

1.

1.1.

— $\text{Ca}_3(\text{PO}_4)_2$

($\omega(\)=41.29\%$) CaCO_3 ($\omega(\)=48.00\%$).

: $\text{Ca}_3(\text{PO}_4)_2 \cdot \text{CaCO}_3$.

:

$$\omega(\) = \frac{(8 \cdot x + 3) \cdot 16}{(3 \cdot x + 1) \cdot 40 + 2 \cdot x \cdot 31 + 1 \cdot 12 + (8 \cdot x + 3) \cdot 16} = 0.4194$$

, = 3.

$3\text{Ca}_3(\text{PO}_4)_2 \cdot \text{CaCO}_3$ $\text{Ca}_{10}(\text{PO}_4)_6\text{CO}_3$.

1.2.



1.3.

:

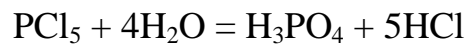
$$\Delta m = \frac{12 + 2 \cdot 16}{10 \cdot 40 + (31 + 4 \cdot 16) \cdot 6 + 12 + 3 \cdot 16} \cdot 100\% = 4.27\%$$

:

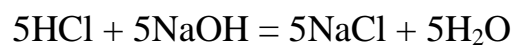
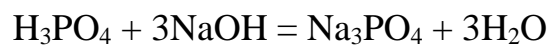
	10
	5

	10
	25

2.1. 2
,
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1

,

8

,

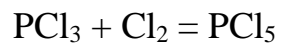
:

$$\epsilon(\text{NaOH}) = \frac{200 \cdot 1.109 / \cdot 0.1}{40 /} = 0.5545$$

$$0.069 \cdot 208.5 / \frac{0.5545/8 = 0.069 \text{ PCl}_5}{= 14.4 \text{ PCl}_5}$$

2.2.

(III):



PCl₅ –

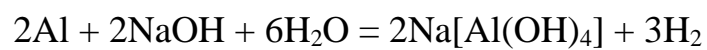
_____ , _____ , _____ ,
 _____ .
 _____ :

(3 3)	9
PCl ₅	10
PCl ₅	3
	3
	25

3

3.1. _____ , _____) _____ , _____ ,
 _____ ;) _____ – _____ ,
 _____ ;) _____ – _____ .

3.2. _____ :



3.3. _____ - _____ :

$$\tau_1 = \tau_2 \gamma^{\frac{T_2 - T_1}{10}} ,$$

1 2

$$T_1 \quad T_2.$$

(-) :

$$\gamma = \frac{T_2 - T_1}{10} \sqrt{\frac{\tau_1}{\tau_2}}$$

$$T_1=25 \quad T_2=45 \quad :$$

$$\gamma = \frac{45 - 25}{10} \sqrt{\frac{18}{2}} = \sqrt{9} = 3.$$

$$T_1=25 \quad T_2=75 \quad :$$

$$\tau_2 = \frac{\tau_1}{\gamma^2 \cdot 10}$$

:

$$\tau_2 = \frac{18}{3 \cdot 10} = \frac{18}{30} = \frac{18}{243} = 0.074$$

4.4

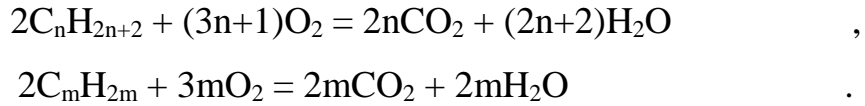
:

	6
	4
	15
	25

4

4.1.

:



4.2. . . . n 4
 m=3 m=4. :

$$\varphi(C_nH_{2n+2})=x.$$

:

$$\varphi(C_mH_{2m})=1-x.$$

V

:

$$V(C_nH_{2n+2})= Vx,$$

:

$$V(C_mH_{2m})=V(1-x).$$

:

$$V(O_2)=V_1=(3n+1)Vx/2,$$

$$V(O_2)=V_2=3mV(1-x)/2.$$

,

:

$$V(O_2) = V_1 + V_2 = (3n+1)Vx/2 + 3mV(1-x)/2 = (3nx+x+3m-3mx)V/2,$$

:

$$(3nx+x+3m-3mx)/2=4.125.$$

:

$$M(\quad) = D(\quad) \cdot M(\quad) = 1.25 \cdot 29 = 36.5 \quad / \quad .$$

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:

$$M(\quad) = M(C_nH_{2n+2})\varphi(C_nH_{2n+2}) + M(C_mH_{2m})\varphi(C_mH_{2m})$$

$$M(\quad) = (14n+2)x + 14m(1-x).$$

:

$$(14n+2)x + 14m(1-x) = 36.5.$$

:

$$(3nx+x+3m-3mx)/2=4.125.$$

$$(14n+2)x+14m(1-x)=36.5.$$

m — 3, 4.

$$m=3 :$$

$$n=0.52, x=0.12.$$

$$m=4 :$$

$$n=2, x=0.75.$$

$$(\varphi=0.75)$$

$$(\varphi=0.25).$$

4.3. 1 0.75 ,

1.5 , 0.25

(), 1

, ... 2.5 .



, 2.5 , ...

$$m(\text{CaCO}_3)=2.5 \cdot 100 / =250 .$$

:

(3)	6
	4
	10
	5
	25