9

1. : – 16,61%, –
1,44%, – 34,66%, – 47,29%. .
,   -
                                                                              .

20

                    .

$Na_aH_bO_cX_d.$ **(2   )**   100 ,
                                                                              .
                          ,   (   )
            :

$$a:b:c:d = n(N\ ):n(H):n(O):n(\text{Э}) = \frac{m(N\ )}{M(N\ )}:\frac{m(H)}{M(H)}:\frac{m(O)}{M(O)}:\frac{m(\text{Э})}{M(\text{Э})}$$

$$= \frac{16,61}{23}:\frac{1,44}{1}:\frac{34,66}{16}:\frac{47,29}{x} = 0{,}722:1{,}44:2{,}17:\frac{47,29}{x}$$
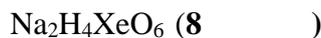
(разделим на самое меньшее 0,722)

$$= 1:2:3:\frac{6,5}{x} \textbf{(6   )}$$

        –   .   ,

        $\frac{6,5}{x}$.   65,5 /

    .   2 $: a:b:c:d = 2:4:6:\frac{1}{x}.$

        ,   x=131.   ,   .

                $Na_2H_4XeO_6$ **(8   )**

                                                            16

                                                ,   ,   .

-               ,   .   ,   ,

        ,   :

                $Na_2H_4XeO_6 + 2NaOH = Na_4H_2XeO_6 + 2H_2O$ **(2   )**

-               ,   .

                                                (

        ,   ),

                                            . $Na_2H_4XeO_6$

        +6,   :

        $Na_2H_4XeO_6 + 3Na_2SO_3 = 3Na_2SO_4 + Xe + 2NaOH + H_2$ **(2   )**

2.   ,   *1,18*10⁻²²* ,

      ,   ,   ,   .
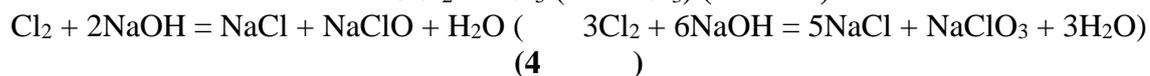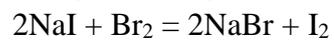
                                                       .

20

:

$$M(\text{в} - \text{ва}) = m(\text{молекулы}) \cdot N_A = 1,18 \cdot 10^{-2} \cdot 6,02 \cdot 10^{2} = 71 \text{ г/моль}$$
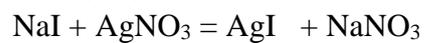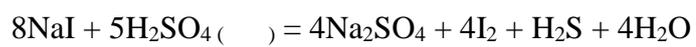
(Cl_2). **(4**   **)**

         :

$2Fe + 3Cl_2 = 2FeCl_3$ **(4**   **)**

$Cl_2 + H_2 = 2HCl$ **(4**   **)**

$2P + 5Cl_2 = PCl_5$ (PCl_3) **(4**   **)**

$Cl_2 + 2NaOH = NaCl + NaClO + H_2O$ ($3Cl_2 + 6NaOH = 5NaCl + NaClO_3 + 3H_2O$)

(4   **)**

3.   *34*   *56*   *:*

)   ;

)   ;

)   .

15

           34   56   Se   Ba.   .

       :

$$Ba + Se = BaSe \;(\textbf{5} \qquad)$$
$$BaH_2 + H_2Se = BaSe + 2H_2 \;(\textbf{5} \qquad)$$
$$Ba(OH)_2 + H_2SeO_4 = BaSeO_4 + 2H_2O \;(\textbf{5} \qquad)$$

4. ,
.   ,
. :
1)
2)
3)
4)
5)
6)
7)   ;
8)   ;
9)   ;
10)   .
15

4 (*15*   ).
3   .

$$8NaI + 5H_2SO_{4(\ )} = 4Na_2SO_4 + 4I_2 + H_2S + 4H_2O$$
$$NaI + AgNO_3 = AgI\ \downarrow + NaNO_3$$
$$2NaI + Br_2 = 2NaBr + I_2$$
$$6NaI + 8HNO_{3(\ )} = 6NaNO_3 + 3I_2 + 2NO + 4H_2O$$

5.   *3.00*   .

                                         .

0.50   .

                         .   *?*

15

                    :

$$Cu + 4HNO_3 \text{ (   )} = Cu(NO_3)_2 + 2NO_2 \text{ (   )} + 2H_2O$$

$Al + HNO_3 \text{ (   )}$ -   .

                . (**4**   )

$Cu + HBr$ –   ,   .

$$2Al + 6HBr = 2AlBr_3 + 3\,H_2 \quad (\mathbf{4} \qquad)$$

             NO_2 :
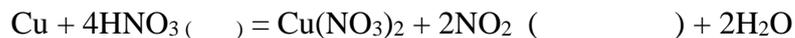
$$n(NO_2) = \frac{V}{V_M} = \frac{0{,}5}{2\,{,}4} = 0{,}022 \text{ моль } (\mathbf{1} \qquad)$$

                 ,   ,

   , 2   ,   .   ,   .

    0,011   (**2**   ).   :

$$m(C\,) = n \cdot M = 0{,}011 \cdot 64 = 0{,}704 \text{ г } (\mathbf{1} \qquad)$$

                              ,

$$m(A\,) = 1{,}5 - m(C\,) = 0{,}796 \text{ г } (\mathbf{1} \qquad)$$

$$n(A\,) = \frac{0{,}7}{2} = 0{,}0295 \text{ моль } (\mathbf{1} \qquad)$$

                       ,   ,

       .

$$V(H_2) = n(H_2) \cdot V_M = 0{,}295 \cdot 1{,}5 \cdot 22{,}4 = 0{,}99 \text{ л } (\mathbf{1} \qquad)$$

6.

$: H^+, \ ^+, Fe^{3+}, NO_3^-, CO_3^{2-}.$

:

15

$, H^+$

$CO_3^{2-},$:

$$2H^+ + CO_3^{2-} = CO_2 + H_2O \ (\textbf{5} \qquad)$$

$Fe^{3+},$

:

$$2Fe^{3+} + 3CO_3^{2-} + 3H_2O = 2Fe(OH)_3 + 3CO_2$$

, Fe^{3+} -   . (**5**   )

,   , Na^+ NH_4^+. (**5**   )

,   : **Na$^+$, $^+$, NO$_3^-$, CO$_3^{2-}$.**