

II ()

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11-1 (6)
(. .)

63,84

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| () | |
| 1) $9\ 21N$ | 3 |
| 2) $9\ 21N + HCl = 9\ 22NCl$ | 1 |
| 3) $n(9\ 21N) = m(9\ 21N) / M(9\ 21N) = 63,84 : 143 = 0,45$ | 1 |
| 4) $n(HCl) = n(9\ 21N) = 0,45$ $V(HCl) = n(9\ 21N) \cdot V_m = 0,45 \cdot 22,4 = 10,1$ | 1 |
| | 0 |
| | 6 |

11-2 (10)

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(II) (III);
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|) $\text{Na}_2\text{S} + \text{H}_2\text{SO}_{4(\text{p})} = \text{Na}_2\text{SO}_4 + \text{H}_2\text{S}$ $\text{Na}_2\text{S} + 4\text{H}_2\text{SO}_{4(\text{c})} = \text{Na}_2\text{SO}_4 + 4\text{H}_2\text{O} + 4\text{SO}_2$ | 2 |
|) $3\text{Na}_2\text{S} + 2\text{BiCl}_3 = 6\text{NaCl} + \text{Bi}_2\text{S}_3$ $3\text{Na}_2\text{S} + 2\text{AlCl}_3 + 6\text{H}_2\text{O} = 6\text{NaCl} + 2\text{Al}(\text{OH})_3 + 3\text{H}_2\text{S}$ | 2 |
|) $\text{Na}_2\text{S} + \text{FeSO}_4 = \text{Na}_2\text{SO}_4 + \text{FeS}$ $3\text{Na}_2\text{S} + \text{Fe}_2(\text{SO}_4)_3 = 3\text{Na}_2\text{SO}_4 + 2\text{FeS} + \text{S}$ | 2 |
|) $\text{Na}_2\text{S} + 4\text{Cl}_2 + 4\text{H}_2\text{O} = \text{Na}_2\text{SO}_4 + 8\text{Cl}$ $\text{Na}_2\text{S} + \text{I}_2 = 2\text{NaI} + \text{S}$ | 2 |
|) $\text{Na}_2\text{S} + \text{C}_2 + \text{H}_2\text{O} = \text{Na}_2\text{O}_3 + \text{H}_2\text{S}$ $2\text{Na}_2\text{S} + 3\text{S}_2 = 2\text{Na}_2\text{SO}_3 + 2\text{S}$ | 2 |
| | 0 |
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11-3 (10)

2,5 / ,

0,8571.

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| () | |
| 1) : $x\text{H}_y\text{O}_z$ (A) = 2,5 / ; () = 0,8571 | 1 |
| 2) m(A) = 1 , m(C) = 0,8571 $n() = m() / () = \frac{0,8}{1 /} = 0,0714$ $m() = 1 - 0,8571 = 0,1429$ $n() = m(\text{H}) / (\text{H}) = \frac{0,1}{1 /} = 0,1429$ | 2 |
| 3) : $x : y = n() : n() = 0,0714 : 0,1429 = 1 : 2$ - 2 (2) = 14 / | 1 |
| 4) : (A) = 2,5 / , - () 100 () $M(\text{A}) = (\text{A})V_m$ | 2 |

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| $M(A) = 2,5 / \cdot 22,4 = 56 /$ $= \frac{(\quad)}{(\quad)} = \frac{5}{1} = 4$ | |
| 5) $(k = 1).$ $1 \quad (\quad) .$ | 2 |
| 6) $\square + 2 \xrightarrow{P, t^{\circ}C} CH_3-CH_2-CH_2-CH_3$ $2 \triangle + 2 \xrightarrow{P, t^{\circ}C} CH_3-CH_2-CH_2-CH_3 + CH_3-CH(CH_3)-CH_3$ | 2 |
| | 0 |
| | 10 |

11-4 (14) .

650° , - 91 ' ,

3797,1 ,

393,5 241,8 / ,

226,8 82,9 / .

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| 1) $- \quad C_2 \quad H_2$ $(1) + 2 \quad 2, \quad 1 = -393,5 / ;$ $(2) 2 + \frac{1}{2} 2 \quad 2 , \quad 2 = -241,8 / ;$ | 2 |

