

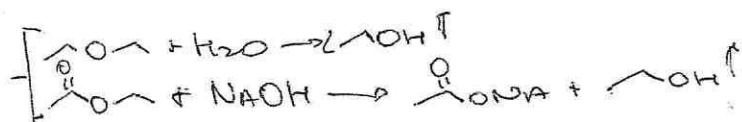
5259

ЧИСТОВИК
 Лист № 1

ВСОШ Химия

ЗАДАНИЕ 2.1

X - CCOC(=O)C серный эфир, диэтиловый эфир



$n(\text{NaOH}) = 0,091 \cdot 2,75 = 0,25025 \text{ моль}$

$n(\text{Na}^+) = 0,25025 \text{ моль}$

$m(\text{Na}^+) = 5,756 \text{ г}$

$\text{Na}^+ \quad 5,756 \text{ г} \quad - 45\%$

$\text{C}_2\text{H}_5\text{COO}^- \quad 7,055 \text{ г} \quad - 55\%$

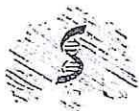
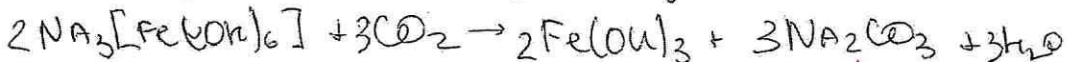
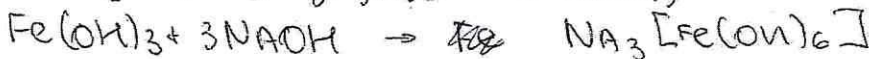
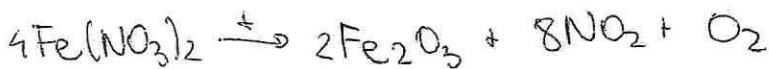
$n(\text{C}_2\text{H}_5\text{COO}^-) = 0,12 \text{ моль}$

$n(\text{C}_2\text{H}_5\text{COOC}_2\text{H}_5) = 0,12 \text{ моль}$

$m(\text{C}_2\text{H}_5\text{COOC}_2\text{H}_5) = 10,5 \text{ г}$

$w(\text{C}_2\text{H}_5)_2\text{O} = \frac{15 - 10,5}{15} = 30\%$

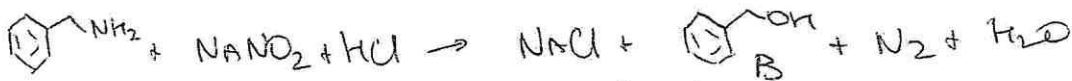
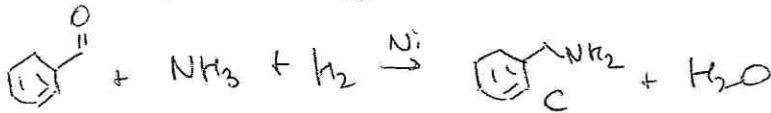
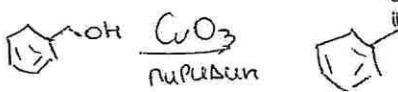
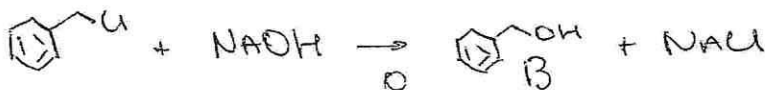
ЗАДАНИЕ 7.1



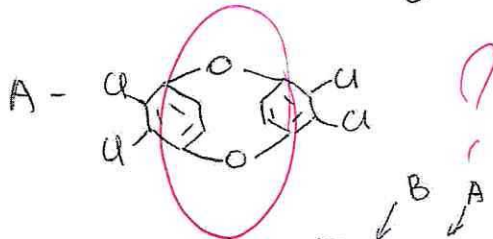
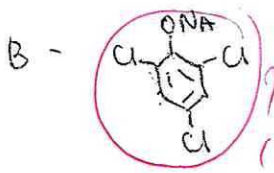
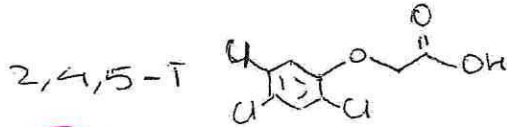
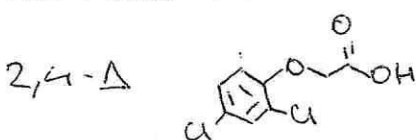
**СЕЧЕНОВСКИЙ
УНИВЕРСИТЕТ**
11
X
106

1	2	3	4	5	6	7	8	9	10
4	4	5	0	3	1	12	12	2	10

ЗАДАНИЕ 8.1



ЗАДАНИЕ 1.1



СОСТАВИМ СИСТЕМУ УРАВНЕНИЙ

$$\begin{cases} x + y = 1 \\ \frac{6x + 12y}{3x + 4y} = 2,7273 \end{cases} \quad \begin{matrix} \swarrow B \\ \searrow A \end{matrix}$$

