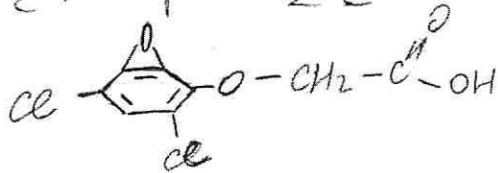


54 JM

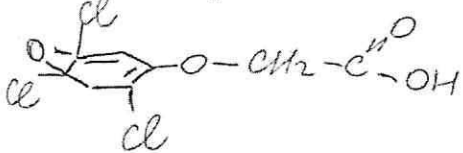
Задача 1.4.

Структурные формулы:

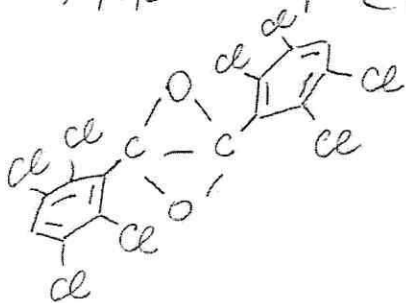
2,4-дихлорфеноксиуксусная к-та



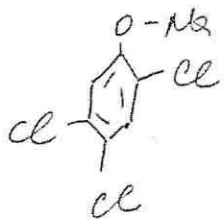
2,4,5-трихлорфеноксиуксусная к-та



2,3,7,8-тетрахлордифенилпероксид (А)



2,4,5-трихлорбензилнитрат (В)



1	2	3	4	5	6	7	8	9	10
2	2	8			10	2			20

Пусть  $m(\text{ам}) = 100\%$ .

$A = 14C; 4H; 8Cl; 2O = 488$  ч.масс

$B = 6C; 2H; 3Cl; 1Mg; 1O = 219,5$  ч.масс

Пусть  $\omega(A) = x$ , тогда  $\omega(B) = y$

$$m(A) = 100x; n(A) = \frac{100x}{488}; n(Cl) = \frac{8 \cdot 100x}{488} = 1,639x; n(O) = 0,4098x$$

$$m(B) = 100y; n(B) = \frac{100y}{219,5}; n(Cl) = \frac{3 \cdot 100y}{219,5} = 1,367y; n(O) = 0,4556y$$

$$\begin{cases} x+y=1 \\ \frac{n(O)}{m(O)} = 2,2 \end{cases}$$

$$\begin{cases} x+y=1 \\ \frac{1,639x + 1,367y}{0,4098x + 0,4556y} = \frac{2,2}{1} \end{cases}$$

$$\begin{cases} x+y=1 \\ 0,90156x + 1,00232y = 1,639x + 1,367y \end{cases}$$

$$\begin{cases} x+y=1 \\ 0,73744x = 0,36468y \\ x = 0,4945y \\ x+y=1 \end{cases} \quad x = 1-y$$

$$1-y = 0,4945y$$

$$1,4945y = 1$$

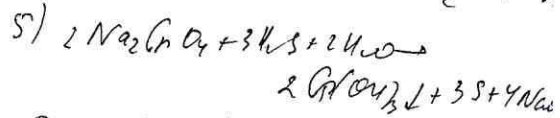
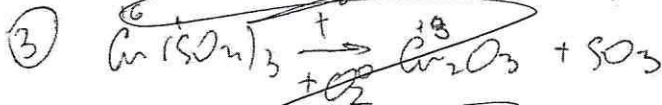
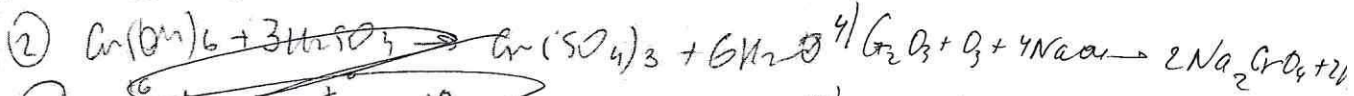
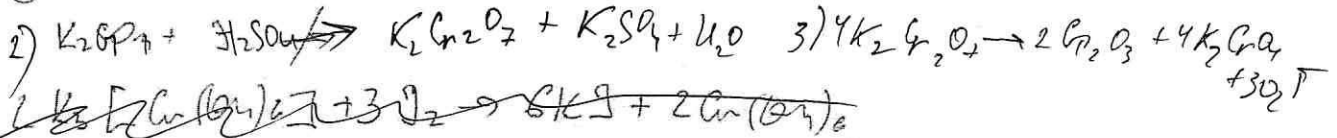
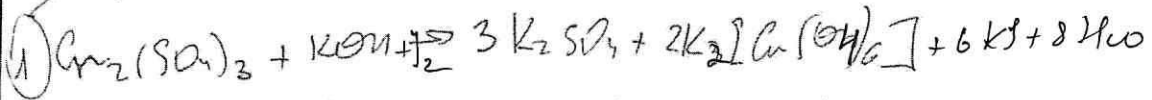
$$y = 0,669$$

$$x = 0,331$$

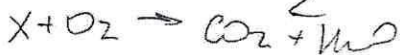
Ответ:  $\omega(A) = 33,1\%$ ;  $\omega(B) = 66,9\%$



Задание 7.4.



Задание 2.4.



