

.1

1.

1,0715 / ,
 : - 4,48 (. .),
 7,2 , - 6,0 , - 2,24 (. .).

10,0 .

100
 8,0 %.
 11,2 (. .).
 4,48 (. .)
 17,92 (. .) .
 44,8 % .
 100 ,
 :
 12,73 %.
 2,24 (. .).
 13,64 %.

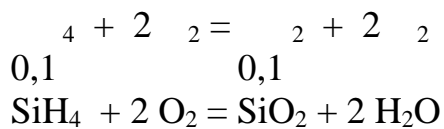
$n_A + n_B = 0,2$. 4,800 .
 $1,075 \times 22,4 = 24,0$ / . 1
 $7,2 \cdot n(H_2O) = 0,4 \text{ mol.}$ 1
 $n(H) = 0,8 \text{ mol, } m(H) = 0,8 \text{ g.}$
 $E = CO_2.$

$()_2 + 2 = 0,1 \quad 3 \downarrow + 2$.
 $m(CaCO_3) = 10,0 \text{ g.}$ 1

$12 \times 0,1 = 1,2$.
 $4,8 - 0,8 - 1,2 = 2,8$.

- 4. 0,1 . 1,6 . 1
 - $SiH_4.$ 0,1 . 3,2 . 1
 4,8 .

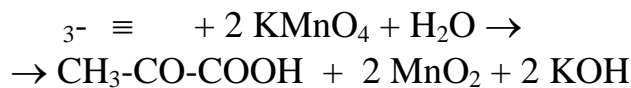
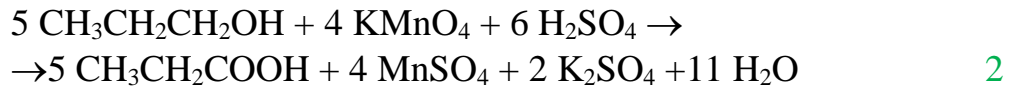
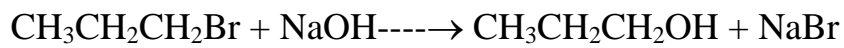
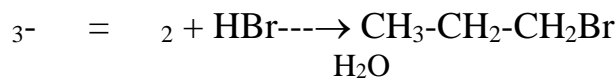
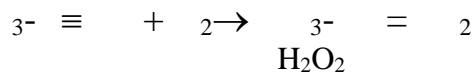
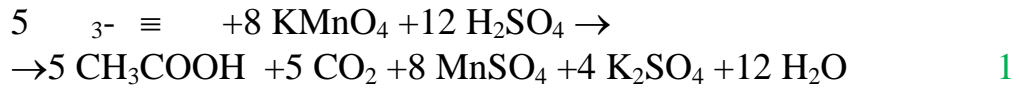
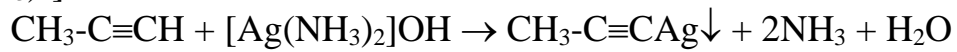
$= (16 + 32) : 2 = 24$ / .



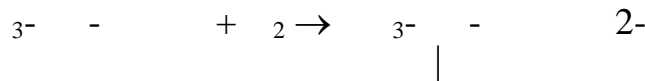
$$m = 44 \times 0,05 + 40 \times 0,05 = 4,2 \quad .$$

$$\omega(\text{C}) = 52,4 \%. \quad \omega(\text{H}) = 47,6 \%. \quad 1$$

[Ag(NH₃)₂]OH.

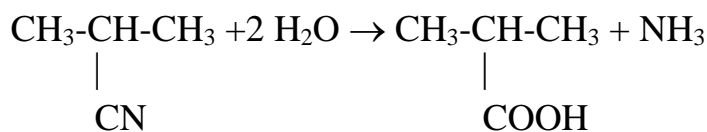
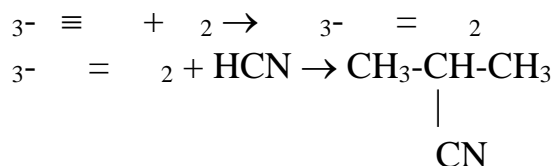


2-



2

2-



2

10

3.

