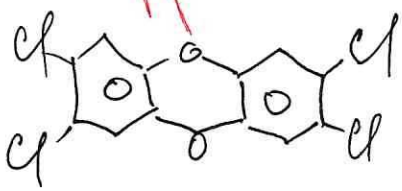
ЧИСТОВИК
Лист № _____

ВСОШ Химия

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

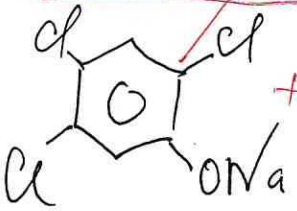
1.1



$\nu(Cl) = 43$

$m(Cl) = 1526{,}5$

$m(см) = 3439{,}5$



+

$\omega(Cl) = 44{,}58\%$ +

$m(Cl) = 44{,}38$ гр.

2.1 $m = 50$; $V = 100$; $V(\text{р-р}) = 95$

16 г – 50 % → 32 г → 25 %.

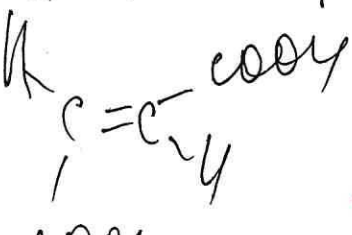
ср.ар. $(16+32)/2 = 24$ будет 37,5 %.

ср.ар. 28 → 31,25 %. +

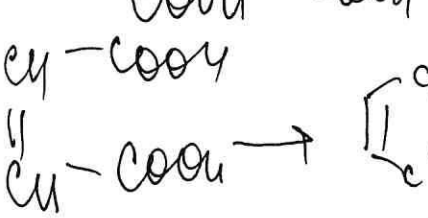
3.1. $\nu(CO_2) = 2\nu(H_2O)$ $\nu(C) = \nu(H)$ → $C_nH_nO_m$

$16m = 0{,}5(7(13n + 16m)$ → $C_4H_4O_4$

$\nu(C_4H_4O_4) = 0{,}02$. $\nu(KOH) = 0{,}04$ $\nu(H_2) = 0{,}02$



+



$\nu(H_2O) = 0{,}011$

$\omega(1) = 55\%$

$\omega(2) = 45\%$.

10 X 01 5

5.1

$Ca(OH)_2 \rightarrow Ca^{2+} + 2OH^-$

$K_s = c(Ca^{2+}) \cdot c^2(OH^-)$

$c(Ca^{2+}) = x$

$c(OH^-) = 2x$

+

$x = 1{,}16 \cdot 10^{-2}$

$m(Ca(OH)_2) = 1{,}16 \cdot 10^{-2} \cdot 74 = 0{,}856$ г в 1 л

$V = 2 \cdot 1 / 0{,}856 = 2{,}34$ л.

$pOH = -\lg(OH) = 1{,}64$

$pH = 14 - 1{,}64 = 12{,}36$

7.1. $CH_3-\overset{\overset{O}{\|}}{C}-CH_3 + C_2H_5MgBr \rightarrow (CH_3)_2C(OMgBr)CH_2CH_3$

$CH_3-\overset{\overset{OMgBr}{|}}{C}-CH_2CH_3 + H_2O \rightarrow CH_3-\overset{\overset{OH}{|}}{C}-CH_2CH_3 + Mg(OH)Br$