$x = 0,333 \text{ моль}$
 $y = 0,667 \text{ моль}$

$$\omega(B) = \frac{0,333 \cdot (219,5)}{0,333 \cdot (219,5) + 0,667 \cdot (322)} = 25,4\%$$

$$\omega(A) = 100\% - 25,4\% = 74,6\%$$



ЗАДАНИЕ 3.1

$$V(\text{цилиндра}) = \left(\frac{1\text{DM}}{2}\right)^2 \cdot 3,1415 \cdot 2\text{DM} = 1,57\text{л.}$$

~~V(стержня)~~

$$V(\text{вода}_{\text{дис}}) = 1,57 \cdot 0,6 = 0,942\text{л.}$$

$$V(\text{NH}_3) = 0,942 \cdot 15,5 = 14,601$$

$$n(\text{NH}_3) = \frac{14,601}{22,4} = 0,6518\text{моль}$$

$$m(\text{P-PT}) = 942 + 0,6518 \cdot 17 = 953\text{г.}$$

если принять $\rho(\text{раствора}) = 1\text{кг/л} =$
 $V(\text{P-PT}) = 0,953\text{л.}$

$$C(\text{NH}_3) = \frac{0,6518}{0,953} = 0,68395\text{M}$$

$$pK_b = \frac{[\text{NH}_4^+][\text{OH}^-]}{C - [\text{NH}_4^+]} \Rightarrow \frac{x^2}{C - x} = 4,76$$

$$\frac{x^2}{0,68395 - x} = 4,76$$

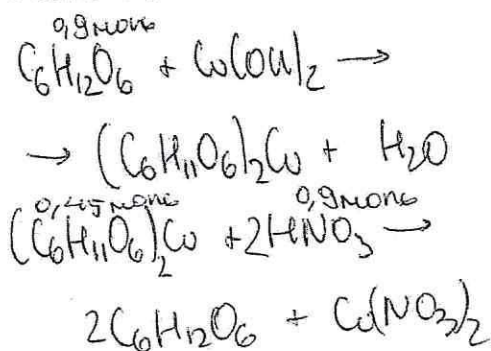
$$3,255602 - 4,76x = x^2$$

$$x^2 + 4,76x - 3,255602 = 0$$

$$x = 0,60663$$

$$pH = 14 + \lg[x] = \underline{13,783}$$

ЗАДАНИЕ 4.1



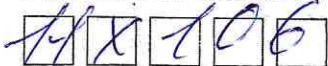
$$m(\text{смеси}) = 0,9 \cdot (180) = 162\text{г.}$$

$$V(O_2) = \frac{0,02942 \cdot 101300}{8,31 \cdot 298} = 1,2\text{моль}$$

ф-н ? мальтоза
галактоза ?

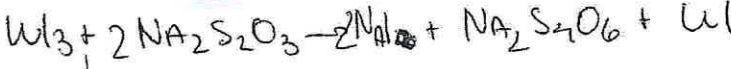
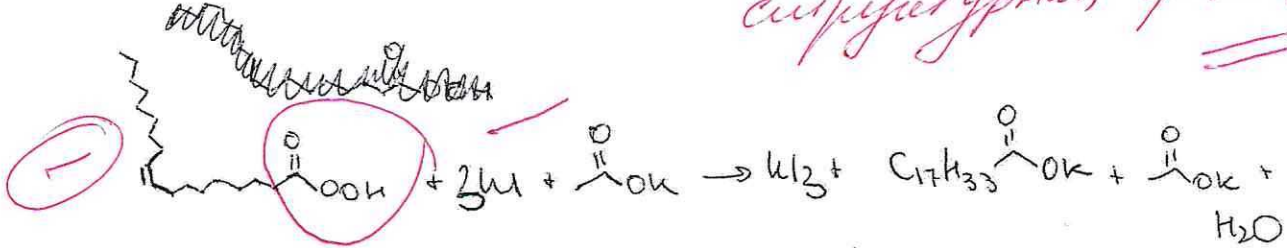


СЕЧЕНОВСКИЙ
УНИВЕРСИТЕТ



ЗАДАНИЕ 10.1

структурная ср-ла?