	1	2 =D	16	17	18
%,	99,985	0,015	99,76	0,048	0,192

$$= (0,00015)^2 \times 0,00192 = 4,32 \times 10^{-11} \quad 1$$

$$D_2^{18}O \quad N = 3,34 \times 10^{25} \times 4,32 \times 10^{-11} = 1,443 \times 10^{15}$$

$$1,443 \times 10^{15} : 6,02 \times 10^{23} = 2,4 \times 10^{-9}$$

$$m = 22 \times 2,4 \times 10^{-9} = 5,27 \times 10^{-8} \quad 1$$

10

4.

$$50 \cdot 800^0 \quad 250^0$$

$$+ \quad +$$

$$\left(\frac{412}{1} - \frac{462}{1} \right) \equiv \left(\frac{432}{800} - \frac{498}{800} \right) = \frac{745}{800}$$

?

$$4 + 2 \cdot () = + 3 \cdot 2 - 200 \quad (1) \quad 1$$

$$Q = -4 \cdot (-) - 2 \cdot (-) + (\equiv) + 3 \cdot (-)$$

$$Q = -4 \times 412 - 2 \times 462 + 1076 + 3 \times 432 = -200 \quad / \quad 1$$

$$4 + 2 \cdot 2 = 2 + 2 \cdot 2 + 800 \quad (2)$$

$$(1) \quad (2) \quad 4:1. \quad 1$$

$$4(4 + 2) + 4 + 2 \cdot 2 = 5 \cdot 4 + 4 \cdot 2 + 2 \cdot 2$$

$$4 \cdot 4 + 12 \cdot 2 + 2 + 2 \cdot 2$$

$$5 \cdot 4 + 2 \cdot 2 + 2 \cdot 2. \quad 5:2:2. \quad 1$$

$$4 \cdot 4 + 12 \cdot 2 + 2. \quad 1$$

$$, \quad -80^0. \quad 1$$



10

5.

$\omega=81,08 \%$,

$\omega=95,24 \%$.

6,72 (. .)

8,96

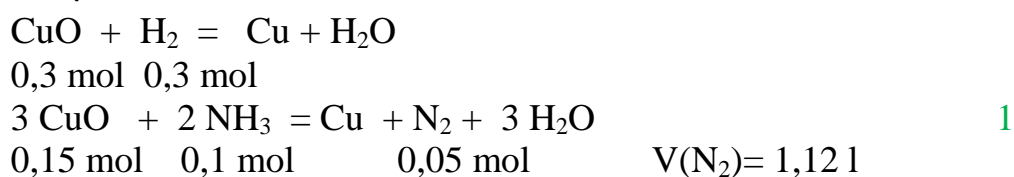
0

1,12

0

$$V(\text{NH}_3) = 2,24 \text{ l. } n(\text{NH}_3) = 0,1 \text{ mol} \quad 1$$

$$V(\text{H}_2) = 6,72 \text{ l. } n(\text{H}_2) = 0,3 \text{ mol} \quad 1$$

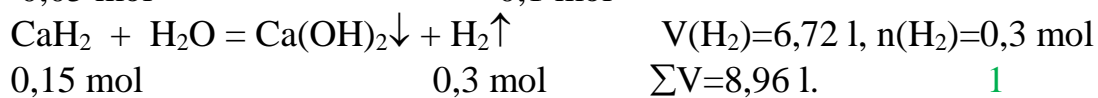
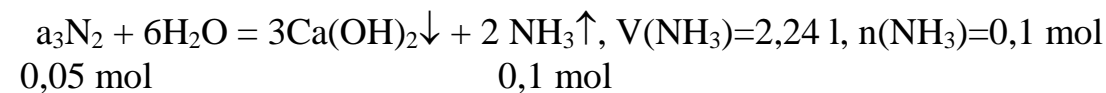
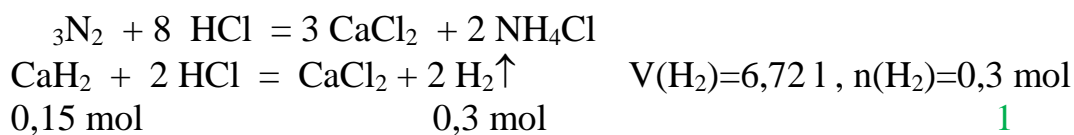
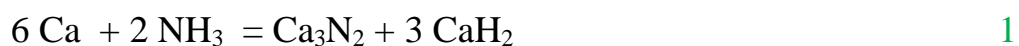


