

- 1-4 1
- 2-1 0,6
- 3-4 0,6
- 4-4 2
- 5-4 1
- 6-1 2
- 7-2 2
- 8-1 2
- 9-1 2
- 10-4 2

Записи к 2.

Дано:

$m(\text{Na}) = 9,2 \text{ г}$

$V(\text{H}_2\text{O}) = 400 \text{ мл}$

$\rho(\text{H}_2\text{O}) = 1 \text{ г/мл}$

$w(\text{FeCl}_3) = 15\% = 0,15$

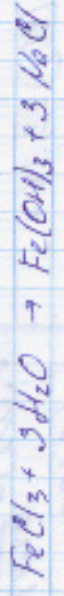
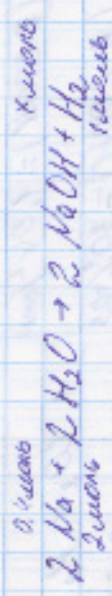
$m(\text{FeCl}_3) = ?$

$w(\text{NaOH}) = ?$

$M(\text{NaOH}) = 40 \text{ г/моль}$

$M(\text{H}_2\text{O}) = 18 \text{ г/моль}$

$M(\text{FeCl}_3) = 162,5 \text{ г/моль}$



$n(\text{Na}) = \frac{m}{M} = \frac{9,2}{23} = 0,4 \text{ моль}$

$n(\text{Na}) = n(\text{NaOH}) = 0,4 \text{ моль}$

$n(\text{H}_2) = \frac{0,4}{2} = 0,2 \text{ моль}$

$m(\text{H}_2) = 0,2 \cdot 2 = 0,4 \text{ г}$

$m(\text{NaOH}) = V \cdot M = 0,4 \cdot 40 = 16 \text{ г}$

$m(\text{H}_2\text{O}) = 1 \text{ г/мл} \cdot 400 \text{ мл} = 400 \text{ г}$

$w(\text{NaOH}) = \frac{m(\text{NaOH})}{m(\text{Na}) + m(\text{H}_2\text{O}) + m(\text{H}_2)}$

$= \frac{16}{9,2 + 400 + 0,4} = 0,039 \cdot 100\% = 3,9\%$

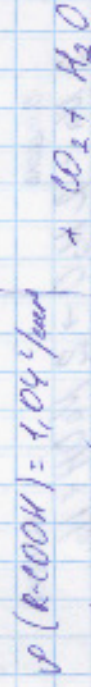
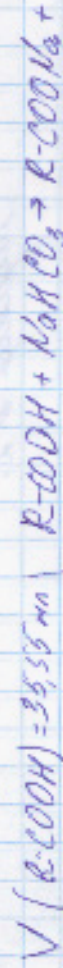
$$n(\text{FeCl}_3) = \frac{0,4}{3} = 0,13 \text{ моль}$$

$$m(\text{FeCl}_3) = 0,13 \text{ моль} \cdot 162,5 \text{ г/моль} = 21,13 \text{ г}$$

$$m(\text{FeCl}_3)_{\text{пр}} = \frac{m(\text{FeCl}_3)}{w(\text{FeCl}_3)} = \frac{21,13}{0,15} = 141 \text{ г}$$

Ответ: $m(\text{p-pa FeCl}_3) = 141 \text{ г}$; $w(\text{NaOH}) = 3,9 \%$

Задача №3



$$v(\text{R-COOH}) = 30\% = 0,3$$

$$V(\text{CO}_2) = \frac{3,36 \text{ г}}{22,4 \text{ г/моль}} = 0,15 \text{ моль}$$

$$V(\text{R-COOH}) = V(\text{CO}_2) = 0,15 \text{ моль}$$

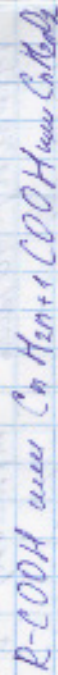
$$\text{R-COOH} - ?$$

$$m(\text{R-COOH}) = \rho \cdot V = 1,04 \text{ г/мл} \cdot 35,55 =$$

$$= 36,972 \text{ г}$$

$$m(\text{R-COOH}) = W \cdot m(\text{p-pa}) = 0,3 \cdot 36,972 =$$

$$= 11,09 \text{ г}$$



$$12n + 2n + 32 = 74$$

$$14n + 32 = 74$$

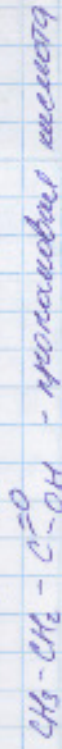
$$14n = 74 - 32$$

$$14n = 42$$

$$n = 42 : 14$$

$$n = 3$$

Ответ: формула органической кислоты



Задача №5

