

9

1.

<p>(1)</p>	<p>- ; (, ; (, , ,)</p>	<p>1</p>
	<p>- ; , 2</p>	<p>1</p>
	<p>- ; ,</p>	<p>1</p>
	<p>-Si - Si 4,</p>	<p>1</p>
<p>(1)</p>	<p>- 2</p>	<p>1</p>
	<p>- 2</p>	<p>1</p>
	<p>- Si 4,</p>	<p>1</p>
<p>(1)</p>	<p>+2 l1 = l2 + 2</p>	<p>1</p>
	<p>Si 4+2 2 = Si 2+ 2 2</p>	<p>1</p>
<p>3</p>	<p>160 , 89,6 +2 l1 = l2 + 2 160 89,6 (4) ----- 2 x 22,4 91) x = 40. 40 / (r=40).</p>	<p>1</p>
	<p>11.2%. r(2) = x+2</p>	<p>1</p>

	$W(\text{Na}) = n(\text{Na}) \cdot Ar(\text{Na}) / r(\text{Na})$ $W(\text{Na}) = n(\text{Na}) \cdot Ar(\text{Na}) / r(\text{Na})$ $0,112 = 2 \cdot 1 / x + 2$ $0,112(x+2) = 2$ $0,112x = 2 - 0,224$ $0,112x = 1,776$ $x = 15,857 = 16$	18 / (r=16).
	12,5%. $r(\text{Na}) = x + 4$ $W(\text{Na}) = n(\text{Na}) \cdot Ar(\text{Na}) / r(\text{Na})$ $W(\text{Na}) = n(\text{Na}) \cdot Ar(\text{Na}) / r(\text{Na})$ $0,125 = 4 \cdot 1 / x + 4$ $0,125(x+4) = 4$ $0,125x = 4 - 0,5$ $0,125x = 3,5$ $x = 28$	28 / (r=28).
		12

2

(1)	$2 \text{ S}_4 + 2 \text{ Na}_2\text{S} = 2 \text{ S}_4 + 2 \text{ Na}_2\text{S}$	1						
	$2 \text{ gS}_4 + 2 \text{ Na}_2\text{S} = 2 \text{ gS}_4 + 2 \text{ Na}_2\text{S}$	1						
	$2 \text{ S}_4 + 2 \text{ Na}_2\text{S} = 2 \text{ S}_4 + 2 \text{ Na}_2\text{S}$	1						
	$\text{Na} + \text{Cl} = \text{NaCl}$	1						
Na	$m(\text{Na}) = V \times \rho = 22,5 \times 1,11 / 1000 = 24,975 = 25$ $m(\text{Na}) = \omega \times m = 25 \times 0,112 = 2,8$ $n(\text{Na}) = m / M = 2,8 / 40 = 0,07$	1						
1	$n(\text{Cl}) = \frac{m}{M} = \frac{0,625}{35,5} = 0,016 = 0,01$	1						
,	$V(\text{Cl}) = V_m \cdot n(\text{Cl}) = 22,4 / 1000 \cdot 0,01 = 0,224$	1						
	<table style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>0,01</td> </tr> <tr> <td>Na</td> <td>----- 1</td> </tr> <tr> <td>1</td> <td>1</td> </tr> </table>	x	0,01	Na	----- 1	1	1	1
x	0,01							
Na	----- 1							
1	1							

Na	, x = 0,01 Na	1
Na	, $0,07 - 0,01 = 0,06$ Na $2S_4$	1
$2S_4$, Na	x $2S_4$ ----- $2Na$ 1 2 x = 0,03 $2S_4$	1
()	$(S_4 5_2) = 160+90 = 250 /$ $(gS_4) = 297 /$ $S_4 5_2$ ----- x $2S_4$ 250 1 gS_4 ----- $2S_4$ 297 1 + = 8,44 + = 0,03}	2
	$= 250 = 297$ $= 0,03-$ $250 + 297 = 8,44$ $250 + 297(0,03-) = 8,44$ $250 + 8,91 - 297 = 8,44$ $0,47 = 47$ $= 0,01$ $= 0,03 - 0,01 = 0,02$	1
	$m(S_4 5_2) = n = 250 / 0,01 = 2,5$ $m(gS_4) = m() - m(S_4 5_2) = 8,44 - 2,5 = 5,94$	1
	$\omega(S_4 5_2) = m / m = 2,5 / 8,44 = 0,296$ (29,6%) $\omega(gS_4) = 100\% - 29,6\% = 70,4\%$	1

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3.

