

$$a(b)c = a(bc)$$

$$E = mc^2$$

$$v = \lambda \cdot \nu$$

Задача №2

Дано:

$$m_1(p-pa) = 200 \text{ г}$$

$$m_{\text{Cu}}(\text{CuSO}_4) = 10\%$$

$$m_2(p-pa) = 340 \text{ г}$$

$$m_{\text{Cu}}(\text{CuSO}_4) = 16\%$$

$$m_3(\text{CuSO}_4) = ?$$

Решение:

$$m_{\text{Cu}}(\text{CuSO}_4) = \frac{m_1(\text{CuSO}_4)}{m_1(p-pa)} \cdot 100 \geq$$

$$m_1(\text{CuSO}_4) = m_1(p-pa) \cdot \frac{m_{\text{Cu}}(\text{CuSO}_4)}{100} =$$

$$= 200 \text{ г} \cdot 0,1 = 20 \text{ г}$$

$$m_{\text{Cu}}(\text{CuSO}_4) = \frac{m_2(\text{CuSO}_4)}{m_2(p-pa)} \cdot 100 \geq$$

$$m_2(\text{CuSO}_4) = m_2(p-pa) \cdot \frac{m_{\text{Cu}}(\text{CuSO}_4)}{100} =$$

$$= 340 \cdot 0,16 = 54,4 \text{ г}$$

$$m_3(\text{CuSO}_4) = m_1(\text{CuSO}_4) + m_2(\text{CuSO}_4) = 20 \text{ г} + 54,4 \text{ г} =$$

$$= 74,4 \text{ г}$$

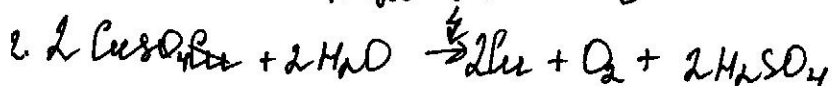
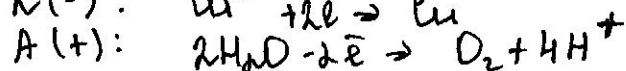
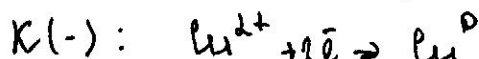
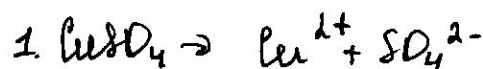
$$m_3(p-pa) = m_1(p-pa) + m_2(p-pa) = 200 \text{ г} + 340 \text{ г} =$$

$$= 540 \text{ г}$$

$$m_{\text{Cu}}(\text{CuSO}_4) = \frac{m_3(\text{CuSO}_4)}{m_3(p-pa)} \cdot 100 = \frac{74,4 \text{ г}}{540 \text{ г}} \cdot 100\% = 13,78\%$$

$$\text{Ответ: } m_{\text{Cu}}(\text{CuSO}_4) = 13,78\%$$

№3



3.

Дано:

$$V(\text{O}_2) = 2,125 \text{ л}$$

$$m(\text{Cu}) = ?$$

Решение:

$$n(\text{O}_2) = \frac{V}{V_m} = \frac{2,125}{24,4} = 0,1 \text{ моль}$$



$$n(\text{Cu}) = 2n(\text{O}_2) = 0,2 \text{ моль (по уравнению реакции)}$$

$$m(\text{Cu}) = n \cdot M = 0,2 \text{ моль} \cdot 64 \frac{\text{г}}{\text{моль}} = 12,8 \text{ г}$$

$$\text{Ответ: } m(\text{Cu}) = 12,8 \text{ г}$$

Использовать только эту сторону листа,
обратная сторона не проверяется!

ШИФР 20106

N4

Дано:

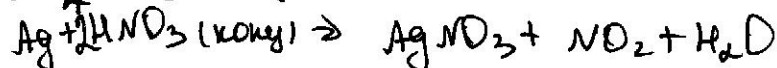
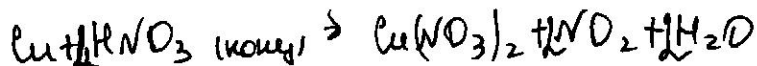
$$\begin{aligned} m(\text{Cu}) + m(\text{Ag}) &= 2,18 \text{ г} \\ m(\text{Cu}(\text{NO}_3)_2) + m(\text{AgNO}_3) &= 5,28 \text{ г} \end{aligned}$$

~~m(Cu)~~

~~m(Ag)~~ - ?

~~m(Cu)~~

Решение:



