ThS. Lê Đăng Khương

TS. Nguyễn Văn Hải

BỘ ĐỀ 9 ĐIỂM HÓA HỌC

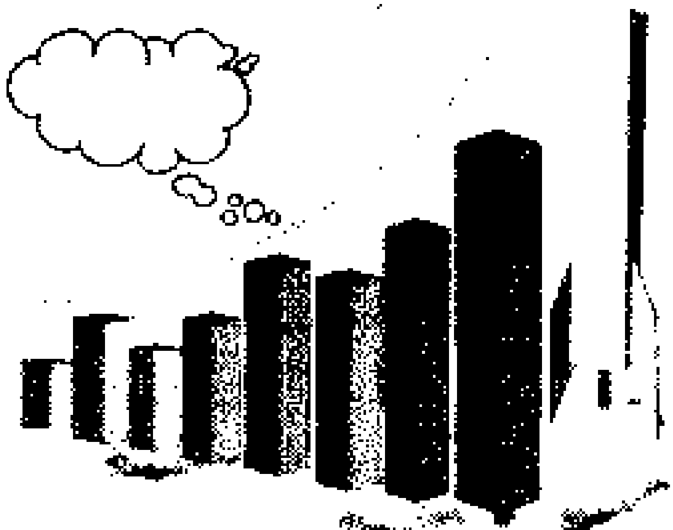
Hoặc bạn dùng động cơ, hoặc tiếp tục chạy bộ

H335

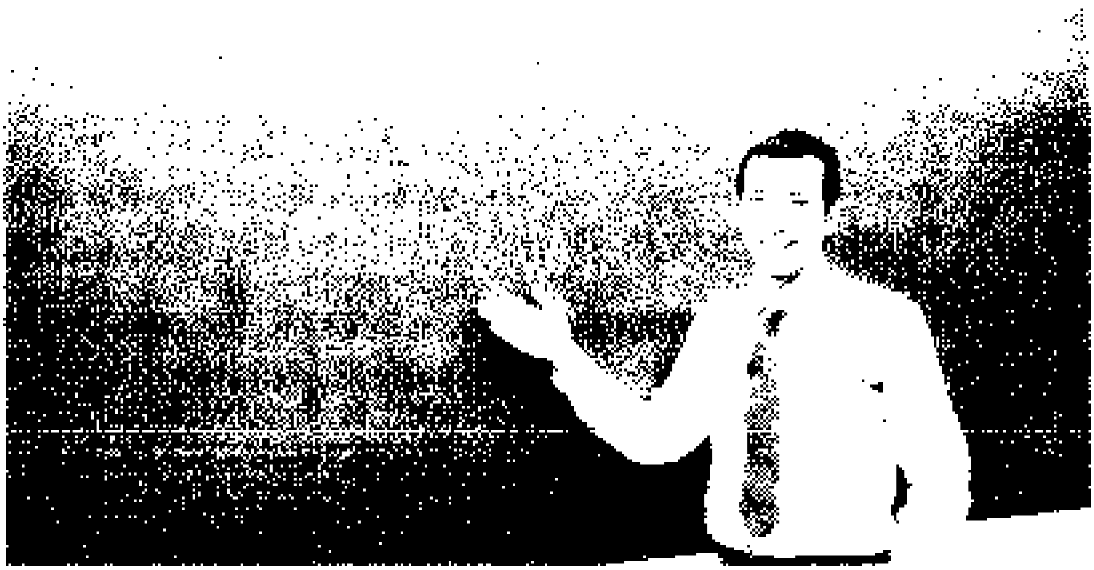
NXB DÂN TRÍ

BỘ ĐỀ

ĐIỂM



PHƯƠNG PHÁP 30 GIÂY LÀM ĐỀ THI THỬ



PHƯƠNG PHÁP [illegible] LÀM ĐỀ THI THỬ

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PHƯƠNG PHÁP 30 GIÂY LÀM ĐỀ THI [illegible]

[illegible]

Nguyễn Hồ Đăng - Sinh viên Đại học Y Hà Nội K113

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Nguyễn Đăng [illegible] - Sinh viên Đại học [illegible]

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PHƯƠNG PHÁP [illegible] LÀM ĐỀ THI THỬ

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Hoàng Anh – Sinh viên – Đại học [illegible]

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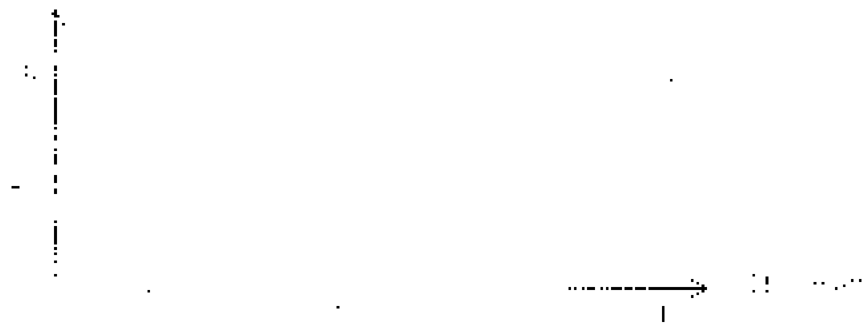
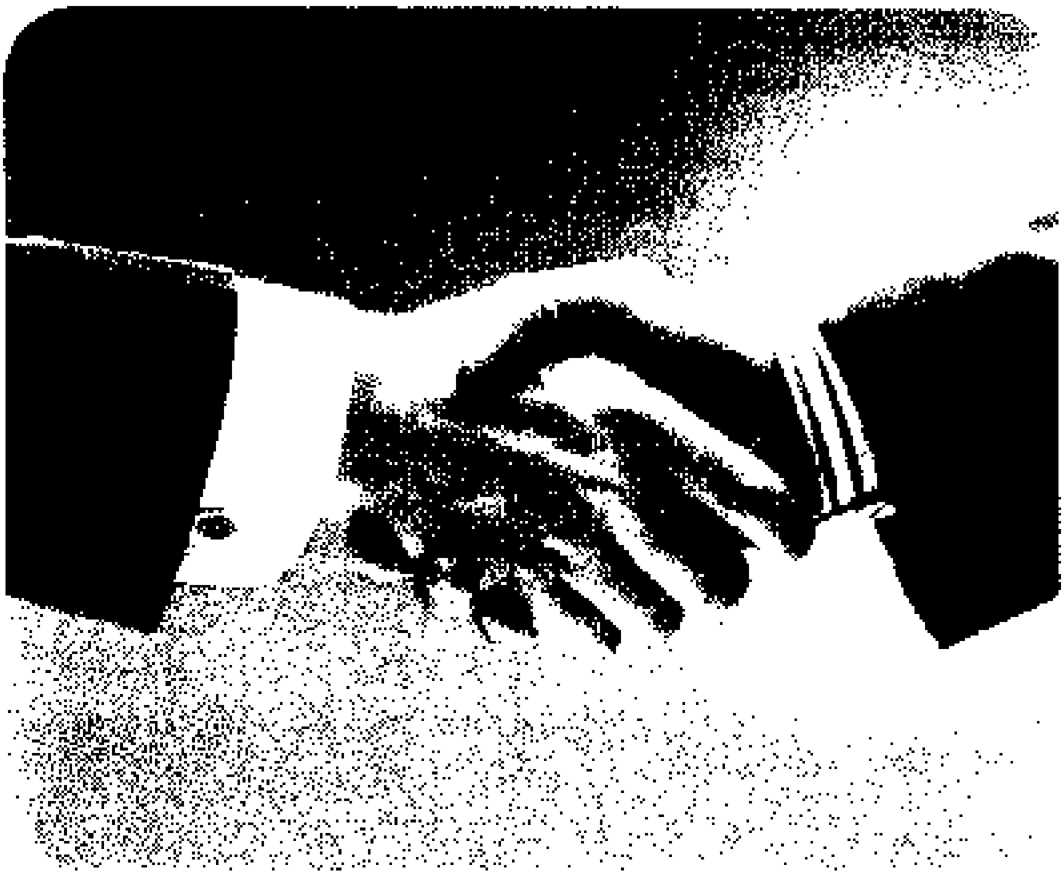
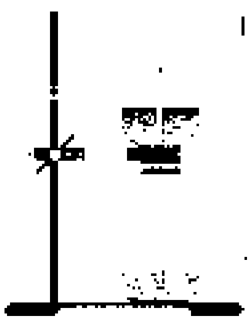


PHƯƠNG PHÁP 30 GIÂY LÀM ĐỀ THI [illegible]

ĐỀ SỐ 1: CAM KẾT

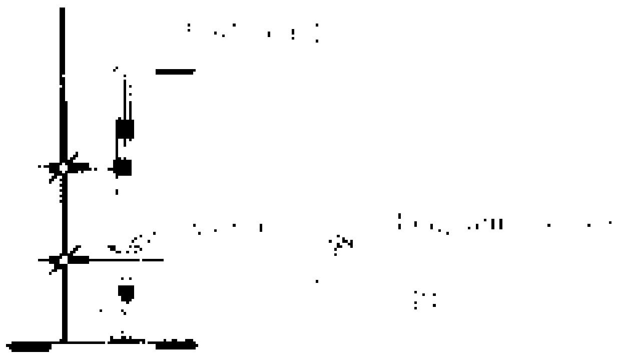




ĐỀ SỐ 1. CAM KẾT

[illegible]

DE SO 1: CAM KET



$$D = \frac{28.0,8 + 32.0,2}{22,4} = 1,30\ (g/L)$$

$$\frac{\%M}{\%SO_4} = \frac{20}{80} \to \frac{2M}{96n} = \frac{20}{80} \to M = 12n \to n = 2,\ M = 24\ (Mg)$$

$$n_e = 3n_{Al} = \frac{It}{F} = \frac{150000\ldots}{96500} = \frac{3{,}252.10^{\ldots}}{27}$$

[illegible]

ĐỀ SỐ 1 - CAM KẾT

$$\begin{cases} C_2H_6 + Cl_2 \xrightarrow{as} C_2H_5Cl + HCl \\ CH_2=CH_2 + Br_2 \longrightarrow CH_2Br-CH_2Br \\ CH\equiv CH + 2AgNO_3 + 2NH_3 \longrightarrow AgC\equiv CAg\downarrow + 2NH_4NO_3 \\ C_6H_6 + Br_2 \xrightarrow[t^o]{Fe} C_6H_5Br + HBr \end{cases}$$

$$\begin{cases} CH_3COO-C_6H_4-OH + 3NaOH \longrightarrow CH_3COONa + NaO-C_6H_4-ONa + 2H_2O \\ Mol:\ a \longrightarrow 3a \end{cases}$$

$$Na_2SO_3 + H_2SO_4 \longrightarrow Na_2SO_4 + SO_2\uparrow + H_2O$$

$$\begin{cases} 2HCl \xrightarrow{đp} 2Cl^- + H_2 \\ \text{Mol: } 0,02 \longrightarrow 0,02 \end{cases} \qquad \begin{cases} 2H_2O \xrightarrow{đp} 2OH^- + H_2 \\ \text{Mol: } 0,07 \longleftarrow 0,035 \end{cases}$$

$n_{[illegible]} = 2n_{H_2} - n_{[illegible]} = 0,07$ (mol); $n_{[illegible]} = 4n_{[illegible]} - n_{[illegible]} = 4.0,02 - 0,07 = 0,01$ (mol).

$\rightarrow n = 0,02 + 0,02 = 0,04$ (mol) $\rightarrow V = \dfrac{0,04}{0,5} = 0,08$ (L) = 80 (mL)

... $= 0,02$ (mol) ... $0,02$ (mol)

... $= 0,04$ (mol) $\rightarrow V = \dfrac{0,04}{0,5} = 0,08$ (L) = 80 (mL)

... 224 mL X: $\begin{cases} CO: x \\ CO_2: y \\ O_2: z \end{cases} \rightarrow \begin{cases} x + y + z = 0,01 \\ 28x + 44y + 32z = 18,2.0,01 = 0,36 \end{cases}$

$$n_{O} = 0,018.\frac{0,030}{0,006} = 0,09 \text{ (mol)} \Rightarrow n_{O_2} = 0,045 \text{ (mol)}.$$

$$m = 5,75 + m_{O_2} = 5,75 + \left(\frac{0,030}{0,006}.0,018 : 2\right).32 = 7,19 \text{ (gam)}.$$

[illegible]

[illegible] ... gam

Bảo toàn khối lượng: [illegible] = 0,8 (gam) ⇒ [illegible] $= \frac{0,8}{16} = 0,05$ (mol)

[illegible]

[illegible]

$\Delta n = [illegible] = \left(0,09 - \frac{0,08.18}{16}\right) = 0,03$ (mol); [illegible] $= 0,03$ (mol) ⇒ [illegible] (gam)

