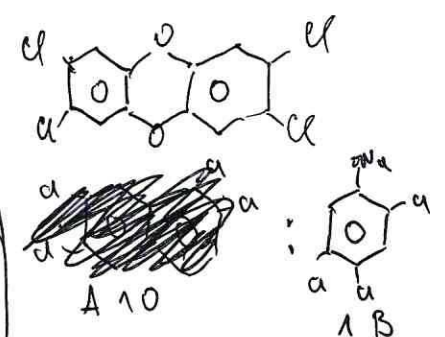


рул *725 руб.*

1	2	3	4	5	6	7	8	9	10
6	6	6				12	12	12	18

1.4
Даны
 $M_A : M_B = 10:1$
 $m = 100g$
 $\frac{m_{Cl}}{m_{Na}} = ?$



66,4

~~$M(A) = 266,2 / \text{моль}$~~
 ~~$M(B) = 219,52 / \text{моль}$~~
 ~~$M(A+B) = 485,52 / \text{моль}$~~

$\sqrt{Cl} = 43$
 $m(Cl) = 1526,5$
 $m(Na) = 23$
 $\frac{m(Cl)}{m(Na)} = \frac{1526,5}{23} = 66,4$

~~$\nu_{A+B} = \frac{100g}{485,52 \text{ моль}} = 0,2 \text{ моль}$~~
 ~~$m(Na) = 23 \cdot 0,2 = 4,62$~~
 ~~$m(Cl) = 248,5 \cdot 0,2 = 49,72$~~
 ~~$\frac{m_{Cl}}{m_{Na}} = \frac{49,72}{4,62} = 10,8 \text{ раз}$~~

Ответ: 10,8 раз

3.4

Дано

$\omega\%_H = 3,45\%$

$m_{H_2O} : m_{CO_2} = 7 : 11,889$

$V_{NaOH} = 200 \text{ мл}$

$M_{Br_2} = 162$

$\omega\%$ — ?
измерено



Пусть $m_{H_2O} = 12$, тогда $m_{CO_2} = 11,889$

$\nu_{H_2O} = \frac{1}{18} = 0,05 \text{ моль} \Rightarrow \nu_H = 0,1 \text{ моль}$

$\nu_{CO_2} = \frac{11,889}{44} = 0,27 \text{ моль} \Rightarrow \nu_C = 0,27$

$m_{C+H} = 0,1 \cdot 1 + 0,27 \cdot 12 = 3,24$

$M_0 = 10,32$

$\nu_O = 0,6 \text{ моль}$

$\nu_C : \nu_H : \nu_O = 0,27 : 0,1 : 0,6 = 1 : 1 : 6$

$M_{\text{соль}} = 103,2 \text{ г/моль}$

$3,45 = \frac{1n}{103} \cdot 100\%$

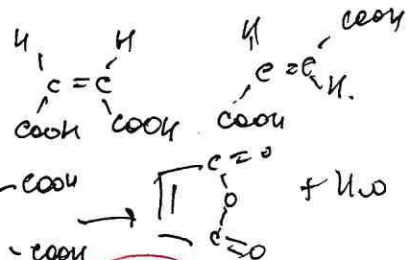
$3,7605 = 1n \Rightarrow C_7H_4O_4$

$n = 4$

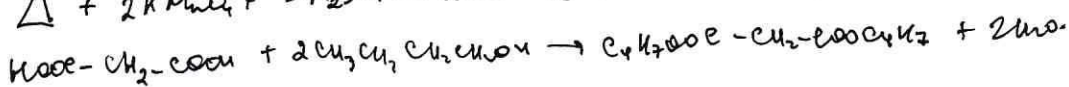
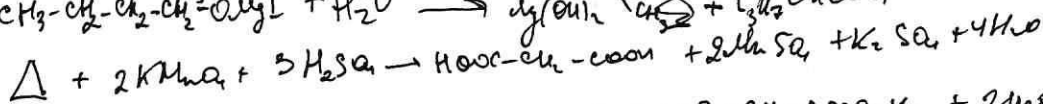
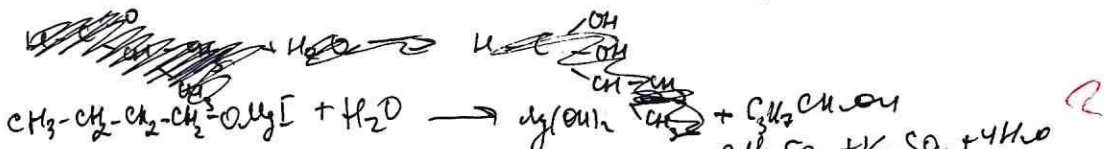
$\nu(H_2O) = 0,085$

