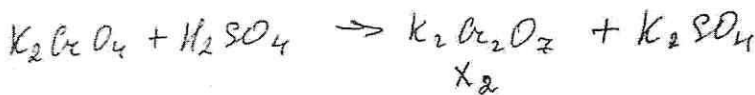
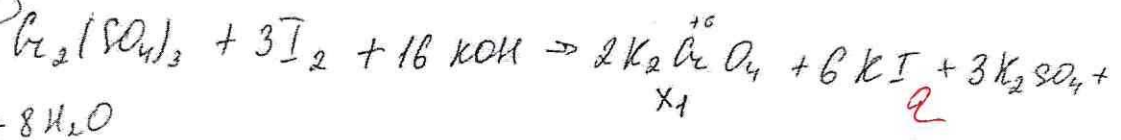
- ферригидрат

$$M_r(AK_2) = 132 \text{ г/моль} \text{ — асприновая}$$



88.

7.4

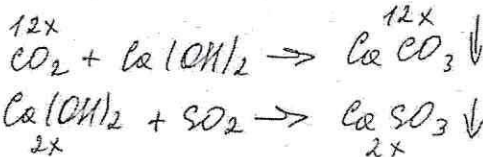
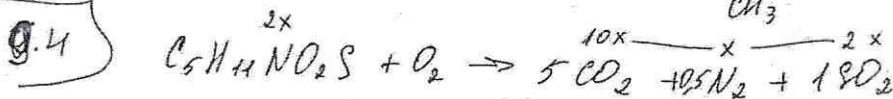
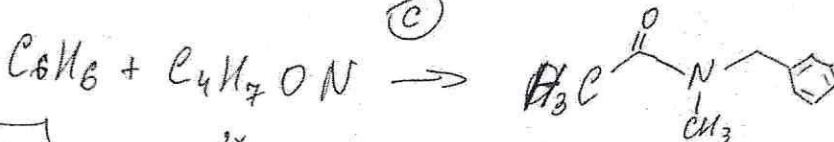
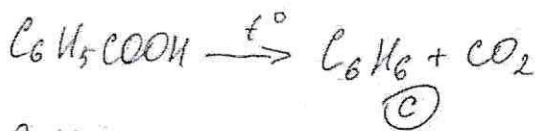
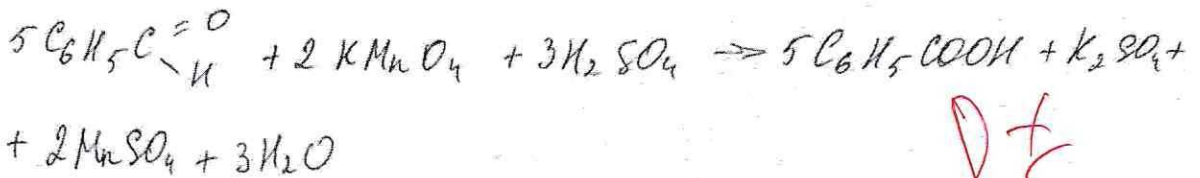
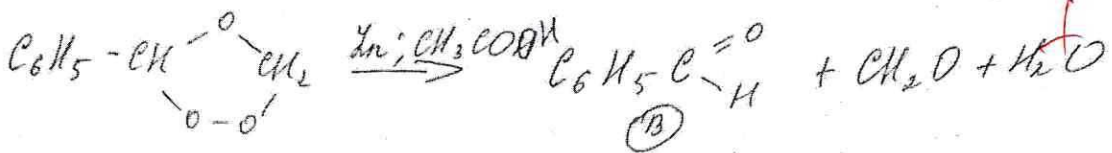
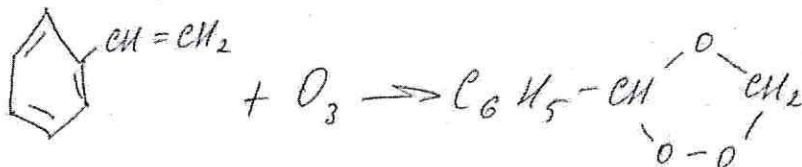
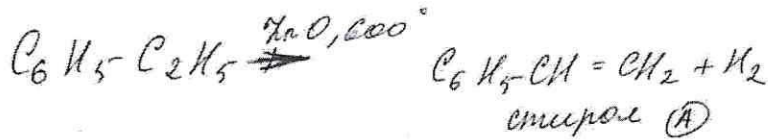