[illegible]

$$m = m_{CO_2} + m_{H_2O} - m_{O_2} = 44\left(\frac{V}{22,4}\right) + 18a - 32\left(\frac{3a}{2}\right) = \frac{11V}{5,6} - 30a.$$

$$n_{Fe_2O_3} = \frac{1}{2}n_O = \frac{1}{2}\left(\frac{0,4m}{16}\right) = \frac{m}{80}\ (mol);\ n_{MgO} : n_{Fe} = \frac{2,0}{40} : \frac{2,8}{56} = 1 : 1 = \frac{m}{160} : \frac{m}{160}.$$

$$m = 8,6 : \left(1 + \frac{22}{160} + \frac{38}{160}\right) = 8,8 : 1,375 = 6,4\ (gam).$$

$$n = 4n + n = 4.\frac{m}{27} + \frac{m}{9.80} = \frac{25,84}{40} = 0,646 \to m = 4,32 \text{ (gam)}.$$

$$m_{Cu,SO_4} = 8m \quad \frac{213m}{27} = \frac{m}{9};\ m = 0,646 : \left(\frac{4}{27} + \frac{1}{9.80}\right) = 4,32;\ n_{H^+} = \frac{0,62 - 4.0,006}{2} = 0,298$$

$$\frac{n_N}{n_O} = \left(\frac{0,62 - 3.0,16 - 2.0,006}{3.0,62 - 9.0,16 - 3.0,006 - 0,298}\right) = \frac{0,128}{0,104} = \frac{16}{13};\ (1,2) \to \begin{cases} NO \\ N_2O \end{cases}$$

$$CuSO_4 + 2NaCl \xrightarrow{đpdd} Cu + Cl_2\uparrow + Na_2SO_4$$

Mol: 0,006 → 0,016

$$2HCl \xrightarrow{đpdd} H_2\uparrow + Cl_2\uparrow$$

Mol: 0,004

$$2NaCl + 2H_2O \xrightarrow{đp} 2NaOH + H_2\uparrow + Cl_2\uparrow$$

Mol: 0,04 → 0,04

pH = 2 → $n_{H^+} = 10^{-2} \cdot 0,4 = 0,004$ (mol); pH = 13 → $n_{OH^-} = 10^{-1} \cdot 0,4 = 0,04$ (mol)

$n_e = 2n_{H_2} = \ldots = 0,06$ (mol) → $\frac{It}{F} = 0,06$ → $t = \frac{0,06 \cdot 96500}{1,93} = 3000$ (s)

[illegible]

$$\begin{pmatrix} 3Fe^{2+} & + & NO_3^- & + & 4H^+ \longrightarrow 3Fe^{3+} + NO\uparrow + 2H_2O \\ \text{Mol: } (2x+y-0{,}039) & & (0{,}168-6x-2y) & & \end{pmatrix}$$

$$\left\{\begin{matrix} n_{H^+(Y)} = n_{HCl} - 2n_O = 0{,}168 - 2(3x+y) \\ n_{Fe} = n_{Ag} + \left(\dfrac{3}{4}\right) n_{H^+(Y)} \rightarrow 2x + y = 0{,}039 + 0{,}126 - 4{,}5x - 1{,}5y \end{matrix}\right\} \rightarrow 6{,}5x + 2{,}5y = 0{,}165$$

$$\rightarrow 26x + 10y = 0{,}66 \rightarrow \{x = 0{,}01\ (mol);\ y = 0{,}04\ (mol);\ z = 0{,}03\ (mol) \rightarrow m = 6{,}4\ (gam).$$

$$\begin{cases} x = 0,05 \\ y + z = 0,15 \\ 3x + y + 2z = 0,35 \end{cases} \longrightarrow x = 0,05\ (mol);\ y = 0,10\ (mol);\ z = 0,05\ (mol).$$

$C_nH_{[illegible]}O_4$: x; $C_mH_{[illegible]}O$: y

$$\begin{cases} n_X = x + y = 0,2 \\ n_{[illegible]} = 4x + y = 0,35 \end{cases} \rightarrow \begin{cases} x = 0,05 \\ y = 0,15 \end{cases} \longrightarrow n_{[illegible]} = 0,05n + 0,15m = 0,35$$

$$n + 3m = 7 \rightarrow \begin{cases} n = 2\ (HOOC-COOH) \\ n = 3\ (HOOC-CH_2-COOH) \end{cases} \rightarrow \begin{cases} m = 5/3 \\ m = 4/3 \end{cases} \longrightarrow \begin{cases} CH_3OH \\ C_2H_5OH \end{cases} \rightarrow m_{[illegible]} = 4,86\ (gam)$$

ĐỀ SỐ 1: CAM KLT

$$x : y : z = n_C : n_H : n_O = 0,14 : 0,20 : 0,12 = 7 : 10 : 6 \rightarrow Y: C_7H_{10}O_6$$

[illegible]

$$Y: HOOC - CH = CH - COOH \qquad (C_4H_4O_4)$$

$$Y = HOOC - CH = CH - COO - CH_2 - CH(OH) - CH_2OH \qquad (C_7H_{10}O_6)$$

[illegible]

$$Y\{C, H, O\} \quad x : y : z = 0,14 : 0,20 : \frac{3,8 - 0,20.1 - 0,14.12}{16} = 7 : 10 : 6 \rightarrow C_7H_{10}O_6$$

$$HOOC - R - COO - C_3H_5(OH)_2 = C_7H_{10}O_6 \rightarrow Y: HOOC - CH = CH - COO - C_3H_5(OH)_2$$

[illegible]

$$\begin{cases} -x + y - 3z = 0,075 \\ 2x + 2y + 4z = 0,600 \\ x + 2z = 0,100 \end{cases} \rightarrow x = 0,050\ (mol);\ y = 0,200\ (mol);\ z = 0,025\ (mol).$$

$$\begin{cases} C_nH_{2n-1}COOH & : x \\ C_mH_{2m}(OH)_2 & : y \\ (C_nH_{2n-1}COO)_2C_mH_{2m} & : z \end{cases} + NaOH \xrightarrow{t^o} C_nH_{2n-1}COONa + C_mH_{2m}(OH)_2 + H_2O$$

Mol: (x+2z) (x+2z) (y+z) x

$$\rightarrow 4n + 9m = 37 \rightarrow \begin{cases} m = 3 \\ n = 2,5 \end{cases} \rightarrow \begin{cases} X: CH_2=CH-COOH \\ Z: C_3H_6(OH)_2 \end{cases} \rightarrow m = (14n + 66)(x+2z) = 10,1$$

Qui đổi: $\begin{cases} X : a \text{ (mol)} \\ Y : b \text{ (mol)} \end{cases} = \begin{cases} C_nH_{2n-1}ON : x & \text{(mol)} \\ H_2O & : a + b \text{ (mol)} \end{cases} \quad \begin{cases} x = 0,08 + 0,20 = 0,28 \text{ (mol)} \\ a + b = 0,06 \text{ (mol)} \end{cases}$

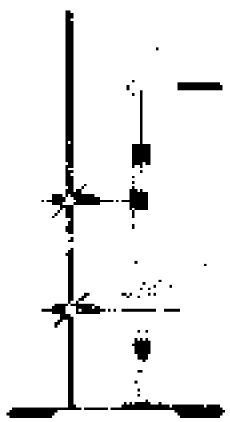
$(2) \begin{cases} H_2N-CH_2-COONa : 0,20 \\ H_2N-R-COONa : 0,08 \end{cases} \rightarrow R = \dfrac{30,52 - 0,20.97}{0,08} - (16+67) = 56 \rightarrow -C_4H_8-$

$Y = (C_2H_5O_2N)_4(C_5H_{11}O_2N)_2 - 5H_2O = C_{18}H_{32}O_7N_6$; Tổng số nguyên tử = 63

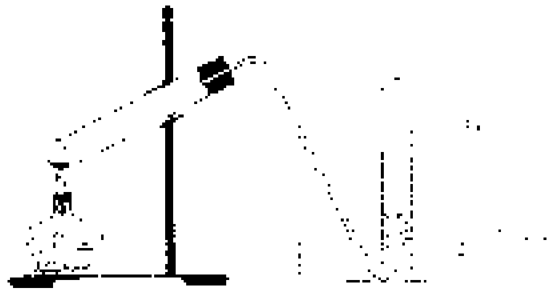
$$\begin{cases} (14n + 29).0,28k + 18.0,06k = 10,2 \\ \dfrac{3n - 1,5}{2}.0,28k = \dfrac{15,84}{32} = 0,495 \end{cases} \Rightarrow \begin{cases} k = 0,5 \\ n = \dfrac{20}{7} \end{cases} \Rightarrow \begin{cases} Gly \\ Val \end{cases} \Rightarrow \begin{cases} X = (Gly)_1(Ala)_1 \\ Y = (Gly)_2(Ala) \end{cases}$$

ĐỀ SỐ 1: CAM KẾT

Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt



ĐỀ SỐ 2: CHINH PHỤC



ĐỀ SỐ 2: CHINH PHỤC

$$\left({}^{56}_{26}Fe \begin{cases} A = Z + N = 56 \\ Z = 26 \end{cases} \rightarrow \begin{cases} Z = 30 \\ Z = 26 \end{cases}\right)$$

$$\left(2NaBr + 2H_2SO_4 \xrightarrow{t^\circ} Na_2SO_4 + Br_2 + SO_2 + 2H_2O\right)$$

$$\left(\begin{array}{ll} \text{Catot } (-) & \text{Anot } (+) \\ Cu^{2+} + 2e \longrightarrow Cu & 2H_2O - 2e \longrightarrow \frac{1}{2}O_2\uparrow + 2H^+ \end{array}\right)$$

$$\left(\begin{array}{lllll} & M_2O_n + & nCO & \xrightarrow{t^\circ} 2M & + nCO_2 \\ \text{Mol:} & \frac{0,135}{n} \longleftarrow & 0,135 & & \end{array}\right) \Rightarrow (2M + 16n)\left(\frac{0,135}{n}\right) = 7,2 \rightarrow M = \frac{56n}{3}$$

$$\%m_{kl} = \frac{m_{Al} + m_{Fe}}{10}.100\% = \frac{(3,6 - 0,08.27) + 0,06.56}{10}.100\% = 59,2\%$$

$$2NaCrO_2 + 3Br_2 + 8NaOH \longrightarrow 2Na_2CrO_4 + 6NaBr + 4H_2O$$

$$\left(2-\text{metylbutan: } \overset{1}{C}H_3-\overset{2}{C}H(CH_3)-\overset{3}{C}H_2-\overset{4}{C}H_3\right)$$

$$CH_3COOH + C_2H_5OH \rightleftharpoons CH_3COOC_2H_5 + H_2O$$

[illegible] $0{,}035 = 2{,}6 \rightarrow R = 15$ (CH_3-) → Ester CH_3COO [illegible]

[illegible] $0{,}035$ [illegible]

ĐỀ SỐ 2: CHINH PHỤC

$$\begin{cases} Al_2O_3 \\ MgO \end{cases} + \begin{cases} HCl \\ H_2SO_4 \end{cases} \quad \begin{pmatrix} O & \longrightarrow & 2H & \longrightarrow & H_2O \\ \text{Mol: } 0,1 & \longrightarrow & 0,2 & & \end{pmatrix}$$

$$n = 2n = 4n = 0,2\ (mol) \rightarrow m = 0,2 : \left(\frac{0,073}{36,5} + \frac{2.0,098}{98}\right) = 50\ (gam).$$

$$\begin{cases} X + HCl & \lceil n = 2 \rightarrow (1): 3x + 2y = 0,24 \\ X + Cl_2 & \lceil n = 3 \rightarrow (2): 3x + 3y = 0,30 \end{cases} \rightarrow \begin{cases} x = 0,04\ (mol) \\ y = 0,06\ (mol) \end{cases}$$

$$n_X = \Delta n_e = \left(2n - 2n\right) = 0,30 - 0,24 = 0,06\ (mol);\ n_M = \frac{0,24 - 2.0,06}{3} = 0,04\ (mol)$$

$$\rightarrow X = \frac{4,2 - 0,04.27}{0,06} = 52\ (Cr)$$

$$\text{Theo bài: } \begin{cases} 80x + 102y = 5 \\ x + 3y = \dfrac{0,15}{1,25} = 0,12 \end{cases} \rightarrow \begin{cases} x = 0,02 \text{ (mol)}; \ y = \dfrac{0,1}{3} \text{ (mol)} \end{cases}$$

$m = m_{[illegible]} + m_{[illegible]} = 98(n_{[illegible]}) + 233(n_{[illegible]}) = 98.0,02 + 233.0,15 = 36,91$ (gam).

ĐỀ SỐ 2: [illegible]

$$\begin{cases} Al + OH^- + H_2O \longrightarrow AlO_2^- + \dfrac{3}{2}H_2 \\ \text{Mol:} \quad (x+2y) \longrightarrow \dfrac{3}{2}(x+2y) \end{cases}$$

$$\begin{cases} \dfrac{1}{2}x + y + \dfrac{3}{2}(x+2y) = 0{,}12 \\ \dfrac{1}{2}x + y + \dfrac{3}{2}z = 0{,}13 \\ 23x + 137y + 27z = 5 \end{cases} \rightarrow \begin{cases} x = 0{,}02 \\ y = 0{,}02 \\ z = \dfrac{0{,}2}{3} \end{cases} \rightarrow m = \dfrac{0{,}2}{3}.78 = 5{,}2 \text{ (gam)}$$

(2) $H_2N-CH(CH_3)-COOCH_3 + NaOH \longrightarrow H_2N-CH(CH_3)-COONa + CH_3OH$

$$n_{CO_2} = 0{,}075n + 0{,}025m = 0{,}275 \rightarrow 3n + m = 11 \rightarrow \begin{cases} 3n + m = 11 \\ n, m \in [2; 4] \end{cases} \rightarrow \begin{cases} n = 3 \\ m = 2 \end{cases} \rightarrow X: \begin{cases} C_3H_6 \\ C_2H_2 \end{cases}$$

$$n_X = (2n_{ankin} + n_{anken}).\frac{2{,}28}{3{,}8} = (2.0{,}025 + 0{,}075).\frac{2{,}28}{3{,}8} = 0{,}075 \text{ (mol)}.$$

$n_{ankin} = n_{CO_2} - n_{H_2O} = 0,025\ (mol);\ n_{anken} = n_X - n_{ankin} = 0,075\ (mol)$

$m_{Br_2} = 160.(2n_{ankin} + n_{anken}).\dfrac{2,28}{3,8} = 160.(2.0,025 + 0,075).\dfrac{2,28}{3,8} = 12\ (gam).$

$2C_2H_5OH \xrightarrow[t^\circ]{H_2SO_4\ đặc} C_2H_5-O-C_2H_5 + H_2O$

$$\begin{cases} na = 0{,}325 \\ (n+1)a = 0{,}450 \end{cases} \rightarrow \begin{cases} a = 0{,}125 \text{ (mol)} \\ n = 2{,}6 \end{cases}; n = 2{,}6$$

$\bar{C} = \dfrac{n_{CO_2}}{n_X} = \dfrac{0{,}325}{0{,}125} = 2{,}6 \rightarrow$ Hai ancol đa chức là $C_2H_4(OH)_2$ và $C_3H_6(OH)_2$.