$\omega(\text{укс}) = 85\%$

$\omega(\text{укс}) = 15\%$



3.4



СЕЧЕНОВСКИЙ
УНИВЕРСИТЕТ



Handwritten red numbers: 2, 12

№ 2,4

Дано

$m = 0,12 \text{ г } 1 \text{ мл}$

$\omega_{\text{H}_2\text{O}} = 0,9\%$

Наи

$m_{\text{p-ре}} = 0,4 \text{ мз/мл}$

~~$M_{\text{вещества}} = 1 \cdot 12 + 4 + 2 \cdot 16 = 40 \text{ г/моль}$~~

~~$V_{\text{вещества}} = 10 \cdot 0,4 = 4 \text{ мл}$~~

$m = 100 \text{ мг}$

$V = \frac{100}{0,4} = 250$

$V(\text{ф.р-ра}) = 250 - 10 = 240$

$\approx 20\% - 50\% \Rightarrow \approx 40\% - 25\% \approx 60\% - 12,5\%$

$(25 + 12,5)/2 = 18,75 \quad (40 + 60)/2 = 50$

+

№ 8.4 $\bar{M} = 1,61 \cdot 224 = 26$

$\nu(\text{NH}_3) = x \quad \nu(\text{F}_2) = y$

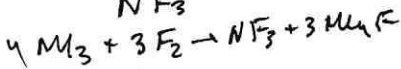
$y = 0,45x$

$\nu(\text{NH}_3) : \nu(\text{F}_2) = 4 : 3$

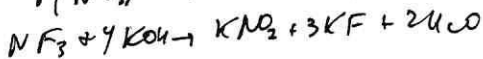
$M(\text{NF}_3) = 31,55 \cdot 20 = 71$

$14 + 19n = 71 \quad n = 3$

NF₃



$\nu(\text{NF}_3) = x$



$\nu(\text{KNO}_2) = x$

$m(\text{KNO}_2) = 85x$

$\nu(\text{KF}) = 3x$

$m(\text{KF}) = 174x$

$m_{\text{смеси}} = 259x$

$\omega(\text{KNO}_2) = \frac{85x}{259x} = 32,8\%$

$\omega(\text{KF}) = 100 - 32,8 = 67,2\%$

12

12

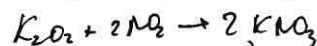
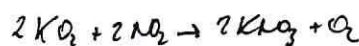
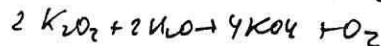
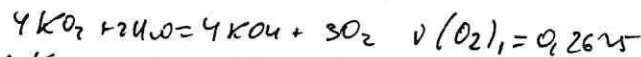
1,75

№ 9.4.

$\nu(\text{K}) = 0,45$

$\nu(\text{O}_2) = 0,45 \cdot \frac{2}{3} = 1,2 \quad \nu(\text{O}) = 0,75$

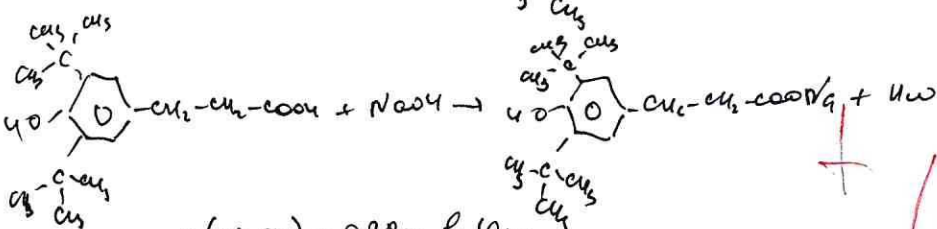
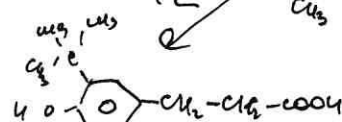
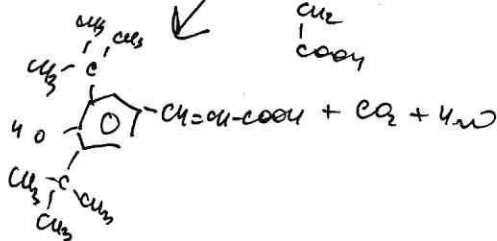
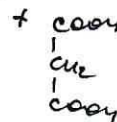
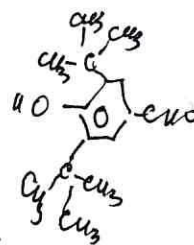
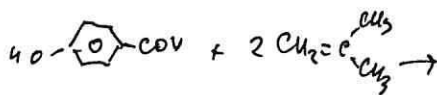
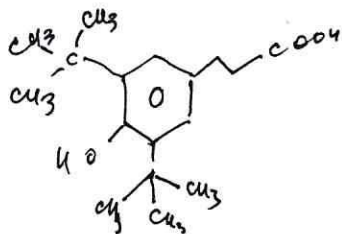
$\nu(\text{O}_2) = 0,75/2 = 0,375$



$\nu(\text{O}_2)_2 = 0,15 \quad \frac{\nu_1}{\nu_2} = 1,75$



10.4



$\rho(\text{NaOH}) - 0.28 - \rho(10\text{мл.})$
 $1.4 - 0.50\text{мл}$

$d(\text{C}_{17}\text{H}_{20}\text{O}_3) = 1.1$
 $m(\text{C}_{17}\text{H}_{20}\text{O}_3) = 389.2$

$\omega = 97.3\%$

97.3%

185