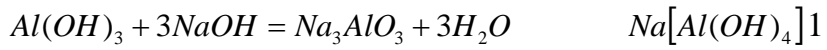
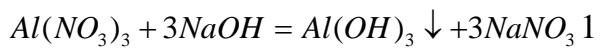
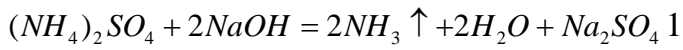
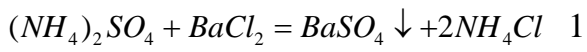
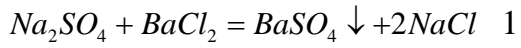
	$\text{Zn} + 2 \text{HCl} = \text{ZnCl}_2 + \text{H}_2$ $\text{Zn} + \text{H}_2\text{SO}_4 = \text{ZnSO}_4 + \text{H}_2$	1
	$\text{Fe} + 2 \text{HCl} = \text{FeCl}_2 + \text{H}_2$ $\text{Fe} + \text{H}_2\text{SO}_4 = \text{FeSO}_4 + \text{H}_2$	1
	$\text{Zn} + \text{H}_2 + 2\text{NaOH} = 2\text{NaH} + \text{Zn(OH)}_2$ $\text{Zn(OH)}_2 + 2\text{NaOH} = \text{Na}_2[\text{Zn(OH)}_4]$	2
	$\text{Fe} + \text{H}_2 + 2\text{NaOH} = 2\text{NaH} + \text{Fe(OH)}_2$ $4\text{Fe(OH)}_2 + \text{O}_2 + 2\text{H}_2\text{O} = 4\text{Fe(OH)}_3$	2
()	$\text{Na}_2[\text{Zn(OH)}_4] + \text{H}_2\text{SO}_4 = \text{Na}_2\text{SO}_4 + \text{Zn(OH)}_2 + \text{H}_2\text{O}$ $\text{Zn(OH)}_2 \xrightarrow{t} \text{ZnO} + \text{H}_2\text{O}$ $\text{ZnO} + \text{C} \xrightarrow{t} \text{Zn} + \text{CO}$	3
()	$2\text{Fe(OH)}_3 \xrightarrow{t} \text{Fe}_2\text{O}_3 + 3\text{H}_2\text{O}$ $\text{Fe}_2\text{O}_3 + 3\text{H}_2 = 2\text{Fe} + 3\text{H}_2\text{O}$	2
(1)	$\text{H}_2 + \text{Cl}_2 = 2\text{HCl}$	1
	$\text{H}_2 = \text{H}_2$	1
(2)	$3\text{C} + 8\text{N}_2 = 3\text{C}_3 + 2\text{N}_2 + 4\text{N}_2$ $3\text{g} + 8\text{N}_2 = 3\text{g}(\text{C}_3)_2 + 2\text{N}_2 + 4\text{N}_2$	2

	$2 \text{ (N}_3\text{)}_2 = 2 \text{ N}_2 + 4 \text{ N}_2 + 2$ $+ 2 = + 2$	2
	$g \text{ (N}_3\text{)}_2 = g + 2 \text{ N}_2 + 2$	1
	18 18	18

4

(0,5 0,5)	1	1
	-	1
	-	1
	1 I ₃	1
(1)	Na[I() ₄]	1
	$2 \text{ I} + 6 \text{ I} = 1 \text{ I}_3 + 3 \text{ I}_2$	1
	$2 \text{ I} + 2 \text{ Na} + 3 \text{ I}_2 = 2 \text{ Na[I()}_4] + 3 \text{ I}_2$	1
	$1 \text{ I}_3 + 3 \text{ Na} = 1 \text{ ()}_3 + 3 \text{ Na I}$	1
	$\text{I()}_3 + \text{Na} = \text{Na[I()}_4]$	1
()	$n(\text{ I}_2) = V / V_m = 13,44 / 22,4 = 0,6$	2
	$\frac{2}{2} \frac{0,6}{3} \frac{3}{3} \text{ I}_2$ $= 0,4$ $() = m / n = 10,8 / 0,4 = 27$	
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5.



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