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| <p>2)</p> <p style="text-align: center;">:</p> <p>-</p> <p>(3) C_2H_2 $2 + 2,$ $3 = -226,8$ / ;</p> <p>(4) $6 6$ $6 + 3 2,$ $4 = -82,9$ / .</p> | 2 |
| <p>3)</p> <p style="text-align: center;">:</p> <p>-</p> <p>(5) $C_2H_2 + 2,5$ $2 = 2C_2 + H_2$, $5 - ?$</p> <p>(6) $6 6 + 7,5$ $2 = 6 C_2 + 3 H_2$, $6 - ?$</p> | 2 |
| <p>4)</p> <p>(<u>1</u> (5))</p> <p style="text-align: center;">(5)</p> <p style="text-align: center;">(1), (2), (3):</p> <p style="text-align: center;">(5) = (3) + 2(1) + (2)</p> <p style="text-align: center;">(5)</p> <p style="text-align: center;">:</p> <p>$5 = -226,8 + 2 \cdot (-393,5) + (-241,8) = -1255,6$ (/).</p> <p><u>2</u></p> <p style="text-align: center;">(5) :</p> <p>$5 = 2 (C_2) + (H_2) - 2,5 (2) - (C_2H_2);$</p> <p>$(2) = 0; (C_2H_2) = - (C_2H_2)$</p> <p>$5 = 2 (C_2) + (H_2) - 2,5 (2) + (C_2H_2).$</p> <p>$5 = 2 \cdot (-393,5) + (-241,8) + (-226,8) = -1255,6$ /</p> | 2 |
| <p>5)</p> <p>(<u>1</u> (6))</p> <p style="text-align: center;">(6)</p> <p style="text-align: center;">(1), (2), (4):</p> <p style="text-align: center;">(6) = (4) + 6(1) + 3(2);</p> <p>$6 = -82,9 + 6 \cdot (-393,5) + 3 \cdot (-241,8) = -3169,3$ (/).</p> <p><u>2</u></p> <p style="text-align: center;">(6) :</p> <p>$6 = 6 (C_2) + 3 (H_2) - 7,5 (2) - (6 6);$</p> <p>$6 = 6 (C_2) + 3 (H_2) - 7,5 (2) + (C_6H_6).$</p> <p>$6 = 6 \cdot (-393,5) + 3 \cdot (-241,8) + (-82,9) = -3169,3$ /</p> | 2 |
| <p>6)</p> <p style="text-align: center;">91</p> <p>$n(C_2H_2) =$; $n(6 6) =$.</p> <p style="text-align: right;">(26 /)</p> | 2 |

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| $\begin{aligned} & (78 / 6), \\ & 5 \quad 6 \quad , \\ & \quad : \\ & 26x + 78y = 91 \\ & -1255,6 + (-3169,3) = -3797,1, \\ & \quad : \\ n(\text{C}_2\text{H}_2) & = 0,5 \quad ; \\ n(\text{C}_6\text{H}_6) & = 1 \quad . \end{aligned}$ | |
| 7) $\begin{aligned} m(\text{C}_2\text{H}_2) & = 26 / \cdot 0,5 = 13 \\ m(\text{C}_6\text{H}_6) & = 78 / \cdot 1 = 78 \end{aligned}$ | 1 |
| 8) $\begin{aligned} (\text{C}_2\text{H}_2) & = (\text{C}_2\text{H}_2)/m(\quad) = 13 / 91 = 0,143 \quad (14,3\%) \\ (\text{C}_6\text{H}_6) & = (\text{C}_6\text{H}_6)/m(\quad) = 78 / 91 = 0,857 \quad (85,7\%) \end{aligned}$ | 1 |
| | 0 |
| | 14 |

11-5 (10)

« 6,1 » 300 ,
200 0,1
(=1,005 / 3).
20 , .
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| (,) | |
| 1) $\text{H}_2\text{SO}_4 + \text{BaCl}_2 = \text{BaSO}_4 + 2\text{HCl}$ | 1 |
| 2) $n(\text{BaCl}_2) = n(\text{BaCl}_2 \cdot 2\text{H}_2\text{O}) = 6,1 : 244 / = 0,025$ | 1 |
| 3) $\begin{aligned} m(\text{H}_2\text{SO}_4) & = V \cdot \rho = 200 \cdot 1,005 / = 201 \text{ ,} \\ n(\text{H}_2\text{SO}_4) & = C_M \cdot V = 0,1 / \cdot 0,2 = 0,02 \end{aligned}$ | 1 |
| 4) $\begin{aligned} n(\text{BaSO}_4) & = n(\text{H}_2\text{SO}_4) = 0,02 \\ m(\text{BaSO}_4) & = 0,02 \cdot 233 / = 4,66 \\ n(\text{BaCl}_2) & = 0,025 - 0,02 = 0,005 \\ m(\text{BaCl}_2) & = 0,005 \cdot 208 / = 1,04 \end{aligned}$ <p style="text-align: right;">BaCl₂:</p> | 2 |

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| 5) | (H ₂ SO ₄ BaSO ₄): m() = m(BaCl ₂ ·2H ₂ O) + m(H ₂ O) + m(- ₂ SO ₄) - m(BaSO ₄) m() = 6,1+300 +201 - 4,66 = 502,44 . | 2 |
| 6) | (BaCl ₂) = m(BaCl ₂) / m() = 1,04/502,44·= 0,00207 : (0,207 %) | 1 |
| 7) | BaCl ₂ 20 · BaCl ₂ , , , : m(BaCl ₂) = (BaCl ₂) · m() = 0,00207 · 20 = 0,0414 . | 2 |
| | | 0 |
| | | 10 |