Пусть $n(\text{Cu}) = x$ моль, а $n(\text{Ag}) = y$ моль

$$m(\text{Cu}) = n \cdot M = 64 \cdot x = 64x$$

$$m(\text{Ag}) = n \cdot M = 108 \cdot y = 108y$$

$n(\text{Cu}) = n(\text{Cu}(\text{NO}_3)_2) = x$ моль (по уравнению реакции)

$$m(\text{Cu}(\text{NO}_3)_2) = n \cdot M = x \cdot 188 = 188x$$

$n(\text{Ag}) = n(\text{AgNO}_3) = y$ моль (по уравнению реакции)

$$m(\text{AgNO}_3) = n \cdot M = y \cdot 170 = 170y$$

$$\begin{cases} 64x + 108y = 2,18 \\ 188x + 170y = 5,28 \end{cases} \begin{matrix} \cdot 188 \\ \cdot 64 \end{matrix}$$

$$\begin{cases} -12032x + 20304y = 526,4 \\ -12032x + 10880y = 337,92 \end{cases}$$

$$\begin{cases} 9424y = 188,48 \\ 64x + 108y = 2,18 \end{cases}$$

$$y = 0,02 \text{ моль}$$

$$y = 0,02 \text{ моль}$$

$$64x + 108 \cdot 0,02 = 2,18$$

$$64x = 2,18 - 2,16$$

$$64x = 0,02$$

$$x = 0,01 \text{ моль}$$

$$m(\text{Cu}) = n \cdot M = 0,01 \cdot 64 = 0,64 \text{ г}$$

$$m(\text{Ag}) = n \cdot M = 0,02 \cdot 108 = 2,16 \text{ г}$$

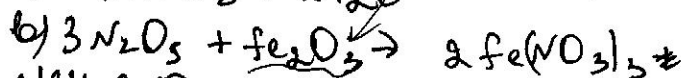
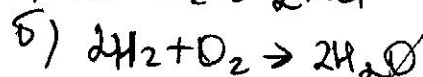
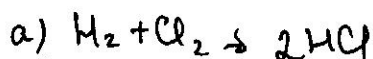
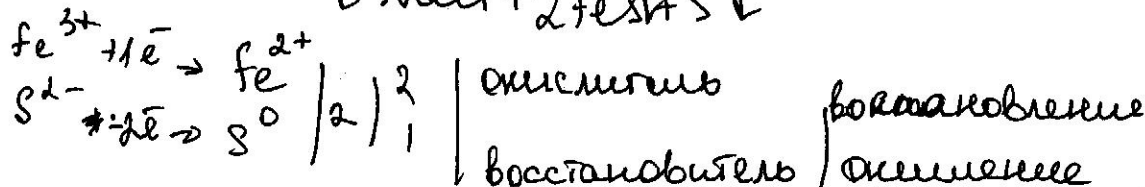
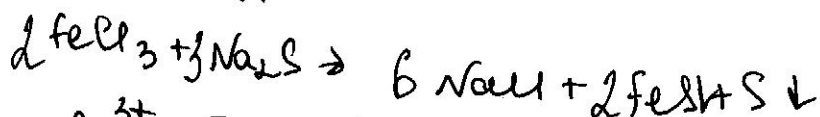
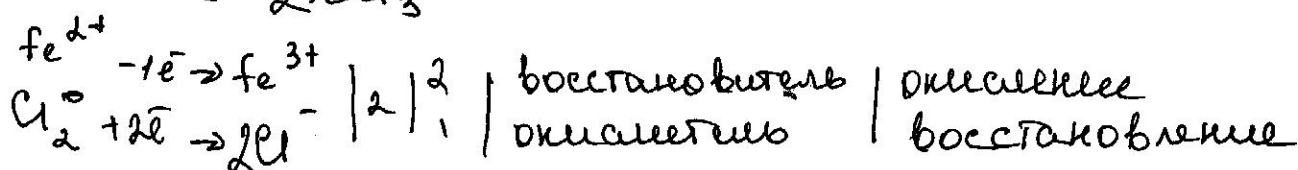
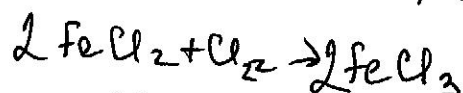
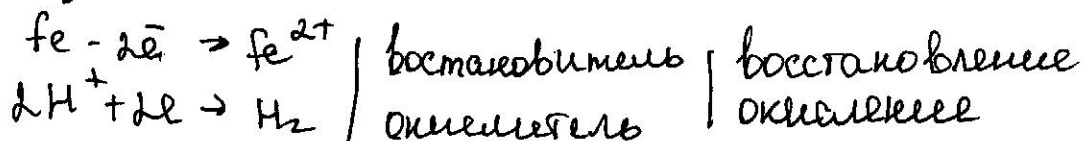
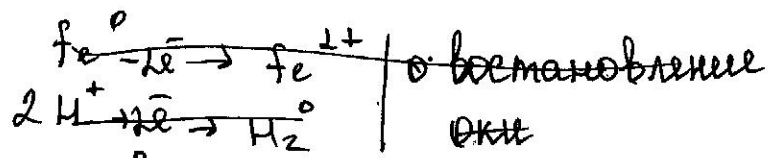
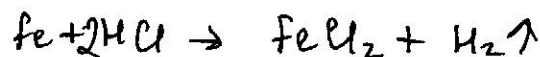
$$w(\text{Cu}) = \frac{m(\text{Cu})}{m(\text{Cu}) + m(\text{Ag})} \cdot 100 = \frac{0,64}{2,8} \cdot 100 = 22,86\%$$

$$w(\text{Ag}) = \frac{m(\text{Ag})}{m(\text{Cu}) + m(\text{Ag})} \cdot 100 = \frac{2,16}{2,8} \cdot 100 = 77,14\%$$

Ответ: $w(\text{Cu}) = 22,86\%$

$w(\text{Ag}) = 77,14\%$ / 5

№



д)

№5

разные
ф-ва по условию!

3

5