$x : y : z : t = n_C : n_H : n_O : n_N = 0{,}12 : 0{,}36 : 0{,}08 : 0{,}04 = 3 : 9 : 2 : 1$

Theo bài: $\begin{cases} x + y = \dfrac{3,64}{91} = 0,04 \\ 31x + 45y = 1,66 \end{cases} \rightarrow \{x = 0,01\ (mol);\ y = 0,03\ (mol)$

$m = 3,64 + 0,04.40 - 1,66 - 0,04.18 = 2,86$ (gam).

$108x = 11,2$ (gam) $\rightarrow x = \dfrac{11,2}{108}$ (mol) $\rightarrow n = x = \dfrac{11,2}{108} < 0,16$ (mol);

$\begin{cases} 108a + 64y = 11,2 \\ a + 2y = 0,16 \end{cases} \rightarrow \begin{cases} a = 0,08\ (mol) \\ y = 0,04\ (mol) \end{cases}$

ĐỀ SỐ 2: CHINH PHỤC

$$Y\begin{cases} Ag : a \\ Cu : y \end{cases} \begin{cases} 108a + 64y = 11,2 \\ n_e = a + 2y = 0,16 \end{cases} \rightarrow \begin{cases} a = 0,08 \\ y = 0,04 \end{cases} \quad X\begin{cases} Al(NO_3)_3 : c \\ Mg(NO_3)_2 : d \\ Cu(NO_3)_2 : 0,12 \end{cases} \begin{cases} 4c + 2d + 2.0,12 = 0,43 \\ 3c + 2d = 0,16 \end{cases}$$

$$\rightarrow \{c = 0,030;\ d = 0,035 \rightarrow m = 0,03.27 + 0,035.24 = 1,65\ (gam).$$

$$\begin{pmatrix} X & + & H_2SO_4 & \longrightarrow & Y\begin{cases} Fe_2(SO_4)_3 : a \\ H_2SO_4 : b \end{cases} & + & SO_2 & + & H_2O \\ Mol: & & 0,2 & & & & (0,2-3a-b) & & (0,2-b) \end{pmatrix}$$

$$X\begin{cases}Fe: x\\ O: y\end{cases};\ Y\begin{cases}Fe_2(SO_4)_3: \dfrac{x}{2}\\ H_2SO_4: z\end{cases} \rightarrow \begin{cases}56x + 16y = 5\\ n_e = 3n_{Fe} = 2n_O + 2n_{SO_2}\\ n_{H^+} = 2n_{H_2SO_4} + 3n_{Fe(OH)_3}\end{cases} \rightarrow \begin{cases}56x + 16y = 5\\ 3x = 2y + 2(0,2 - \dfrac{3}{2}x - z)\\ 2z + 3.0,05 = 0,2\end{cases}$$

$$x = 0,075;\ y = 0,050;\ z = 0,025\ (mol) \rightarrow V = (0,2 - \frac{3}{2}.0,075 - 0,025).22,4 = 1,40\ (L).$$

Trong 24 giờ $m = 2,52.\left(\dfrac{24.3600}{0,18}\right) : 1000 = 1209,6\ (kg)$

$$\begin{cases}O_2: x\\ CO: y\\ CO_2: z\end{cases} \rightarrow \begin{cases}x + y + z = 0,1\\ 32x + 28y + 44z = 3,2\\ z = 0,02\end{cases} \rightarrow \begin{cases}x = 0,02\\ y = 0,06\\ z = 0,02\end{cases} \rightarrow n_O = x + 2y + 2z = 0,14\ (mol)$$

$$m_{Al} = \left(\frac{2}{3}\right).0,14.27.\left(\frac{24.3600}{0,18}\right) : 1000 = 1209,6\ \text{(kg)}.$$

Theo bài: $\begin{cases} \dfrac{3x}{2} = a \\ m_{Fe} = 2.56y = (27x + 56y + 102z) \end{cases} \rightarrow \begin{cases} \dfrac{3x}{2} = a \\ 27x - 56y + 102z = 0 \end{cases}$

$$X\begin{cases}Al: a\\ Fe: b\\ O: c\end{cases}\begin{cases}27a + 16c = 56b\\ 2n_{H_2} = n_{NO}\\ n_{HNO_3} = 3n_{Al(NO_3)_3} + 3n_{Fe(NO_3)_3} + n_{NO}\end{cases} \rightarrow \begin{cases}27a + 16c = 56b\\ 3a - 2c = \dfrac{3a + 3b - 2c}{3}\\ 3a + 3b + (3a - 2c) = 0{,}425\end{cases} \rightarrow \begin{cases}a = \dfrac{1}{15}\\ b = 0{,}05\\ c = 0{,}0625\end{cases}$$

$$\rightarrow m = \frac{1}{15}.27 + 0{,}05.56 + 0{,}0625.16 = 5{,}6 \text{ (gam)}.$$

$$\begin{cases}2n + m = 7\\ n \ge 2,\ m \ge 3\end{cases} \rightarrow \begin{cases}n = 2\\ m = 3\end{cases} \rightarrow X: \begin{cases}CH_3COOH & : 0{,}050 \text{ (mol)}\\ CH_2{=}CH-COOH & : 0{,}025 \text{ (mol)}\end{cases}$$

$$X\begin{cases} C_nH_{2n}O_2 & : a \\ C_mH_{2m-2}O_2 & : b \end{cases} \quad \begin{cases} n_{CO_2} - n_{H_2O} = b = 0,025 \\ a + b = 0,075 \end{cases} \Rightarrow \begin{cases} a = 0,050 \\ b = 0,025 \end{cases} \rightarrow \begin{cases} 2n + m = 7 \\ n \geq 2,\ m \geq 3 \end{cases} \rightarrow \begin{cases} n = 2 \\ m = 3 \end{cases}$$

CH_3COOH (0,05), $CH_2=CH-COOH$ (0,025) $\Rightarrow \%m_{CH_3COOH} = \frac{0,05.60}{4,8}.100\% = 62,5\%$

$$\begin{cases} CH_3COOH : 2x \\ C_2H_5OH \quad : 3x \end{cases} \quad \left(\begin{array}{lcccc} & CH_3COOH & + \ C_2H_5OH & \rightleftharpoons CH_3COOC_2H_5 & + \ H_2O \\ \text{Mol:} & 0,02 \leftarrow & 0,02 \leftarrow & 0,02 & \end{array} \right)$$

Theo bài: $n_{H_2} = \frac{0,952}{22,4} = 0,0425 \to \frac{2x-0,02}{2} + \frac{3x-0,02}{2} = 0,0425 \to x = 0,025$ (mol).

$$R-OH + Na \longrightarrow R-ONa + \frac{1}{2}H_2\uparrow$$

Mol: 0,04 ← 0,02

$$M_{R'H} = \frac{1,2}{0,04} = 30 \rightarrow R'H = C_2H_6 \rightarrow X\begin{cases} C_2H_5COOCH_3 : 0,040 \text{ (mol)} \\ C_2H_5COOH \quad : 0,035 \text{ (mol)} \end{cases}$$

$$M_{ancol} = \frac{1,24 + 0,02.2}{0,04} = 32\ (CH_3OH);\ M_{RH} = \frac{1,2}{Min[0,04;\ 0,075]} = \frac{1,2}{0,04} = 30\ (C_2H_6)$$

$$\rightarrow X\ \{C_2H_5COOCH_3\ (0,040);\ C_2H_5COOH\ (0,035)\} \rightarrow m = 88.0,04 + 74.0,035 = 6,11 \text{ (gam)}.$$

$$\begin{pmatrix} 1\ (6-\text{peptit}) & + & 6OH^- & \longrightarrow & 6H_2N-R-COO^- & + & H_2O \\ \text{Mol:}\ 0,025 & \leftarrow & 0,15 & \longrightarrow & & & 0,025 \end{pmatrix}$$

$$C_{18}H_{32}O_7N_6 + \frac{45}{2}O_2 \xrightarrow{t^\circ} 18CO_2 + 16H_2O$$

$$\text{Mol: } 0{,}025 \longrightarrow 0{,}45 \quad 0{,}40$$

$$\text{X (hexapeptit)} \begin{cases} C_nH_{2n-1}ON: 6a \\ H_2O: a \end{cases} \quad \begin{cases} 6a = n_{NaOH} + n_{KOH} = 0{,}35 \\ (14n + 29)6a + 18a = 11{,}1 \end{cases} \rightarrow \begin{cases} a = 0{,}025 \\ n = 3 \end{cases}$$

$$a = 44(6na) + 18\left[(2n - 1)3a + a\right] = 44.0{,}45 + 18.0{,}4 = 27{,}0 \text{ (gam)}.$$

ĐỀ SỐ 2: CHINH PHỤC

10 9 10 10

Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt


Dare

ĐỀ SỐ 3 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

$$2\overset{0}{Fe} + 6H_2SO_4 \xrightarrow{t^o} \overset{+3}{Fe_2}(SO_4)_3 + 3SO_2 + 6H_2O$$

$$2\overset{+2}{Fe}SO_4 + 2H_2SO_4 \xrightarrow{t^o} \overset{+3}{Fe_2}(SO_4)_3 + SO_2 + 2H_2O$$

$$2KNO_3 \xrightarrow{t^o} 2KNO_2 + O_2\uparrow \qquad 2KClO_3 \xrightarrow{t^o} 2KCl + 3O_2\uparrow$$

$$x = \frac{0,1}{3}\ (mol);\ y = 0,0375\ (mol) \rightarrow \%m_{Al} = \frac{0,9}{3}.100\% = 30\%$$

$$m = M.\frac{n}{12} = 1\ (g/mol) \Rightarrow M = 12n \Rightarrow n = 2;\ M = 24\ (Mg)$$

$$FeSO_4 + 2NaOH \rightarrow Fe(OH)_2\downarrow + Na_2SO_4$$

$$4Fe(OH)_2 + O_2 + 2H_2O \longrightarrow 4Fe(OH)_3$$

$$2Fe(OH)_3 \xrightarrow{t^o} Fe_2O_3 + 3H_2O$$

[illegible]

[illegible]

[illegible]

$$(d)\begin{cases} Ba + 2H_2O \longrightarrow Ba(OH)_2 + H_2 \\ Ba(OH)_2 + KHSO_4 \longrightarrow BaSO_4\downarrow + KOH + H_2O \end{cases}$$

[illegible]

$$\overset{1}{C}H_3-\overset{2}{C}H(CH_3)-\overset{3}{C}H_2-\overset{4}{C}H_3 : 2-metylbutan$$

[illegible]

[illegible]

[illegible]

[illegible]

$$\left(2C_2H_4(OH)_2 + Cu(OH)_2 \longrightarrow [C_2H_4(OH)O]_2Cu + 2H_2O\right)$$

Khái quát hóa: $\begin{cases} HOC-CHO \\ HOC-CH_2-CHO \end{cases} \rightarrow \begin{cases} C_2H_2O_2 \\ C_3H_4O_2 \end{cases} \rightarrow C_nH_{2n-2}O_2 \rightarrow$

[illegible]

[illegible]

[illegible]

ĐỀ SỐ 3: HÓA ...

$$m = 0,05.82 + \left(0,05.\frac{25}{100}\right).40 = 4,6\ (gam)$$

$$X = C_nH_{2n+1}O_2N:\ \frac{m_N}{m_H} = \frac{2}{1} \rightarrow \frac{14}{2n+1} = \frac{2}{1} \rightarrow n = 3 \rightarrow C_3H_7O_2N$$

$$D: \begin{cases} C_{17}H_{35}COOH + NaOH \longrightarrow C_{17}H_{35}COONa + H_2O \\ (C_{17}H_{35}COO)_3C_3H_5 + 3NaOH \longrightarrow 3C_{17}H_{35}COONa + C_3H_5(OH)_3 \end{cases}$$

[illegible]

$$Y\begin{cases} BaSO_4 \\ Fe(OH)_2 \end{cases} \xrightarrow{t^\circ} \begin{cases} BaSO_4: 0,02 \\ Fe_2O_3: 0,01 \end{cases} \quad \begin{cases} BaSO_4 \xrightarrow{t^\circ} BaSO_4 \\ 4Fe(OH)_2 + O_2 \xrightarrow{t^\circ} 2Fe_2O_3 + 4H_2O \end{cases}$$