105

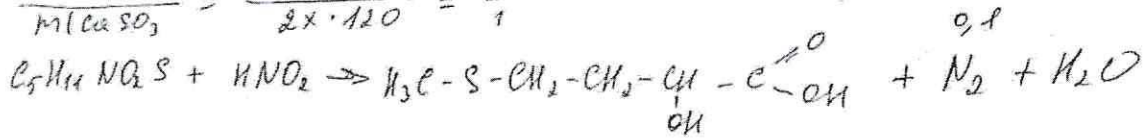
Уравнение?

$\times 133$

8.4.

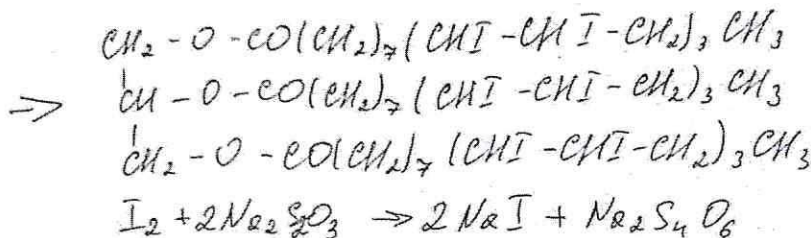
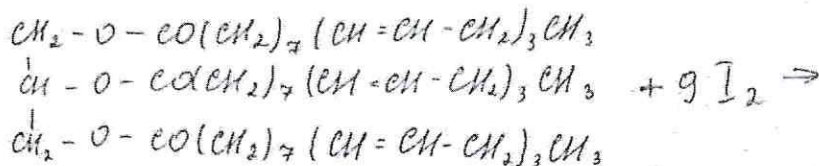
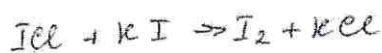


$$\frac{m(\text{CaCO}_3)}{m(\text{CaSO}_3)} = \frac{12 \times 100}{2 \times 120} = \frac{5}{1}$$



$$V(\text{N}_2) = 0,1 \cdot 22,4 = 2,24 \text{ л}$$

10. и



$$n(\text{IcCl}) = 20 \cdot 0,1 = 2 \text{ ммоль} \rightarrow n(\text{I}_2) = 2 \text{ ммоль} - n(\text{Na}_2\text{S}_2\text{O}_3)_{\text{контр}} = 4 \text{ ммоль}$$

$$n(\text{Na}_2\text{S}_2\text{O}_3)_{\text{осн.}} = 10,65 \cdot 0,25 = 2,6625 \text{ ммоль} \rightarrow n(\text{I}_2) = 2,6625 : 2 = 1,331 \text{ ммоль}$$

$$n(\text{I}_2 \text{ на масло}) = 2 - 1,331 = 0,668 \text{ ммоль} - \text{в } 0,12 \text{ масла}$$

$$n(\text{I}_2 \text{ на масло}) = (0,668 \cdot 100) : 0,1 = 668 \text{ ммоль} - \text{в } 100 \text{ г масла}$$

$m(\text{I}_2) = 0,668 \cdot 254 = 169,8$ - иодное число - льняное масло является **нел**
гидроксибензилом.

$$n(\text{C}_{17}\text{H}_{33}\text{COOH}) = n(\text{I}_2) : 3 = 0,668 / 3 = 0,223 \text{ ммоль}$$

$$m(\text{C}_{17}\text{H}_{33}\text{COOH}) = 0,223 \cdot 278 = 61,992$$

$$\omega(\text{C}_{17}\text{H}_{33}\text{COOH}) = (61,99 \cdot 100\%) : 100 \approx 62\%$$

18x133