$$\omega(\text{X}) = 81,08 \%. \quad \omega(\text{N}) = 18,92 \%. \quad m(\text{N}) = 28. \quad M(\text{X}_3\text{N}_2) = 148. \quad 1$$

$$M(\text{X}) = 40. \quad \text{X} = \text{Ca}.$$

A-

$$\omega(\text{X}) = 95,24 \%. \quad 1$$



$$n(\text{Ca}_3\text{N}_2) = 0,1 \quad n(\text{CaH}_2) = 0,3$$

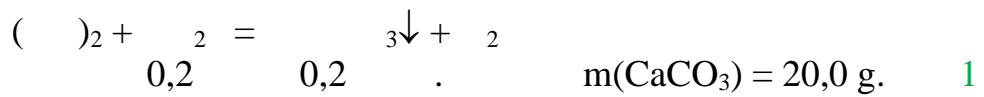
$$n(\text{Ca}) = 0,6 \quad m = 24 \quad 1$$

.2.

1.

1,241 / (, .).
 ,
 . 4,48 (. .)
 13,44 (. .)
 : - 6,96 , -
 9,0 , - , 4,48
 (. .).
 20,0 .
 15,68 (. .).
 4,48 (. .)
 26,88 (. .)
 200 ,
 28,0 % . :
 31,0 % .
 4,48 (. .).
 13,64 % .

$n_A + n_B = 0,2$. 5,56 .
 $1,241 \times 22,4 = 27,8$ / . 1
 $9,0 \cdot n(\text{H}_2\text{O}) = 0,5 \text{ mol.}$ 1
 $n(\text{H}) = 1,0 \text{ mol, } m(\text{H}) = 1,0 \text{ g.}$
 $\text{E} = \text{CO}_2$.



0,2 .

$12 \times 0,2 = 2,4$.

$5,56 - 1,0 - 2,4 = 2,16$.

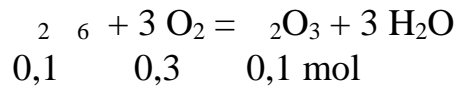
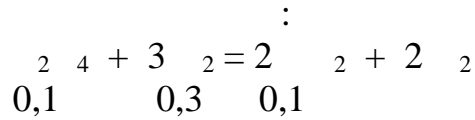
$\quad \quad \quad 16.$

$\quad \quad \quad 2 \quad 4^-$

- $0,1 \quad \quad \quad 2,8$. 1

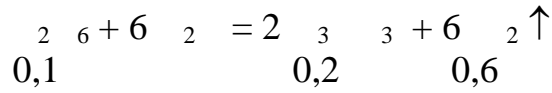
- $0,1 \quad \quad \quad 5,56 - 2,8 = 2,76$.

$= 27,6$.

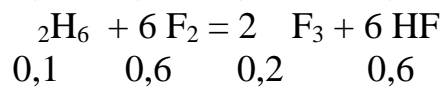
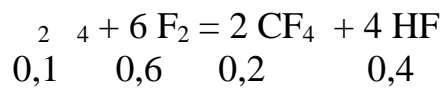


$$m(\text{O}_3) = 69,6 \times 0,1 = 6,96 \text{ g.} \quad 1$$

$$V = 22,4 \times 0,6 = 13,44 \text{ .}$$



$$22,4 \times 0,7 = 15,68 \text{ .}$$

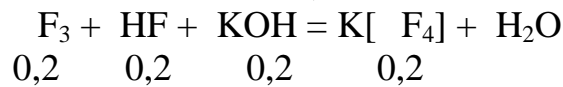


HF 1,0 mol.

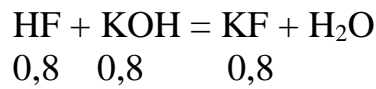
26,88 .