[illegible]

$$m = m_{BaSO_4} + m_{Fe_2O_3} = 233\left(\frac{2.0,02 + 3.0,02 - 0,06}{2}\right) + 160\left(\frac{0,02}{2}\right) = 6,26 \text{ (gam)}.$$

[illegible]

Theo bài: $\begin{cases} 65x + 56y = m - 0,21m = 0,79m \\ 64(x + y) = 0,8m \end{cases} \rightarrow \begin{cases} x = 0,01m \\ y = 0,0025m \end{cases} \rightarrow \begin{cases} 65x = 0,65m \\ 56y = 0,14m \end{cases}$

$(m = 1)\ \begin{cases} 65x + 56y = 0,79 \\ 64(x + y) = 0,8 \end{cases} \rightarrow \begin{cases} 65x = 0,65 \\ 56y = 0,14 \end{cases} \rightarrow \%m = \dfrac{0,14}{0,21 + 0,14}.100\% = 40\%$

$$Z\begin{cases} Na^+ : 0{,}04 \\ NH_4^+ : 0{,}04 \\ CO_3^{2-} : 0{,}01 \\ Cl^- \ : 0{,}06 \end{cases} \Rightarrow Max \begin{pmatrix} \quad 2NH_4^+ \ + \ CO_3^{2-} \xrightarrow{t^o} NH_3 \ + \ CO_2 \ + \ H_2O \\ Mol: 0{,}02 \leftarrow\!\!-\!\!-\!\!- 0{,}01 \\ \quad NH_4^+ \ + \ Cl^- \xrightarrow{t^o} NH_3 \ + \ HCl \\ Mol: 0{,}02 \longrightarrow 0{,}02 \end{pmatrix}$$

$$Max\begin{cases} Na^+ : 0{,}04 \\ Cl^- : 0{,}04 \end{cases} (m_{max} = 0{,}04.58{,}5 = 2{,}34 \text{ (gam)}); \ Min \begin{cases} Na^+ : 0{,}04 \\ Cl^- \ : 0{,}02 \\ CO_3^{2-} : 0{,}01 \end{cases} (2{,}23 \text{ gam}).$$

ĐỀ SỐ 6. [illegible]

$$m_X = m_{Al} + m_{Na} + m_O \to 27x + 23y + 16\left(\frac{0,12 - z}{2}\right) = 2,8 \to 27x + 23y - 8z = 1,84.$$

$$X\begin{cases} Al: a \\ Na: b \\ O: c \end{cases} \to \begin{cases} m_{Al} + m_{Na} + m_O = 2,8 \\ n_e = 3n_{Al} + n_{Na} = 2n_O + 2n_{H_2} \\ n_{NaOH} = n_{HCl} + 3n_{Al(OH)_3} \end{cases} \to \begin{cases} 27a + 23b + 16c = 2,8 \\ 3a + b = 2c + 0,06 \\ 0,14 = (0,18 - 3a - b) + 3a \end{cases} \to \begin{cases} a = 0,04 \\ b = 0,04 \\ c = 0,05 \end{cases}$$

$m = m_{Al(OH)_3} = 78a = 78.0,04 = 3,12$ (gam).

Theo bài: $M_Y = 133 \to 16 + R + 44 + R' + 17 = 133 \to R + R' = 56$

ĐỀ SỐ 3: HỮU CƠ

$C_2H_5OH \longrightarrow CH_2{=}CH_2 + H_2O$ $2C_2H_5OH \longrightarrow (C_2H_5)_2O + H_2O$

$\dfrac{n_{H_2}}{n_{...}} = \dfrac{52 - ...}{... - 12} = \dfrac{40}{10} = \dfrac{4}{1}$

$... = 5 - \dfrac{2.4 + 52.1}{15} = 1 \Rightarrow \%H_2 = \dfrac{1}{4}.100\% = 25\%$

$$\begin{cases}138x + 124y = 4,00\\ 2x + 2y = 0,06\end{cases} \rightarrow \begin{cases}x = 0,02\\ y = 0,01\end{cases} \rightarrow m = 134.0,02 + 106.0,01 = 3,74 \text{ (gam)}$$

$$\begin{cases}H_4NOOC - COONH_3CH_3 : x\\ (CH_3NH_3)_2CO_3 \quad : y\end{cases} \begin{cases}138x + 124y = 4,00\\ 2x + 2y = 0,06\end{cases} \rightarrow \begin{cases}x = 0,02\\ y = 0,01\end{cases} \rightarrow \begin{cases}NaOOC - COONa : 0,02\\ Na_2CO_3 \quad : 0,01\end{cases}$$

$m = 134.0,02 + 106.0,01 = 3,74$ (gam).

$$\begin{cases} na = 0{,}25 \\ (n+1)a = 0{,}35 \end{cases} \rightarrow \begin{cases} a = 0{,}10\ (mol) \\ n = 2{,}5 \end{cases};\ n = 2{,}5;$$

$$X \begin{cases} C_nH_{2n+2-m}(OH)_m : 0{,}1\ (mol) \end{cases} \rightarrow n = \frac{0{,}25}{0{,}1} = 2{,}5 \rightarrow X \begin{cases} C_2H_4(OH)_2 \\ C_3H_{?}(OH)_? \end{cases} \rightarrow m = 6{,}9\ (gam)$$

$$m_{este} = m_{ancol} + m_{axit} - m_{H_2O} = 6{,}9.0{,}4 + (2.0{,}1.0{,}4).60 - 0{,}08.18 = 6{,}12\ (gam).$$

$$\begin{cases} \begin{cases} Fe \end{cases} + H_2SO_4 \longrightarrow \begin{cases} FeSO_4 : a \\ Fe_2(SO_4)_3 : b \end{cases} + SO_2 + H_2O \\ Mol: \quad 0{,}28 \longrightarrow c \longrightarrow 0{,}28 \end{cases}$$

$$n_{SO_4^{2-}(X)} = \frac{n_{H_2SO_4}}{2} = 0,14 \text{ (mol)} \rightarrow n_{SO_4^{2-}(X)} = (3m - m) = 2m = 0,14.96 \rightarrow m = 6,72 \text{ (gam)}$$

$$n_{OH^-} = 2n_{SO_4^{2-}(X)} = 0,28 \text{ (mol)} \rightarrow a = m_{Fe} + m_{OH^-} = 6,72 + 0,28.17 = 11,48 \text{ (gam)}.$$

$$\text{Theo bài: } \begin{cases} \dfrac{3x}{2} = \dfrac{5,04}{22,4} = 0,225 \\ x + 2z = \dfrac{12}{40} = 0,3 \end{cases} \rightarrow \begin{cases} x = 0,150 \text{ (mol)} \\ z = 0,075 \text{ (mol)} \end{cases}$$

$$\text{Theo bài: } k\left(\frac{3x}{2} + 2z\right) = \frac{2,80}{22,4} \rightarrow k(0,225 + 2.0,075) = 0,125 \rightarrow k = \frac{1}{3}.$$

$$P_1 \begin{cases} Al : x \\ Al_2O_3 : z \end{cases} \begin{cases} \dfrac{3x}{2} = 0,225 \\ x + 2z = 0,3 \end{cases} \rightarrow \begin{cases} x = 0,150 \\ z = 0,075 \end{cases};\quad P_2 \begin{cases} Al : kx \\ Fe : 2kz \end{cases} k\left(\frac{3x}{2} + 2z\right) = 0,125 \rightarrow k = \frac{1}{3}$$

$$(27x + 160y + 214z)(k + 1) = 30 \rightarrow y = 0,015 \rightarrow \%Fe = \frac{z}{z + y} = \frac{0,075}{0,075 + 0,015} = \frac{5}{6}.$$

Nhiệt phân Z: $\begin{cases} 2KNO_3 \xrightarrow{t^o} 2KNO_2 + O_2 \\ KOH \xrightarrow{t^o} KOH \end{cases}$ $\begin{cases} KNO_2 : a \\ KOH : 0,36 - a \end{cases}$

$\rightarrow n_{Cu} = 0,046$ (mol); $n_{Fe} = 0,036$ (mol) $\rightarrow m = 64.0,046 + 56.0,036 = 4.96$ (gam).

$$\begin{cases} 2n_{Cu} + 3n_{Fe} = 3n_{NO} + n_{NO_2} = 0,20 \\ 4,5(64n_{Cu} + 56n_{Fe}) = 188n_{Cu} + 242n_{Fe} \end{cases} \rightarrow \begin{cases} n_{Cu} = 0,046 \\ n_{Fe} = 0,036 \end{cases} \rightarrow m = 4,96 \text{ (gam)}$$

$$\begin{pmatrix} 2NaCrO_2 & + 3Br_2 & + 8NaOH \longrightarrow & 2Na_2CrO_4 & + 6NaBr & + 4H_2O \\ Mol: 0{,}02 \longleftarrow & \cdots & 0{,}08 \longleftarrow & 0{,}02 & & \end{pmatrix}$$

$$n_{NaOH} = 4n_{CrCl_3} + 4n_{ZnCl_2} + 2n_{ZnO} \rightarrow n_{ZnO} = \frac{0{,}20 - 0{,}08 - 4.0{,}02}{2} = 0{,}02\ (mol).$$

$$\begin{cases} n \geq 2 \\ n_{RO_2} = 0{,}02 \end{cases} \rightarrow \begin{cases} n_{NaOH} = 4n_{CrCl_3} + 2n_{RCl_2} = 0{,}12 \\ n_{NaOH} = 4n_{CrCl_3} + 4n_{RCl_2} + 2n_{RO} = 0{,}20\ (Zn) \end{cases} \rightarrow \begin{cases} n_{ZnO} = 0{,}02;\ n_{Cr_2O_3} = 0{,}02 \\ m = 52.0{,}06 + 65.0{,}04 = 5{,}72 \end{cases}$$

$\begin{cases} n + 2m = 9 \\ n + 3m = 12 \end{cases} \Rightarrow \begin{cases} n = 3 \\ m = 3 \end{cases} \Rightarrow X: \begin{cases} CH_3-CH_2-COOH : 0,025\ (mol) \\ HOCH_2-CH_2-COOH : 0,05\ (mol) \end{cases}$

$$X\begin{cases}C_nH_{2n-2}O_2: a\\ C_mH_{2m-2}O_4: b\end{cases}\begin{cases}a+b=0{,}075\\ na+mb=0{,}225\\ 2a+4b=0{,}25\end{cases}\rightarrow\begin{cases}a=0{,}025\\ b=0{,}050\\ n+2m=9\end{cases}\rightarrow\begin{cases}CH_2=CH-COOH: 0{,}025\\ HOOC-CH_2-COOH: 0{,}050\end{cases}$$

$$\begin{pmatrix} C_nH_{2n+2-m}(OH)_m + \dfrac{3n+1-m}{2}O_2 \xrightarrow{t^o} nCO_2 + (n+1)H_2O\\ Mol: 0{,}05 \longleftarrow 0{,}15 \longrightarrow 0{,}20\end{pmatrix}$$

$CH_3-CH=CH-COO-;\quad CH_2=CH-CH_2-COO-;\quad CH_2=C(CH_3)-COO-$

$$Y\left\{C_nH_{2n+2-m}(OH)_m : 0{,}05\ (mol) \rightarrow n = 0{,}15 : 0{,}05 = 3 \rightarrow C_3H_5(OH)_3\right.$$

$$X\left\{(\bar{R}-COO)_3C_3H_5 \quad M_X = \frac{11{,}5}{0{,}05} = 230 \rightarrow 3\bar{R} = 57 \rightarrow 1\ (H-) + 15\ (CH_3-) + 41\ (C_3H_5-) = 57.\right.$$

$$\begin{cases} R(COONH_4)_2 + 2NaOH \longrightarrow R(COONa)_2 + 2NH_3 + 2H_2O \\ Mol:\ 0{,}05 \longleftarrow 0{,}10 \end{cases}$$

$$\begin{cases} HOOC-CH_2-COOH \xrightarrow[t^o]{+NH_3} H_4NOOC-CH_2-COONH_4 \\ Mol:\ a \longrightarrow a \\ HOOC-CH_2-CHO \xrightarrow[t^o]{+AgNO_3/NH_3} H_4NOOC-CH_2-COONH_4 + 2Ag \\ Mol:\ b \longrightarrow 2b \end{cases}$$

$$\begin{cases} HOOC-CH_2-COOH : a \\ HOOC-CH_2-CHO : b \end{cases} \quad \begin{cases} a + b = 0{,}05 \\ 2b = 0{,}04 \end{cases} \rightarrow \begin{cases} a = 0{,}03 \\ b = 0{,}02 \end{cases} \rightarrow m = 0{,}03.104 + 0{,}02.88 = 4{,}82.$$

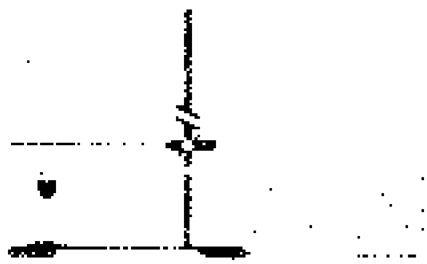
$$\begin{cases} A + B + 3C + 18H_2O \longrightarrow 8Gly + 8Ala + 7Val \\ \text{Mol: } 0{,}01 \leftarrow 0{,}01 \leftarrow 0{,}03 \leftarrow 0{,}18 \leftarrow 0{,}08 \quad 0{,}08 \quad 0{,}07 \end{cases}$$

$$\begin{cases} X + 18H_2O \longrightarrow 8Gly + 8Ala + 7Val \\ \text{Mol: } 0{,}18 \leftarrow 0{,}08 \quad 0{,}08 \quad 0{,}07 \end{cases}$$

