

10

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|---|---|---|---|---|---|---|---|---|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 3 | 3 | 3 | 4 | 2 | 4 | 2 | 3 | 4 | 3 | 2 |

1 (11)

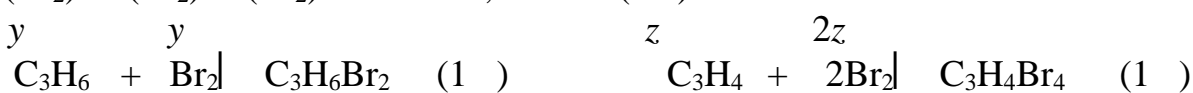
2

1)

$$m(\text{Br}_2) = m(\text{C}_3\text{H}_6) \cdot \omega(\text{Br}_2) = 400 \cdot 0,08 = 32$$

$$\omega(\text{Br}_2) = m(\text{Br}_2) / M(\text{Br}_2) = 32 / 160 = 0,2 \quad (1)$$

2)



$$\omega(\text{Br}_2) = \omega_1(\text{Br}_2) + \omega_2(\text{Br}_2) = y + 2z = 0,2 \quad y = 0,2 - 2z \quad (1)$$

$$\omega(\text{C}_2\text{H}_6) = x = 0,35 - \omega(\text{C}_3\text{H}_6) - \omega(\text{C}_3\text{H}_4) = 0,35 - y - z = 0,35 - 0,2 + 2z - z = 0,15 + z \quad (1)$$

3) $m(\text{C}_2\text{H}_6) = M(\text{C}_2\text{H}_6) \cdot \omega(\text{C}_2\text{H}_6) + M(\text{C}_3\text{H}_6) \cdot \omega(\text{C}_3\text{H}_6) + M(\text{C}_3\text{H}_4) \cdot \omega(\text{C}_3\text{H}_4) = M(\text{C}_2\text{H}_6) \cdot x + M(\text{C}_3\text{H}_6) \cdot y + M(\text{C}_3\text{H}_4) \cdot z = 30x + 42y + 40z = 34,86 \cdot 0,35 \quad (1)$

$$30(0,15 + z) + 42(0,2 - 2z) + 40z = 12,2$$

$$4,5 + 30z + 8,4 - 84z + 40z = 12,2$$

$$12,9 - 14z = 12,2$$

$$z = 0,05 \quad (0,5)$$

$$y = 0,2 - 2z = 0,2 - 2 \cdot 0,05 = 0,1 \quad (1)$$

$$x = 0,35 - y - z = 0,35 - 0,1 - 0,05 = 0,2 \quad (1)$$

$$x = 0,2 \quad (1)$$

4)

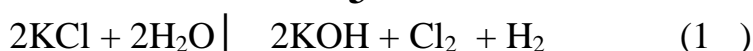
$$\omega(\text{C}_2\text{H}_6) = V(\text{C}_2\text{H}_6) / V(\text{C}_2\text{H}_6) = 0,2 / 0,35 = 0,5714 \quad (0,5)$$

$$\omega(\text{C}_3\text{H}_6) = V(\text{C}_3\text{H}_6) / V(\text{C}_3\text{H}_6) = 0,1 / 0,35 = 0,2857 \quad (0,5)$$

$$\omega(\text{C}_3\text{H}_4) = V(\text{C}_3\text{H}_4) / V(\text{C}_3\text{H}_4) = 0,05 / 0,35 = 0,1429 \quad (0,5)$$

$$\omega(\text{C}_2\text{H}_6) = 57,14\%, \quad \omega(\text{C}_3\text{H}_6) = 28,57\%, \quad \omega(\text{C}_3\text{H}_4) = 14,29\% \quad (11)$$

3



1)

$$\omega(\text{H}_2) = V(\text{H}_2) / V_m = 1,12 / 22,4 = 0,05 \quad (0,5)$$

$$\omega(\text{Cl}_2) = \omega(\text{H}_2) = V(\text{H}_2) / 2 = 0,05 / 2 = 0,025 \quad (0,5)$$