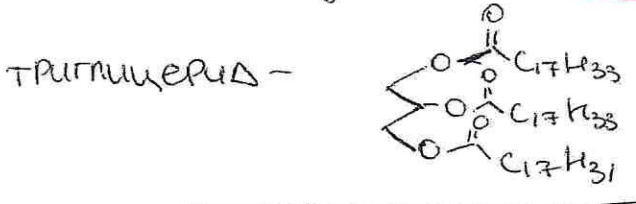
основн. 0,0000125 моль
контр. 0,000005 моль

$\Delta(n) = 0,000012$ моль
 $n_{\text{в гидрпер.}} = 0,000012$ моль

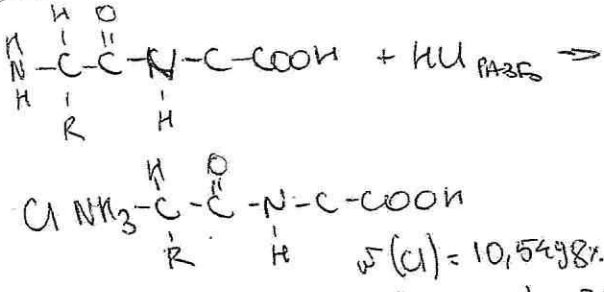
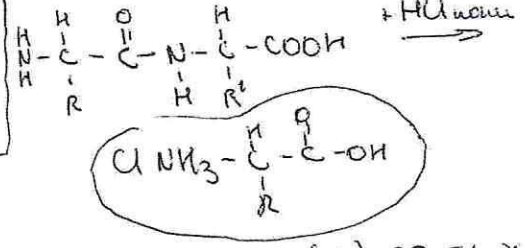
$$I_p = \frac{0,000012 \cdot 1000}{0,005} = 2,4 \text{ ммоль/кг. } (+)$$

Доброша цветенное

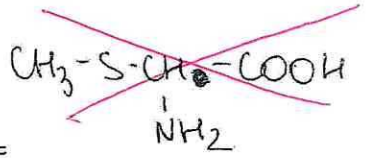
$$w(O) = \frac{0,000012 \cdot 16}{5} = 0,00384\% ?$$



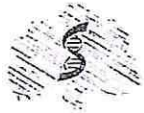
ЗАДАНИЕ 6.1



$w(Cl) = 22,54\%$
 $M(\text{соль}) = 157,5 \Rightarrow$
метоксин



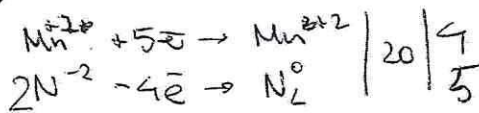
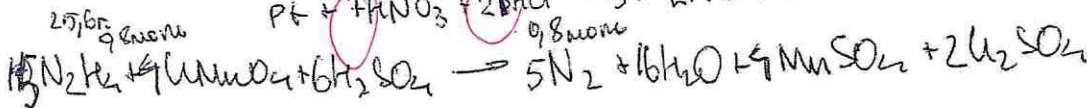
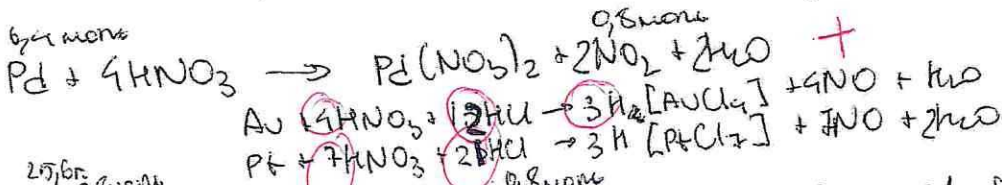
$M(\text{пептида}) = 336,5 - 35,5 = 301$
 $M(\text{второй А-У}) = 301 + 18 - 121 = 198$



ЗАДАНИЕ 5,1

$$V(\text{шахта}) = \frac{1}{3} \cdot 0,012^2 \cdot 3,1415 \cdot 0,03 = 0,00000452 \text{ м}^3$$

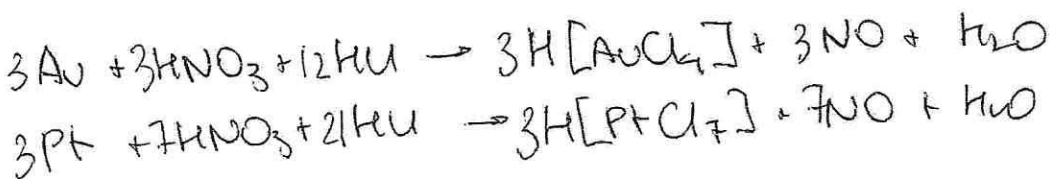
$$m(\text{шахта}) = 0,00000452 \cdot 12800 = 0,0579 \text{ кг} \Rightarrow 57,9 \text{ г}$$



$$w(\text{Pd}) = \frac{42,4}{57,9} = 73,23\%$$

$$\begin{array}{l} x - \text{моль Au} = 0,066 \text{ моль} \\ 7 - \text{моль Pt} = 0,013 \text{ моль} \end{array}$$

$$\begin{array}{l} x \cdot \frac{1}{3} = 0,096 \\ 197x + 195y = 15,5 \end{array}$$



$$w(\text{Au}) = \frac{197 \cdot 0,066}{57,9} = 22,46\%$$

$$w(\text{Pt}) = \frac{0,013 \cdot 195}{57,9} = 4,38\%$$