ĐỀ SỐ 4: HÀNH ĐỘNG

ĐỀ NGHỊ HÀNH ĐỘNG

ĐỀ SỐ 5: HÀNH ĐỘNG



ĐỀ SỐ 4: HÀNH ĐỘNG

ĐỀ SỐ 1: HÀNH ĐỘNG

ĐỀ SỐ 4: HÀNH TRÌNH

$H-O-H$ $\quad O=C=O$ $\quad N\equiv N$ $\quad CH_2=CH_2$

$Si + 2Mg \xrightarrow{t^o} Mg_2Si$

$$\begin{cases} 40x + 100y = 5 \\ x + y = 0,08 \end{cases} \rightarrow \begin{cases} x = 0,05 \\ y = 0,03 \end{cases} \rightarrow \%m_{O} = \left(\frac{0,05.40}{5}\right).100\% = 40\%$$

[illegible]

$$Fe_3O_4 + 4CO \xrightarrow{t^o} 3Fe + 4CO_2 \qquad V = 0,100 \cdot 22,4 = 2,24\ (l)$$

Mol: 0,100 0,075

$$NaH_2PO_4 + 2NaOH \longrightarrow Na_3PO_4 + 2H_2O$$

$$2Na_3PO_4 + 3CaCl_2 \longrightarrow Ca_3(PO_4)_2 \downarrow + 6NaCl$$

ĐỀ SỐ 3: HÀNH ĐỘNG

$X = C_xH_y$ $\quad x : y = \frac{m_C}{12} : \frac{m_H}{1} = \frac{4}{12} : 1 = 2 : 6$

Khái quát hóa: $\begin{cases} CH_3-OOC-COO-CH_3 \\ CH_3-OOC-CH_2-COO-CH_3 \end{cases} \rightarrow \begin{cases} C_4H_6O_4 \\ C_5H_8O_4 \end{cases} \rightarrow C_nH_{2n-2}O_4$

$m = 0,12.40.\left(\frac{100}{8}\right).1,25 = 75$ (gam)

[illegible]

$\{X = C_xH_yO_{z+1}N_z$ $\quad \dfrac{m_O}{m_N} = \dfrac{16(z+1)}{14z} = \dfrac{4}{3} \rightarrow z = 6$ [illegible]

[illegible]

(c) $\{H_2S + 2NaOH \longrightarrow Na_2S + 2H_2O \quad H_2S + NaOH \longrightarrow NaHS + H_2O\}$

[illegible]

(e) [Cr và Cr_2O_3 không tan trong axit loãng ở nhiệt độ thường]

[illegible]

$$m_{Cu} = \left(\frac{2}{5}\right).4 = 1,6\ (gam);\ m_{CuO} = \left(\frac{3}{5}\right).4 = 2,4\ (gam).$$

$$m = m_{Ag} + m_{CuO} = 108\left(\frac{2.0,4.4}{64}\right) + 0,6.4 = 7,8\ (gam).$$

$$\begin{cases} & NaHCO_3 & + & HCl & \longrightarrow & NaCl & + & CO_2 & + & H_2O \\ Mol: & & & 0,1(x-y) & \longrightarrow & & & 0,1(x-y) & & \end{cases}$$

$$\frac{V_1}{V_2} = \frac{0,1(x-y)}{\frac{0,2x}{3}} = \frac{3(x-y)}{2x} = \frac{1}{2} \rightarrow x : y = 3 : 2$$

DẠNG 1. [illegible]

[illegible]

$$\frac{V_1}{V_2} = \frac{n_{\ldots} - n_{\ldots}}{(2/3)n_{\ldots}} \Rightarrow \frac{x - y}{(2/3)x} = \frac{1}{2} \Rightarrow 3(x - y) = x \Rightarrow x : y = 3 : 2.$$

[illegible]

$$\begin{array}{lcccccccc} & X & + & HNO_3 & \longrightarrow & Fe(NO_3)_3 & + & NO & + & H_2O \\ Mol: & & & (3a + 0,025) & & a\ mol & & 0,025 & & \frac{3a + 0,025}{2} \end{array}$$

[illegible]

Theo bài: $n_{\ldots} = 0,0375 + 3b = \frac{4,8}{64} \Rightarrow b = 0,0125$ (mol).

[illegible]

$$X \begin{cases} Fe : a \\ O : b \end{cases} \Rightarrow \begin{cases} 56a + 16b = 5,4 \\ 3a = 2b + 3.0,025 \end{cases} \Rightarrow \begin{cases} a = 0,075 \\ b = 0,075 \end{cases} \Rightarrow n_{\ldots} = 3n_{\ldots} + n_{NO} = 0,25$$

$$n_{\ldots} = \frac{8}{3}\left(\frac{4,8}{64} - \frac{0,075}{2}\right) = 0,10\ (mol) \Rightarrow x = 0,25 + 0,10 = 0,35\ (mol)$$

ĐỀ SỐ 4: HÀNH ĐỘNG

Bảo toàn nguyên tố hidro: $2n_{H_2O} = 2n_{Ba(OH)_2} + n_{NaOH} + 2n_{H_2} \rightarrow n_{H_2O} = \dfrac{2x + y + 0{,}04}{2}$ (mol).

$$\begin{cases} a + b = 0{,}07 \\ a + 2b = 0{,}09 \end{cases} \rightarrow \begin{cases} a = 0{,}05 \\ b = 0{,}02 \end{cases} \rightarrow n_{BaCO_3} = Min\left[n_{CO_3^{2-}}; n_{Ba^{2+}}\right] = 0{,}02 \text{ (mol)}.$$

$n_{CO_3^{2-}} = n_{OH^-} - n_{CO_2} = 0{,}02$ (mol) $\rightarrow n_{BaCO_3} = Min\left[n_{Ba^{2+}}; n_{CO_3^{2-}}\right] = 0{,}02 \rightarrow m = 3{,}94$ (gam)

Theo bài: $M_T = 132 \rightarrow 45 + R + 44 + R' = 132 \rightarrow R + R' = 43$

Theo bài: $M_T = 132 \rightarrow R + 2.44 + 2R' = 132 \rightarrow R + 2R' = 43$.

$C_2H_6 \xrightarrow{t^o} C_2H_4 + H_2$ | $C_2H_6 \xrightarrow{t^o} C_2H_2 + 2H_2$
Mol: $a \rightarrow a \rightarrow a$ | Mol: $b \rightarrow b \rightarrow 2b$

Số mol khí tăng = $\Delta n = n_X - n_{C_2H_6} = 0{,}05 - 0{,}025 = 0{,}025$ (mol) $\rightarrow a + 2b = 0{,}025$ (mol).

ĐỀ SỐ 4: HANH DONG

$$\Delta n = n_X - n_{Y} = 0,05 - \frac{0,05.15}{30} = 0,025; \begin{cases} CH \equiv CH : 0,01 \\ CH_2 = CH_2 : x \end{cases} \rightarrow \Delta n = n_{Br_2} = 2.0,01 + 1.x$$

$\rightarrow x = 0,005\ (mol) \rightarrow m_{Br_2} = 0,005.160 = 0,8\ (gam).$

$$\left(CH_3COOC_2H_5 + H_2O \underset{t^o}{\overset{H_2SO_4}{\rightleftharpoons}} CH_3COOH + C_2H_5OH \right)$$

$$C_2H_5NH_3NO_3 + NaOH \longrightarrow NaNO_3 + C_2H_5NH_2\uparrow + H_2O$$

Mol: $y \longrightarrow y \longrightarrow y$

$$\begin{cases} H_2N-CH_2-COONH_3CH_3 : x \\ C_2H_5NH_3NO_3 \qquad\qquad : y \end{cases} \begin{cases} 106x + 108y = 3,20 \\ x + y = 0,03 \end{cases} \rightarrow \begin{cases} x = 0,02 \\ y = 0,01 \end{cases} \rightarrow m = 2,79 \text{ (gam)}.$$

$$\begin{cases} na + mb = 0,14 \\ (n-1)a + mb = 0,10 \end{cases} \rightarrow \begin{cases} a = 0,04 \\ na + mb = 0,14 \end{cases}$$

$$\begin{cases} CH \equiv CH \ + \ 2AgNO_3 \ + \ 2NH_3 \xrightarrow{t^o} AgC \equiv CAg\downarrow \ + \ 2NH_4NO_3 \\ Mol: \ 0{,}04 \longrightarrow 0{,}04 \\ CH_3-CH_2-CHO \xrightarrow[t^o]{+AgNO_3/NH_3} CH_3-CH_2-COONH_4 \ + \ 2Ag\downarrow \\ Mol: \ 0{,}02 \longrightarrow 0{,}04 \end{cases}$$

$$n_{HNO_3} = 45\left(\frac{42}{100}\right) : 63 = 0{,}30\ (mol); \ \ n_{KOH} = 0{,}15.0{,}2 = 0{,}30\ (mol).$$

Bảo toàn 2.3 ... 1,96 ... = 0,07 (mol)

$n + n = n \rightarrow n = 0,30 - 0,26 = 0,04$

$n_O = n + 2n = 1,12 : 16 = 0,07$

$\Rightarrow \begin{cases} n = 0,01 \text{ (mol)} \\ n = 0,03 \text{ (mol)} \end{cases}$

$n = \dfrac{3n + n}{2} = 0,03 \text{ (mol)} \rightarrow n = \dfrac{7}{3} n = 0,07 \text{ (mol)} \rightarrow m = 7,52 \text{ (gam)}$

$T \begin{cases} MgCl_2 = x \\ FeCl_2 = x + x + 2y = x + 6y \end{cases} \rightarrow E \begin{cases} MgO = x \\ Fe_2O_3 = \dfrac{x + 6y}{2} \end{cases}$

ĐỀ SỐ 4 [illegible]

$a : b = (72x + 160y) : (24z + 56z) = 448y : 160y = 14 : 5$

$$MSO_4 + H_2O \xrightarrow{} M + \frac{1}{2}O_2\uparrow + H_2SO_4$$

(1) $n_{[illegible]} = a$

(3t) $n_{[illegible]} = 3a \rightarrow n_{[illegible]} = 0,8a \rightarrow n_{[illegible]} = 3a - \frac{0,8a}{2} = 2,6a \rightarrow 2,6t \left(\frac{13t}{5}\right)$

$$\begin{array}{lccccccc} & Y & + & H_2SO_4 & \longrightarrow & \left|\begin{array}{l} FeSO_4, Fe_2(SO_4)_3 \\ M_2(SO_4)_n \end{array}\right. & + \; H_2 & + \; H_2O \\ \text{Mol:} & & & 0,30 & & & 0,02 & 0,20 \end{array}$$

$\Rightarrow M = 68,5n \rightarrow n = 2; M = 137$ (Ba)

ĐỀ SỐ 4: HÀNH ĐỘNG

$$\begin{cases} Fe(OH)_3 : 2a \\ M_2(SO_4)_n : b \end{cases} \rightarrow \begin{cases} 160a + (2M + 16n)b = 28,10 \\ 214a + (2M + 96n)b = 40,42 \\ 3a + nb = 0,34 \end{cases} \rightarrow \begin{cases} a = 0,08 \\ Mb = 6,85 \\ nb = 0,10 \end{cases} \rightarrow \begin{cases} M = 68,5n \\ n = 2;\ M = 137\ (Ba) \end{cases}$$

$$M_X = 17,5.2 = 35 \rightarrow \text{Hai olefin} \begin{cases} C_2H_4 : x \\ C_3H_6 : y \end{cases} \rightarrow \frac{x}{y} = \frac{|42-35|}{|28-35|} = \frac{1}{1} = \frac{0,08\ (mol)}{0,08\ (mol)}$$

$$\begin{cases} x + y + z = 0{,}304 \\ [illegible] \\ [illegible] \end{cases} \Rightarrow \begin{cases} x = 0{,}064 \\ y + z = 0{,}048 \\ z = 0{,}004 \end{cases}$$

[illegible]

$x : y : z = n_{C} : n_{H} : n_{O} = 0,32 : 0,32 : 0,08 = 8 : 8 : 2 \rightarrow C_8H_8O_2$.