2)

$$m(\text{KOH}) = m(\text{KCl}) - m(\text{Cl}_2) - m(\text{H}_2) = m(\text{KCl}) - M(\text{Cl}_2) \cdot \omega(\text{Cl}_2) - M(\text{H}_2) \cdot \omega(\text{H}_2)$$

$$m(\text{KOH}) = 149 - 71 \cdot 0,025 - 2 \cdot 0,025 = 147,17 \quad (1)$$

3)

KOH

$$\omega(\text{KOH}) = m(\text{KOH}) / m(\text{KOH}) = 0,05 \quad (0,5)$$

$$m(\text{KOH}) = M(\text{KOH}) \cdot \omega(\text{KOH}) = 56 \cdot 0,05 = 2,8 \quad (0,5)$$

$$\omega(\text{KOH}) = m(\text{KOH}) / m(\text{KOH}) = 2,8 / 147,17 = 0,019 \quad (0,5)$$

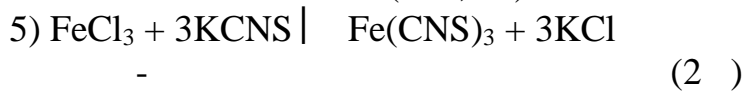
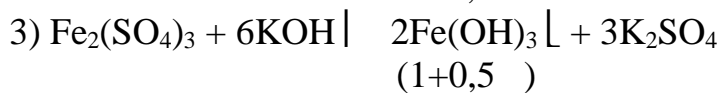
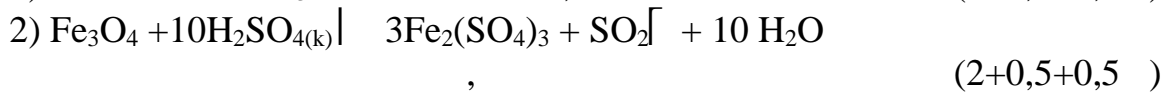
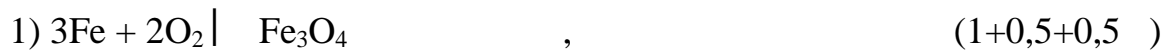
4) KCl ,
 $m(\text{KCl}) = m(\text{KCl}) \cdot (\text{KCl}) = 149 \cdot 0,04 = 5,96$ (0,5)
 $(\text{KCl}) = m(\text{KCl}) / M(\text{KCl}) = 5,96 / 74,5 = 0,08$ (1)

2 KCl 1 Cl_2
 KCl 0,025 Cl_2
 $= 0,05$ KCl (1)
 $(\text{KCl}) = (\text{KCl}) - (\text{KCl}) = 0,08 - 0,05 = 0,03$ (1)

6) $(\text{KCl}) = (\text{KCl}) / (\text{KCl}) = 0,05 / 0,08 = 0,625$ (0,5)

7) $m(\text{KCl}) = M(\text{KCl}) \cdot (\text{KCl}) = 74,5 \cdot 0,03 = 2,235$ (1)
 $(\text{KCl}) = m(\text{KCl}) / m(\text{KCl}) = 2,235 / 147,17 = 0,0152$ (0,5)
: $(\text{KOH}) = 0,019$, $(\text{KCl}) = 0,0152$, $\text{KCl } 62,5\%$ (10)

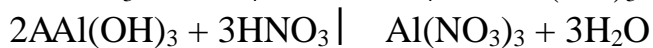
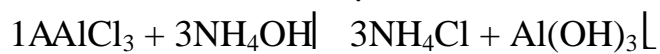
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5

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 $\text{AlCl}_3, \text{NaOH}, \text{NH}_4\text{OH}, \text{HNO}_3, \text{Ca}(\text{OH})_2, \text{HCl}, \text{NaCl}$;



1

1 (0,5*2)

8