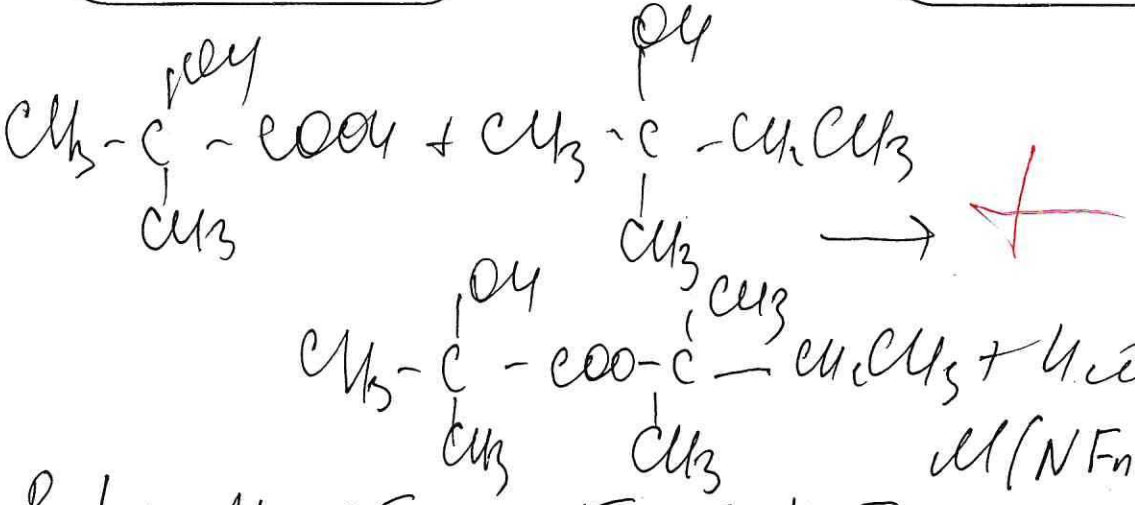
CH_3 CH_3

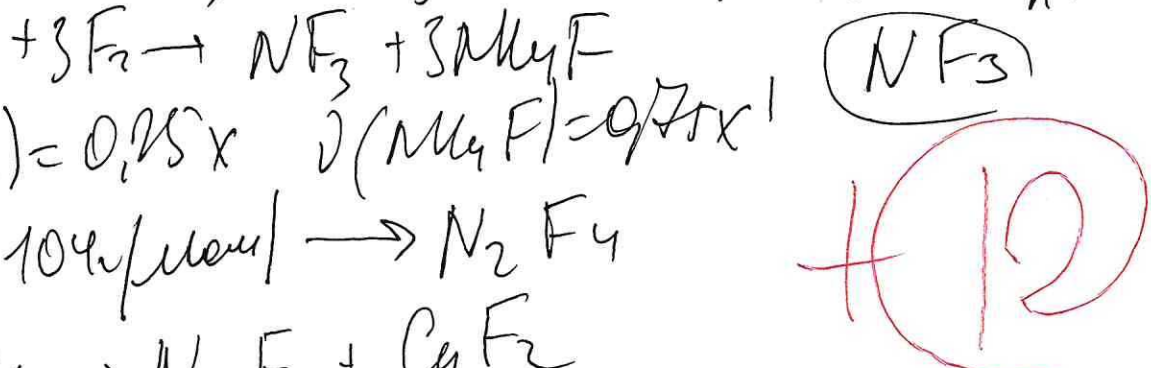
$CH_3-\overset{\overset{OH}{|}}{C}-CH_2CH_3 + CH_3COOH \rightarrow CH_3COO\overset{\overset{CH_3}{|}}{C}-CH_2CH_3 + H_2O$

CH_3 CH_3

$(CH_3)_2CO + NaCN + HCl \rightarrow (CH_3)_2C(OH)CN + NaCl$

$(CH_3)_2C(OH)CN + H_2O + HCl \rightarrow (CH_3)_2C(OH)CN + NaCl$





9.1 $4NH_3 + 3F_2 \rightarrow NF_3 + 3NH_4F$

$\nu(NH_3) = 0{,}25x$ $\nu(NH_4F) = 0{,}75x$

$M(22) = 104$ г/моль $\rightarrow N_2F_4$

$NF_3 + Cu \rightarrow N_2F_4 + CuF_2$

$m(CuF_2) = 12{,}25x$ $m_{NH_4F} = 27{,}75x$

$m_{см} = 40{,}5x$

$M(NF_n) = 71$ $n = 3$

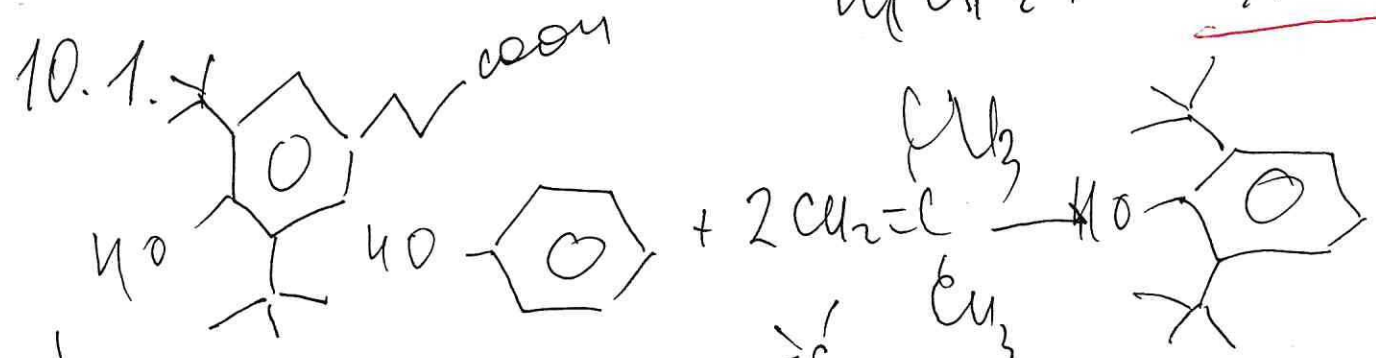
NF_3

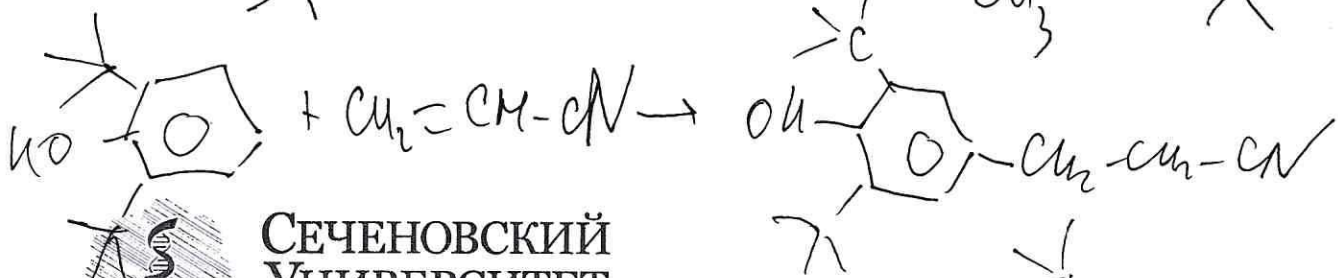
+2

$\omega(NH_4F) = 68{,}5\%$

$\omega(CuF_2) = 31{,}5\%$

10.1.





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ВСОШ Химия

R - CH_2-CH_2-COOH + NaOH → -COONa + H_2O

ν (NaOH) = 0,68 - в 10

5,4 - в 50

ν($C_{17}H_{26}O_3$) = 3,4

m = 945,2

ω = 945,2 / 995 = 95 %

+18