Bảo toàn khối lượng: $M_{ancol} = \dfrac{5,44 + 0,06.40 - 5,32 - 0,02.18}{0,02} = 108 \rightarrow C_6H_5 - CH_2 - OH$.

$$E\begin{cases}C_8H_8O_2\end{cases} \longrightarrow \begin{cases}X: x\\ Y: y\end{cases} \quad \begin{cases}x + y = 0{,}04\\ 2x + y = 0{,}06\end{cases} \rightarrow \begin{cases}x = 0{,}02\\ y = 0{,}02\end{cases} \rightarrow \begin{cases}X = CH_3COO-C_6H_5\\ Y = HCOO-CH_2-C_6H_5\end{cases}$$

$m_{Br} = 160(3x + y) = 160.0{,}08 = 12{,}8$ (gam).

$$\begin{cases}X = 3(H_2NC_nH_{2n}COOH) - 2H_2O = C_{3n+3}H_{6n+5}O_4N_3\\ Y = 4(H_2NC_nH_{2n}COOH) - 3H_2O = C_{4n+4}H_{8n+6}O_5N_4\end{cases}$$

$231.2x + 302.x = 7,64 \rightarrow x = 0,01$ (mol) $\rightarrow m = 111.0,1 = 11,1$ (gam)

[illegible]

X = tripeptit; Y = tetrapeptit.

$$E\begin{cases} X: a \\ Y: b \end{cases} = \begin{cases} C_nH_{2n-1}ON: 3a + 4b \\ H_2O: a + b \end{cases} \rightarrow \begin{cases} a + b = 0,06 \\ (3a + 4b)n = 0,60 \\ (1,5a + 2b)(2n - 1) + a + b = 0,56 \end{cases} \rightarrow \begin{cases} a = 0,04 \\ b = 0,02 \\ n = 3 \end{cases}$$

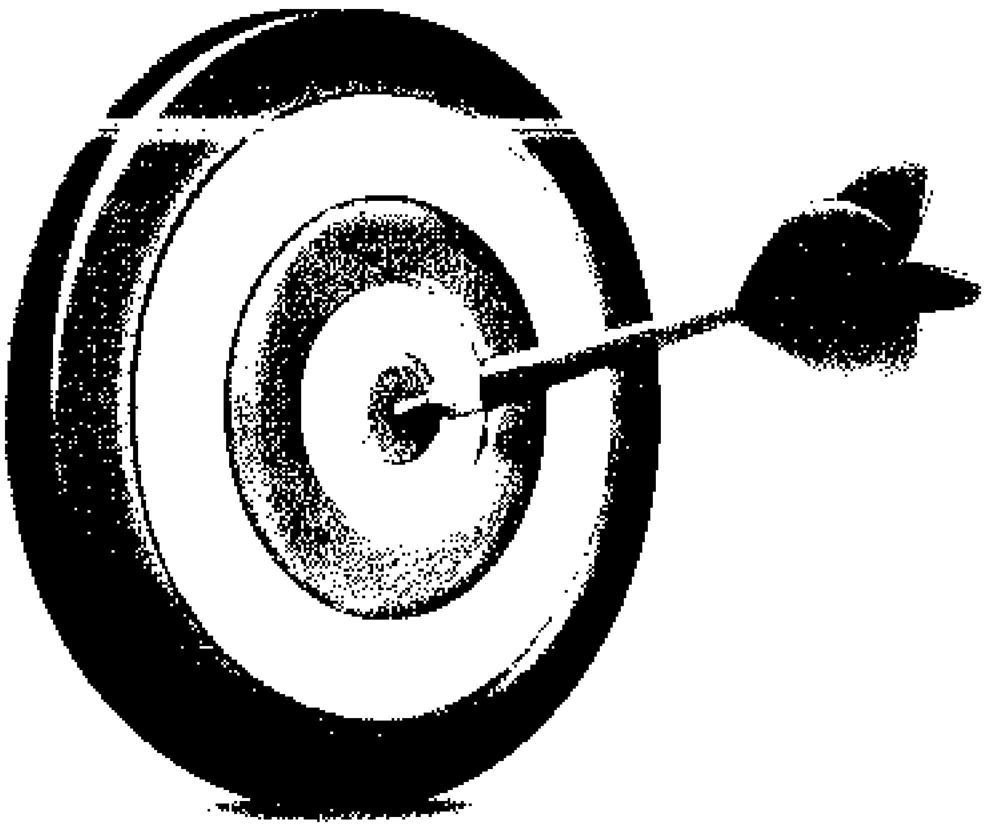
$$\rightarrow \frac{7,64}{231a + 302b} = \frac{7,64}{15,28} = \frac{1}{2} \rightarrow m = 111(3a + 4b) : 2 = 11,1 \text{ (gam)}.$$

ĐỀ SỐ 1: HÀNH ĐỘNG

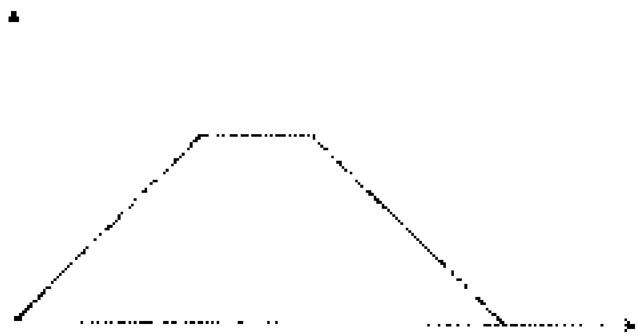
10 9 10 10

Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt

ĐỀ SỐ 5: TẬP TRUNG

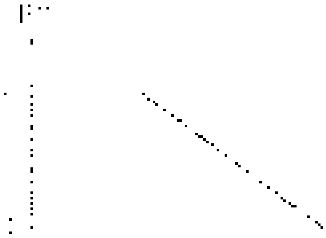


ĐỀ SỐ 5: TẬP TRUNG



ĐỀ SỐ 5 TẬP TRUNG

ĐỀ SỐ [illegible] TẬP TRUNG



ĐỀ SỐ 5: TẬP TRUNG

$$Zn + H_2SO_4 \longrightarrow ZnSO_4 + H_2 \qquad C_2H_6 + Cl_2 \xrightarrow{as} C_2H_5Cl + HCl$$

$$\begin{cases} Zn + CuSO_4 \longrightarrow ZnSO_4 + Cu \\ Fe + CuSO_4 \longrightarrow FeSO_4 + Cu \end{cases}$$

(d) $\begin{cases} 2KNO_3 \xrightarrow{t^\circ} 2KNO_2 + O_2 \qquad 2Cu + O_2 \xrightarrow{t^\circ} 2CuO \end{cases}$

ĐỀ SỐ 5: TẬP TRUNG

Loại B: $\left(Al_2O_3 + 2NaOH \longrightarrow 2NaAlO_2 + H_2O\right)$ (NaOH chỉ hòa tan được Al_2O_3)

$$\begin{cases} 27x + 24y = 3{,}0 \\ 3x + 2y = 0{,}3 \end{cases} \longrightarrow \begin{cases} x = \dfrac{1}{15} \text{ (mol)} \\ y = 0{,}05 \text{ (mol)} \end{cases} \Rightarrow \%m_{Mg} = \frac{0{,}05.24}{3}.100\% = 40\%$$

$$2NaCl + 2H_2O \xrightarrow[\text{mn}]{\text{đpdd}} 2NaOH + Cl_2\uparrow + H_2\uparrow$$

$$\begin{cases} \quad Al \quad + \quad NaOH + H_2O \longrightarrow NaAlO_2 + \dfrac{3}{2}H_2\uparrow \\ Mol: 0,10 \rightarrow 0,10 \longrightarrow 0,15 \end{cases} \quad V = 0,15.22,4 = 3,36\ (L)$$

$$2Na\overset{+3}{Cr}O_2 + 3Br_2 + 8NaOH \longrightarrow 2Na_2\overset{+6}{Cr}O_4 + 6NaBr + 4H_2O$$

$$\{NH_4Cl + NaOH \longrightarrow NaCl + NH_3 + H_2O \qquad Cl_2 + 2NaOH \longrightarrow NaCl + NaClO + H_2O\}$$

$$M_X = \frac{3,12}{0,078} = 40\ (CH_3 - C \equiv CH)$$

$$M_X = \frac{1,9}{0,025} = 76 \rightarrow X = C_3H_6(OH)_2 \rightarrow HO - CH_2 - CH(OH) - CH_3$$

$$\begin{cases} R - COO - R' + \begin{cases} NaOH: 0,02\ (mol) \\ KOH\ : 0,03\ (mol) \end{cases} \longrightarrow \begin{cases} R - COONa \\ R - COOK \end{cases} + R' - OH \\ Mol: 0,04 \longrightarrow 0,04 \end{cases}$$

$$\begin{cases} (\overline{R}-COO)_3C_3H_5 + 3NaOH \longrightarrow 3\overline{R}COONa + C_3H_5(OH)_3 \\ \text{Mol: } 0,04 \longleftarrow 0,12 \end{cases}$$

Khái quát hóa: $\begin{cases} CH_3-NH_2 \\ C_2H_5-NH_2 \end{cases} \rightarrow \begin{cases} CH_5N \\ C_2H_7N \end{cases} \rightarrow C_nH_{2n+3}N$

$$\begin{cases} H_2N-C_3H_5(COOH)_2 + HCl \longrightarrow ClH_3N-C_3H_5(COOH)_2 \\ C_nH_{2n+1}NH_2 + HCl \longrightarrow C_nH_{2n+1}NH_3Cl \end{cases}$$

(e) $\left\{\begin{array}{l} Cl_2 + H_2O \rightleftharpoons HCl + HClO \\ HCl + AgNO_3 \longrightarrow AgCl\downarrow + HNO_3 \end{array}\right.$

$$m_{dd\,H_2SO_4} = 19,6\left(\frac{100}{70}\right) = 28\ (gam) \rightarrow V = \frac{m_{dd\,H_2SO_4}}{D} = \frac{28}{1,6} = 17,5\ (mL)$$

$$V = 2.\left(\frac{2,24}{22,4}\right).98.\left(\frac{100}{70}\right) : 1,6 = 17,5\ (mL).$$

$$\left\{\begin{array}{lcccccc} & X & + & H_2SO_4 \xrightarrow{t^\circ} & \left\{\begin{array}{l} Al_2(SO_4)_3 : \frac{0,1}{3} \\ M_2(SO_4)_n \end{array}\right. & + \ SO_2 & + \ H_2O \\ Mol: & & & 0,35 & & 0,15 & 0,35 \end{array}\right\}$$

$$X\begin{cases}Na, Ba\\ Na_2O, BaO\end{cases} + H_2O \longrightarrow Y\begin{cases}Ba(OH)_2 : x\\ NaOH : y\end{cases} + H_2$$

$$\text{Mol:}\quad \frac{2x+y+0{,}12}{2} \qquad\qquad 0{,}06$$

$$m = 137.0,08 + 23.0,04 + 16\frac{2.0,08 + 1.0,04 - 2.0,06}{2} = 12,52\ (gam).$$

$$m = 56(0,02 + x) + 160x + 152y = 56.0,06 + 160.0,04 + 152.0,01 = 11,28\ (gam).$$

$$n_{FeSO_4(X)} = 5n_{KMnO_4} - n_{H_2SO_4} = 5.0,03 - 0,14 = 0,01\ (mol)$$

$$\begin{cases} n_{Fe} + 2n_{Fe_2O_3} = 0,14 \\ 2n_{Fe} = 2n_{Fe_2O_3} + 2n_{H_2} \end{cases} \rightarrow \begin{cases} n_{Fe} = 0,06 \\ n_{Fe_2O_3} = 0,04 \end{cases} \rightarrow m = 56.0,06 + 160.0,04 + 152.0,01 = 11,28.$$

$$\begin{cases} C_nH_{2n-2} : 0,100\ (mol) \\ C_mH_{2m+2} : 0,025\ (mol) \end{cases} \qquad \begin{pmatrix} C_nH_{2n-2} + 2Br_2 \longrightarrow C_nH_{2n-2}Br_4 \\ Mol: 0,10 \to 0,20 \end{pmatrix}$$

$$\begin{cases} C_nH_{2n-2} : 0,100 \\ C_mH_{2m+2} : 0,025 \end{cases} \to n_{CO_2} = 0,10n + 0,025m = 0,275 \to 4n + m = 11 \to \begin{cases} n = 2 \\ m = 3 \end{cases} \to \begin{cases} C_2H_2 \\ C_3H_8 \end{cases}$$

$\left(CH_3COONa + NaOH \xrightarrow[t^o]{CaO} CH_4\uparrow + Na_2CO_3\right)$:

$X = H_2N - CH(CH_3) - COONH_4$; $Y = H_2N - CH_2 - CO - NH - CH(CH_3) - COOH$.

$$\begin{cases} H_2NCH(CH_3)COONH_4 : x \\ Gly - Ala : y \end{cases} \begin{cases} 106x + 146y = 4{,}64 \\ x + 2y = 0{,}05 \end{cases} \longrightarrow m = 111.0{,}04 + 97.0{,}01 = 5{,}41.$$

$$\begin{cases} H-CHO \xrightarrow{+AgNO_3/NH_3,\ t^o} (NH_4)_2CO_3 + 4Ag \\ H-COOH \xrightarrow{+AgNO_3/NH_3,\ t^o} (NH_4)_2CO_3 + 2Ag \end{cases}$$

$$\frac{1}{2}X\begin{cases} R-CHO & : a \\ R-COOH & : b \\ H_2O & : (a+b) \\ R-CH_2-OH & : (0,05-a-b) \end{cases} \qquad \begin{cases} 0,05 + b = 0,07 \\ 4a + 2b = 0,12 \end{cases} \rightarrow \begin{cases} b = 0,02 \\ a = 0,02 \end{cases} \Rightarrow H = \frac{0,02}{0,05}.100\% = 40\%$$

$$\begin{cases} Mg : 0,3 \\ MgO : 0,12 \end{cases} + \begin{cases} H_2SO_4 : a \\ HNO_3 : 0,1 \end{cases} \longrightarrow \begin{cases} MgSO_4 : 0,42 \\ (NH_4)_2SO_4 : a - 0,42 \end{cases} + \begin{cases} H_2 : 0,06 \\ \end{cases} + H_2O$$

$n_{MgO} + 3n_{HNO_3} = n_{O(Y)} + n_{H_2O} \rightarrow n_{O(Y)} = 0,12 + 3.0,10 - 0,38 = 0,04$ (mol).