$n(\text{CO}_2) = \frac{PV}{RT} = \frac{99,9 \cdot 14,72}{8,31 \cdot 295} = 0,6 \text{ моль}$

$n(\text{H}_2\text{O}) = \frac{13,5}{22,4} = 0,6 \text{ моль}$

$n(\text{C}) = 0,6 \text{ моль} = 7,2 \text{ г}$

$n(\text{H}) = 1,2 \text{ моль} = 1,2 \text{ г}$

$n(\text{O}) = 2,7 \text{ г}$

$n(\text{C}) : n(\text{H}) : n(\text{O}) = 0,6 : 1,2 : 0,16875 = 3,55 : 7,11 : 1$

$= 25 : 43 : 6$   
 $\text{C}_{25}\text{H}_{43}\text{O}_6$

Задача 3.4.

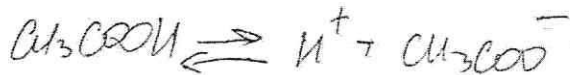
$$V_2 = S_{\text{осн}} \cdot H = 210 \text{ см}^3$$

$$V_{\text{уч. к-та}} = 50 \text{ см}^3$$

$$0,7 V_2 = 147 \text{ см}^3$$

$$n(\text{CH}_3\text{COOH}) = \frac{50 \cdot 1,0566 \cdot 0,65}{60} = 0,5777 \text{ моль.}$$

$$c(\text{CH}_3\text{COOH}) = \frac{0,5777}{147} = 0,0039 \text{ моль/л}^3$$

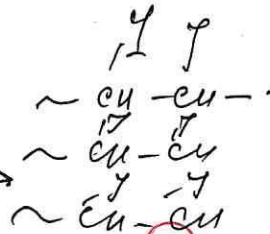
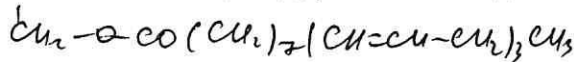
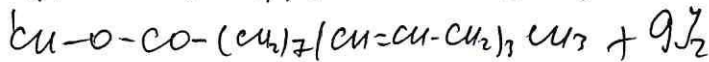
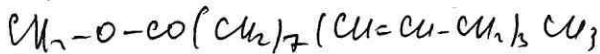


$$c.pK_a = 0,018564$$

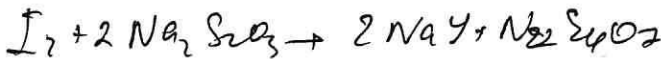
$\text{pH} = 2,43$   
~~2,45~~

8.

Задача 10.4.  $\text{I}_2 + \text{KI} = \text{I}^- + \text{K}^+$



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$$n(\text{I}_2) = 2 \text{ моль}$$

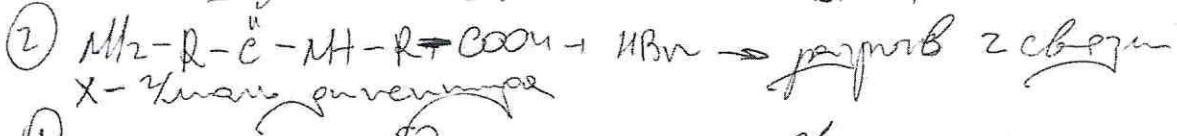
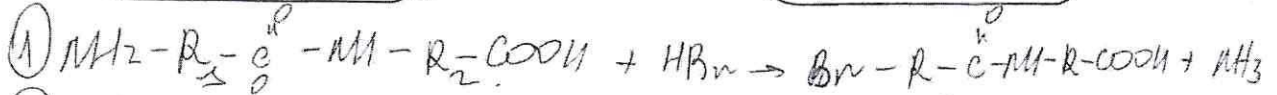
$$n(\text{I}_2)_{\text{осн}} = 1,1$$

$$n(\text{I}_2)_{\text{в масс}} = 2 - 1,1 = 0,9 \text{ моль} = 0,9 \cdot 254 = 228,6 \text{ г}$$

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$$m(\text{I}_2) = 0,9254 = 228,6 \text{ кероф.}$$

$$w(\text{C}_{17}\text{H}_{29}\text{COOH}) = 83 \%$$



①  $0,3252 = \frac{80}{x+80-17} \quad x = 183 \text{ моль}$

②  $0,18141 = \frac{80}{183 + x} \quad x = 441 \text{ моль}$

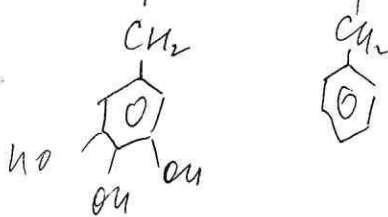
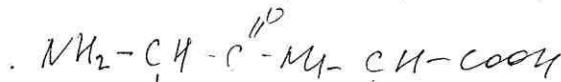
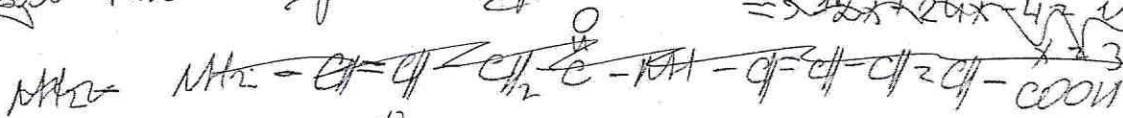
①  $R_1 + R_2 = 104 \text{ моль}$

②  $R_1 + R_2 = 362 \text{ моль}$

② - ①  $= 258 \text{ моль} = x Br + x H$

$258 = 80x + x = 81x \quad x = 3,225 \rightarrow$  всего bonds

Рассмотрим структурную формулу:  $C_n H_{2n-4} \rightarrow 3 \text{ связи}$   
 $= 5 \cdot 18x + 24x - 4x = 104$



+ 105