4,48 .

13,63 %.



31,0 %.



1,0 .

200

28,0 %

56,0

1,0 .

10

2.

2,24 (. .)

2,24 (. .).

. (% .).

0,1 .

0,1 .

?

D₂O.

?

?

150⁰

101 300 .

=21 1

R

18

²¹⁶

19

HD¹⁶O , H₂¹⁷O

1

20

D₂¹⁶O , HD¹⁷O , H₂O

1

21

HD¹⁸O , D₂¹⁷O

22

D₂¹⁸O

1

1

-D₂O.

D₂O,

,

₂ :D₂O = 99,985:0,015=6666:1.

1

D-O

1

1

PV= nRT =(m/M)RT. P=(ρ/M)RT. ρ=PM/RT.

ρ= (101300×0,020)/8,314×423=0,576 / ³=0,576 / .

1

HD¹⁸O D₂¹⁷O 1

1,0 / ³ ,

1 000 .

1000:18=55,556

N=6,02×10²³×55,556=3,34×10²⁵

1

=21

HD¹⁸O ₁ = 0,99985×0,00015×0,00192= 2,88×10⁻⁷

HD¹⁸O N=3,34×10²⁵×2,88×10⁻⁷ = 9,61×10¹⁸

9,61×10¹⁸: 6,02×10²³=1,6×10⁻⁵

HD¹⁸O m=21×1,6×10⁻⁵=3,36×10⁻⁴ .

1

D₂¹⁷O ₂ = (0,00015)²×0,00048= 1,08×10⁻¹¹

	(1)	(2)	2,35:1.		1
4,70	4 +	4 + 2	2 == 5,7	4 + 2	2
			4:	2 = 5,7 : 2	
2,35	2	2 + 7,05	2 + 2	2 + 4	2
					1
		1,24			1
					1
					1
					1
3	2	2	----->	6	6
			Ni		
	2	2 +	2	----->	2
				AlCl ₃	4
C ₆ H ₆	+	C ₂ H ₄	----->	C ₆ H ₅ C ₂ H ₅	0,5
5 C ₆ H ₅ C ₂ H ₅	+	12 KMnO ₄	+	18 H ₂ SO ₄	→
→ 5 C ₆ H ₅ COOH	+	5 CO ₂ ↑	+	12 MnSO ₄	+
				6 K ₂ SO ₄	+
				28 H ₂ O	1
				H ⁺	
C ₂ H ₄	+	H ₂ O	→	C ₂ H ₅ OH	0,5
				H ₂ SO ₄	
C ₆ H ₅ COOH	+	C ₂ H ₅ OH	----->	C ₆ H ₅ COOC ₂ H ₅	+
				H ₂ O	0,5
					10

5.

ω=72,25 %,

ω=92,40 %.

6,72 (. .)

8,96

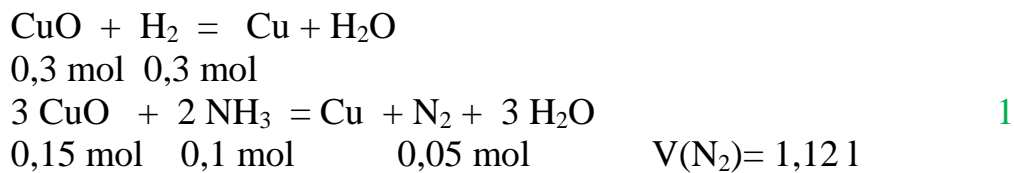
0

1,12

0

$$V(\text{NH}_3) = 2,24 \text{ l. } n(\text{NH}_3) = 0,1 \text{ mol} \quad 1$$

$$V(\text{H}_2) = 6,72 \text{ l. } n(\text{H}_2) = 0,3 \text{ mol} \quad 1$$



$$\omega(\text{X}) = 72,25 \%. \quad \omega(\text{N}) = 27,75 \%. \quad m(\text{N}) = 28. \quad M(\text{X}_3\text{N}_2) = 100,9.$$

$$M(\text{X}) = 24,3. \quad \text{X} = \text{Mg.} \quad 1$$