$n_{(NH_4)_2SO_4} = \dfrac{0,86 - 2.0,42}{2} = 0,01$ (mol); $n_{H_2SO_4} = 0,42 + 0,01 = 0,43$ (mol); $n_{H_2O} = 0,38$ (mol)

$\dfrac{n_N}{n_O} = \dfrac{0,1 - 2.0,01}{0,12 + 3.0,10 - 0,38} = 2 \in (1; +\infty) \rightarrow (NO, N_2$

$$\begin{pmatrix} CuSO_4 + 2NaCl \xrightarrow{đpdd} Cu + Cl_2\uparrow + Na_2SO_4 \\ \text{Mol: } 0{,}008 \leftarrow 0{,}016 \end{pmatrix}$$

$$\begin{pmatrix} CuSO_4 + 2HCl \xrightarrow{đpdd} Cu + Cl_2\uparrow + H_2SO_4 \\ \text{Mol: } 0{,}002 \leftarrow 0{,}004 \end{pmatrix}$$

$$\begin{pmatrix} CuSO_4 + H_2O \xrightarrow{đpdd} Cu + \frac{1}{2}O_2\uparrow + H_2SO_4 \\ \text{Mol: } 0{,}02 \longleftarrow 0{,}02 \end{pmatrix}$$

$$\begin{pmatrix} pH = 2 \to n_{HCl} = 10^{-2}.0{,}4 = 0{,}004 \text{ (mol)}; \ pH = 1 \to n_{H_2SO_4(3)} = \dfrac{10^{-1}.0{,}4}{2} = 0{,}02 \text{ (mol)} \\ n_e = 2n_{CuSO_4(ban đầu)} = 0{,}06 \text{ (mol)} \to \dfrac{It}{F} = 0{,}06 \to t = \dfrac{0{,}06.96500}{1{,}93} = 3000 \text{ (s)} \end{pmatrix}$$

Theo bài: $\begin{cases} m_{O} = 16(3x + y) = 0,175(160x + 72y + 64z) \\ m_{Cu} = 64(z - x) = 0,2(160x + 72y + 64z) \end{cases} \rightarrow \begin{cases} 20x + 3,4y = 11,2z \\ 96x + 14,4y = 51,2z \end{cases}$

m = 0,025.160 + 0,1.72 + 0,075.64 = 16 (gam)

$$\begin{cases} Fe_2O_3 : x \\ FeO : y \\ Cu : z \end{cases} \begin{cases} 16(3x + y) = 0,175(160x + 72y + 64z) \\ 64(z - x) = 0,2(160x + 72y + 64z) \\ 143,5.1,2(6x+2y) + 108\left[(2x + y) - \dfrac{3}{4}.0,2(6x+2y)\right] = 70,8 \end{cases} \rightarrow \begin{cases} x = 0,025 \\ y = 0,100 \\ z = 0,075 \end{cases}$$

m = 0,025.160 + 0,1.72 + 0,075.64 = 16 (gam).

ĐỀ SỐ 5: TẬP TRUNG

$$n_{H_2} = \frac{3}{2}\left(\frac{0,5}{3} - 2a\right) = 0,04 \rightarrow a = 0,07 \text{ (mol)}.$$

$$\rightarrow \frac{mo}{nh} = \frac{6,3}{0,225} \rightarrow M = 28n \rightarrow n = 2;\ M = 56\ (Fe)$$

$$n_{Al(X)} = \left(\frac{4,5}{27}\right) = \frac{0,5}{3};\quad n_{Cu(X)} = n_{Cu} = \left(\frac{3,84}{64}\right) = 0,06;\quad n_{Al_2O_3(Y)} = \left(\frac{0,5}{3} - \frac{2 \cdot 0,04}{3}\right) : 2 = 0,07$$

$$\frac{M_{tb}}{n_{tb}} = \frac{18 - 4,5 - 0,06.80 - (3.0,07 - 0,06)16}{0,225} = \frac{6,3}{0,225} = 28 \rightarrow \begin{cases} n = 2 \\ M = 56 \end{cases} \rightarrow \frac{x}{y} = \frac{6,3 : 56}{0,15} = \frac{3}{4}$$

[illegible]

Theo bài: $\begin{cases} x + y = 0,12 \\ 28x + 42y = 4,20 \end{cases} \rightarrow \begin{cases} x = 0,06 \text{ (mol)} \\ y = 0,06 \text{ (mol)} \end{cases}$

[illegible]

Bảo toàn nguyên tố oxi: [illegible]

[illegible]

$$n_{CO_2} = (a + 2b) = \frac{V}{22,4} \rightarrow 2(a + b) > (a + 2b) = \frac{V}{22,4} \rightarrow (a + b) > \frac{1}{2}\left(\frac{V}{22,4}\right)$$

[illegible]

$$\begin{cases} CH_3 - CH_2 - COOH : a\ (mol) \\ HOOC - CH_2 - COOH : b\ (mol) \end{cases} \rightarrow \frac{a + 2b}{3a + 3b} = (V) : \left(\frac{7V}{4}\right) = \frac{4}{7} \rightarrow \frac{a}{b} = \frac{2}{5}$$

[illegible]

$$\begin{cases} RCOOH & : a \\ R'(COOH)_x & : b \end{cases} \quad \bar{C} = \frac{n_{CO_2}}{(a+b)} < \frac{7}{4} : \frac{1}{2} = 3,5 \to (I) \begin{cases} CH_3-COOH \\ HOOC-COOH \end{cases} \quad (II) \begin{cases} CH_3CH_2COOH \\ HOOCCH_2COOH \end{cases}$$

$$\begin{cases} 3a + 3b = \frac{7}{4}(a + 2b) \\ a + b = 0,14 \end{cases} \to \begin{cases} a = 0,04 \\ b = 0,10 \end{cases}$$

$\to m = 74.0,04 + 104.0,10 + 0,16.40 + 0,08.56 - 0,24.18 = 19,92$ (gam).

$$\begin{cases} C_nH_{2n-1}COOH & : x \\ C_mH_{2m-1}(OH)_3 & : y \\ (C_nH_{2n-1}COO)_2C_mH_{2m-1}(OH) & : z \end{cases} + O_2 \xrightarrow{t^\circ} \begin{cases} CO_2 : [(n+1)x + my + (2n+m+2)z] \\ H_2O : [nx + (m+1)y + (2n+m-1)z] \end{cases}$$

$n_{CO_2} = (n+1).0,04 + m.0,2 + (2n+m+2).0,02 = 0,94 \to 4n + 11m = 43$

m = (14n + 68).(x + 2z) = (14.2,5 + 68).0,08 = 8,24 (gam)

$$\begin{cases} X: C_xH_yO_{z+1}N_z \rightarrow \dfrac{m_O}{m_N} = \dfrac{16(z+1)}{14z} = \dfrac{4}{3} \rightarrow z = 6: \quad X - \text{hexapeptit} \\ Y: C_xH_yO_{z+1}N_z \rightarrow \dfrac{m_O}{m_N} = \dfrac{16(z+1)}{14z} = \dfrac{10}{7} \rightarrow z = 4: \quad Y: \text{tetrapeptit} \end{cases}$$

[illegible]

[illegible]

$$\begin{cases} Gly = C_2H_5O_2N : ka \\ Ala = C_3H_7O_2N : kb \end{cases} - \begin{cases} H_2O : 5kx \\ H_2O : 3ky \end{cases} + O_2 \longrightarrow CO_2 + H_2O$$

Mol: $2k(2a+3b)$ $\left[\frac{k}{2}(5a+7b) - k[5x+3y]\right]$

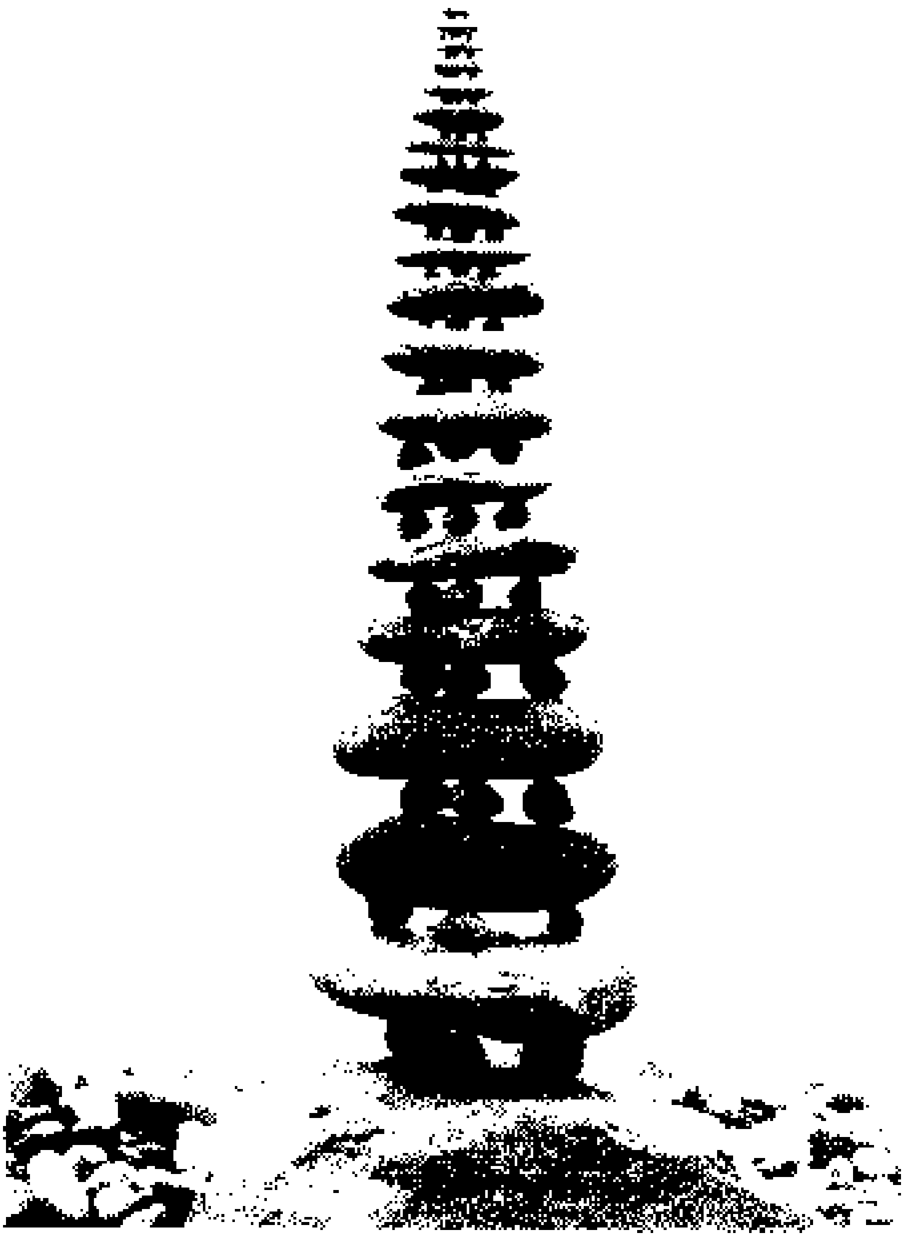
[illegible]

$$E = \begin{cases} C_nH_{2n-1}ON : 0,56 \\ H_2O : 0,12 \end{cases} \quad \begin{cases} C_nH_{2n-1}ON : 0,56k \\ H_2O : 0,12k \end{cases} + O_2 \longrightarrow H_2O : 0,28k(2n-1) + 0,12k$$

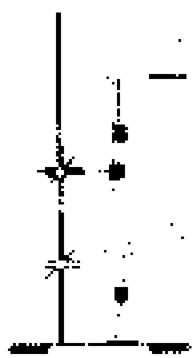
$$\begin{cases} (14n+29).0,56k + 18.0,12k = 23,4 \\ 0,28k(2n-1) + 0,12k = 0,75 \end{cases} \rightarrow \begin{cases} k = 0,625 \\ n = \frac{17}{7} \end{cases} \quad (2a+3b) = \frac{17}{7}(a+b) \rightarrow 3a = 4b.$$

Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt

ĐỀ SỐ 6: KIÊN TRÌ



ĐỀ SỐ 6. KIỂM TRA



$$A = 12\left(\frac{98,8}{100}\right) + 13\left(\frac{1,1}{100}\right) = 12,011$$

$$\begin{cases} MnO_2 + 4HCl \xrightarrow{t^\circ} MnCl_2 + Cl_2\uparrow + 2H_2O \\ 2KMnO_4 + 16HCl \longrightarrow 2KCl + 2MnCl_2 + 5Cl_2\uparrow + 8H_2O \end{cases}$$

$$Na_2SO_3 + H_2SO_4 \xrightarrow{t^\circ} Na_2SO_4 + SO_2\uparrow + H_2O$$

$$Cu(NO_3)_2 \xrightarrow{t^\circ} CuO + 2NO_2\uparrow + \frac{1}{2}O_2\uparrow$$

$$n_e = \left(\frac{It}{F}\right) = 0,05 \text{ (mol)} \rightarrow t = \left(\frac{0,05.96500}{1,93}\right) = 2500 \text{ (s)}$$

D: Cu + $FeSO_4$ ⟶ Không phản ứng.

Bảo toàn khối lượng: $m_X = 4,2 + 4,8 = 9,0$ (gam) $\rightarrow n_{CO_2} = 9,0\left(\frac{44}{100}\right) : 88 = 0,045$ (mol).

$CaCO_3 + CO_2 + H_2O \longrightarrow Ca(HCO_3)_2$

D: $\begin{cases} NaAlO_2 + HCl + H_2O \longrightarrow Al(OH)_3\downarrow + NaCl \\ Al(OH)_3 + 3HCl \longrightarrow AlCl_3 + 3H_2O \end{cases}$

D: $\left[(C_{15}H_{31}-COO)_3C_3H_5 + 3NaOH \longrightarrow 3C_{15}H_{31}-COONa + C_3H_5(OH)_3\right]$

$n : n = \left(\frac{15,2}{304}\right) : \left(\frac{30,6}{306}\right) = 1 : 2 \Rightarrow X = (C\_H\_COO)(C\_H\_COO)_2C_3H_5$

$\left(C_6H_5-NH_2 + 3Br_2 \longrightarrow C_6H_2(Br_3)NH_2\downarrow + 3HBr\right)$

$H_2N-CH(CH_3)-COOH$ (alanin) là α- amino axit thỏa mãn.

(c) $H_2 + F_2 \longrightarrow 2HF$ (Phản ứng gây nổ ngay trong bóng tối)

(d) $\begin{cases} CrCl_3 + 3NaOH \longrightarrow Cr(OH)_3\downarrow + 3NaCl \\ Cr(OH)_3 + NaOH \longrightarrow NaCrO_2 + 2H_2O \end{cases}$

(e) $AgNO_3 + Fe(NO_3)_2 \longrightarrow Ag + Fe(NO_3)_3$

$n_{H_2} = \frac{2,688}{22,4} = 0,12$ (mol) $\rightarrow 0,5x + y + 1,5x + 3y = 0,12 \rightarrow 2x + 4y = 0,12$

$$\begin{cases} Na : x \\ Ba : y \\ Al : 4y \end{cases} \begin{cases} \frac{1}{2}x + y + \frac{3}{2}x + 3y = 0,12 \\ 4y - (x + 2y) = 0,02 \end{cases} \rightarrow \begin{cases} x = 0,02 \\ y = 0,02 \end{cases} \rightarrow m = 5,36 \text{ (gam)}$$

$$\begin{array}{lcccc} & Fe & + \; 2HCl & \longrightarrow FeCl_2 & + \; H_2\uparrow \\ \text{Mol:} & \frac{0,7m}{56} & & & \frac{0,7m}{56} \end{array} \rightarrow m_{Fe} = m - 0,3m = 0,7m \text{ (gam)}.$$

Theo bài: $\frac{0,525m}{56} = (0,025 + 0,0125) \to V = \frac{0,7.4}{56}.22,4 = 1,12$ (l)

[illegible]

$V = \left(\frac{3V}{2} [illegible] \frac{0,7}{0,525}\right) = \left(\frac{3.0,5a}{2} [illegible] \frac{0,7}{0,525}\right) = 1,12$ (l).

[illegible]

$\to \overline{M}OH = \frac{3,36}{0,1} = 33,6 \to M = 33,6 - 17 = 16,6 \to$ Li và Na.

[illegible]

$2Na + O_2 \xrightarrow{t^o} Na_2O_2$

Mol: 0,06 → 0,03

[illegible]

$$a = m_{NO} + m_{Na_2O_2} = 30\left(\frac{0,04}{2}\right) + 78\left(\frac{0,06}{2}\right) = 2,94\ (gam).$$

$$0,76 = \frac{0,6m}{24} + \frac{m}{56} + 2.0,03 + 0,04 + 2a \rightarrow \frac{3m}{70} = 0,66 - 2a.$$

$$\begin{cases} 0,76 = 2\left(\frac{0,3m}{24} + \frac{0,5m}{56}\right) + 2.0,03 + 0,04 + 2a \\ 2\left(\frac{0,3m}{24} + \frac{0,5m}{56}\right) = 0,36 + 8a \end{cases} \rightarrow \begin{cases} a = 0,03 \\ \frac{0,3m}{24} + \frac{0,5m}{56} = 0,3 \end{cases} \rightarrow \begin{cases} a = 0,03 \\ m = 14 \end{cases}$$

$$X = HOOC - R - COO - R' = \begin{cases} HOOC - COO - CH_2 - CH_3 & (III) \\ HOOC - CH_2 - COO - CH_3 & (IV) \end{cases}$$

[illegible]

$n_{[illegible]} = n_{[illegible]}$; $\Delta n = (2x + 1{,}2x - 2x) = 2x$ (mol).

[illegible]

$$\begin{cases} C_2H_2 : x \\ C_2H_4 : 2x \\ H_2 \ \ : 3x \end{cases} \quad \begin{cases} \Delta n = n_X - n_Y = (x + 2x + 3x) - \left(\dfrac{88x}{22}\right) = 2x \\ n_{Br_2} = \Delta n - 2x = 0{,}025 \end{cases} \rightarrow V = (6x).22{,}4 = 1{,}68\ (L).$$

[illegible]

(1) Chuyển tỉ lệ khối lượng thành tỉ lệ mol: $m_O : m_N = 4 : 1 \rightarrow n_O : n_N = \frac{4}{16} : \frac{1}{14} = 7 : 2$.

$$\begin{cases} -COOH + NaOH \longrightarrow -COONa + H_2O \\ \text{Mol: } 0{,}21 \leftarrow 0{,}21 \longrightarrow 0{,}21 \end{cases}$$

$$n_{C} : n_{A} = \frac{4}{36} : \frac{1}{31} = 7 : 2 \rightarrow m = (12,78 - 0,12.36,5) + \left(\frac{3,5}{2}\right).0,12.22 = 13,02 \text{ (gam)}$$

Theo bài $n_{H_2} = \frac{2,24}{22,4} = 0,1 \text{ (mol)} \rightarrow \frac{ma}{2} + \frac{b}{2} = 0,1 \text{ (mol)} \rightarrow ma + b = 0,2 \text{ (mol)}$

$$m = 3: \begin{cases} a = 0,06 \\ b = 0,02 \\ 3n + p = 12 \end{cases} \rightarrow \begin{cases} 3n + p = 12 \\ n \geq 2 \\ p \geq 3 \end{cases} \rightarrow \begin{cases} n = 3 \\ p = 3 \end{cases} \rightarrow \begin{cases} C_3H_5(OH)_3 \\ CH_2=CH-CH_2OH \end{cases}$$

$$\begin{cases} X: C_nH_{2n+2-m}(OH)_m & : a \\ Y: C_pH_{2p-1}OH & : b \end{cases} \quad \begin{cases} a = 0,06 \\ ma + b = 0,2 \\ na + pb = 0,24 \end{cases} \rightarrow \begin{cases} m = 3 \\ b = 0,02 \end{cases} \rightarrow \begin{cases} n = 3 \\ p = 3 \end{cases} \rightarrow \begin{cases} C_3H_5(OH)_3 \\ CH_2=CH-CH_2OH \end{cases}$$

Trong oxit Cu_xO_y $\begin{cases} n_{Cu} = 0,15 \\ n_O = 3.0,025 = 0,075 \end{cases} \rightarrow \frac{x}{y} = \frac{2}{1} \rightarrow Cu_2O$

$n_{X(pư)} = n_{...} = \left(\frac{n_{...}}{4 + 0,2}\right) = 0,1$ (mol); $n_{O(X)} = \left(\frac{3n_{...} - 2n_{...}}{2}\right) = 0,075$ (mol)

$M_2(SO_4)_n : \frac{0,15}{n}$ (mol) → $M = 32n \rightarrow n = 2, M = 64$ (Cu) → $\frac{n_{Cu}}{n_O} = \frac{0,15}{0,075} = \frac{2}{1}$ → Cu_2O

$$\begin{cases} Mg_3N_2 + 6H_2O \longrightarrow 3Mg(OH)_2\downarrow + 2NH_3 \\ \text{Mol: } 0,04 \longrightarrow 0,12 \longrightarrow 0,08 \end{cases}$$

$... = 2n_{H_2} + 2n_{N_2} = 2.0,2 + 2.0,04 = 0,48$ (mol)

$2n_{O_2} = n_{MgO} + 3n_{Fe_2O_3} + n_{ZnO} \rightarrow 0,06.2 = x + 3z + y - 2z \rightarrow x + y + z = 0,16$ (mol).

$$\begin{cases} 3Fe^{2+} + 4H^{+} + NO_3^{-} \longrightarrow 3Fe^{3+} + NO\uparrow + 2H_2O \\ \text{Mol: } 0,03 \leftarrow ---- 0,04 \end{cases}$$

[illegible]

$[illegible] - 2n_{[illegible]} = n_{[illegible]} - 4n_{[illegible]} = 0,36 - 0,32 = 0,04$ (mol)

$m = 143,5n_{[illegible]} + 108 [illegible] 0,04 [illegible] \frac{3}{4} n_{[illegible]} = 0,36.143,5 - 0,01.108 = 52,74$ (gam).

[illegible]

Bảo toàn khối lượng: $n_{[illegible]} = \frac{17,4 + 0,39.98 - 50,24 - 0,02.30 - 0,05.2}{18} = 0,26$ (mol)

[illegible]

$[illegible] + 6n_{[illegible]} = n_{[illegible]} + n_{[illegible]} [illegible] = 0,02 + 0,26 + 6.0,02 = 0,16$

[illegible]

$[illegible] (17,4 + 0,39.98 - 50,24 - 0,02.30 - 0,05.2) : 18 = 0,26$

$n_{[illegible]} = (2.0,39 - 2.0,05 - 2.0,26) : [illegible] = 0,02$; $n_{[illegible]} = (2.0,02 + 0,02) : 2 = 0,03$

$n_{[illegible]} = 0,02 + 0,26 - 6.0,03 = 0,10 \Rightarrow m_{[illegible]} = 17,4 - 0,1.72 - 0,03.180 = 4,8$ (gam)

[illegible]

$$n_{Ag} = 2\left[0,5a + 0,5a - b\right] = 1,2a \rightarrow b = 0,4a \rightarrow H = \frac{0,4a}{0,5a}.100\% = 80\%.$$

[illegible]

$$\begin{cases} CH_3CH_2OH \quad : 0,5a \\ CH_3CH(OH)CH_3 : b \\ CH_3CH_2CH_2OH \; : 0,5a - b \end{cases} \rightarrow n = \left(\frac{n_{Ag}}{2} - n\right) = 0,1a \rightarrow H = \frac{0,4a}{0,5a}.100\% = 80\%.$$

[illegible]

$$\rightarrow 0,14.\frac{3n-2}{2}=0,15n \rightarrow 0,42n-0,28=0,3n \rightarrow n=\frac{7}{3} \rightarrow \begin{cases} CH_3COOH : x\ (mol) \\ C_2H_5COOH : y\ (mol) \end{cases}$$

$$\rightarrow (6z+0,2-0,08)+2.0,975=2(7z+0,4)+(7z+0,6-0,08) \rightarrow z=0,05\ (mol).$$

$$\begin{cases} CH_3COOH : 2z \\ C_2H_5COOH : z \\ C_2H_5OH : 0,2 \end{cases} \rightarrow \begin{cases} (6z+0,2)+2.0,975=2(7z+0,4)+(7z+0,6) \rightarrow z=0,05 \\ H_x=\frac{0,06}{0,10}.100\%=60\%; \quad H_y=\frac{0,02}{0,05}.100\%=40\%. \end{cases}$$

$x : y : 2 = n_{C(E)} : n_{H(E)} : n_{O(E)} = 0,32 : 0,32 : 0,08 = 8 : 8 : 2 \rightarrow C_8H_8O_2.$

Bảo toàn khối lượng: $M_{ancol} = \dfrac{5,44 + 0,06.40 - 5,32 - 0,02.18}{0,02} = 108 \rightarrow C_6H_5 - CH_2 - OH$

$$\left(\frac{n_{NaOH}}{n_E}\right) = 1,5 \rightarrow \begin{cases} X = (1), (2) \\ Y = (3), (4) \\ x = y = \dfrac{n_{NaOH}}{3} = 0,02 \end{cases} \quad \left(\begin{aligned} & M_{ancol} = \frac{5,44 + 0,06.40 - 5,32 - 0,02.18}{0,02} = 108 \\ & \rightarrow C_6H_5 - CH_2 - OH \end{aligned}\right)$$

$$\rightarrow E = (2) + (4) \rightarrow m_{[illegible]} = (x + y).68 = 0,04.68 = 2,72 \text{ (gam)}.$$

[illegible]

$$(x-1) + (x-1) + (y-1) = 10 \rightarrow \begin{cases} 2x + y = 13 \\ (x-1) + (x-1) + 3(y-1) < 3.10 \end{cases} \rightarrow \begin{cases} 2x + y = 13 \\ x + x + 3y < 33 \end{cases}$$

[illegible]

$$\begin{cases} x + x + 3y = 23n \\ x + x + 3y < 33 \\ 2x + y = 13 \end{cases} \rightarrow \begin{cases} 23n < 33 \\ x + x + 3y = 23n \\ 2x + y = 13 \end{cases} \rightarrow \begin{cases} n = 1 \\ x + x + 3y = 23 \\ 2x + y = 13 \end{cases} \rightarrow \begin{cases} n = 1 \\ x = 4 \\ y = 5 \end{cases}$$

[illegible]

$$0,16A + 0,07B = 19,19 + 0,18.18 = 22,43 \rightarrow 16A + 7B = 2243 \rightarrow \begin{cases} A = 89 & (Ala) \\ B = 117 & (Val) \end{cases}$$

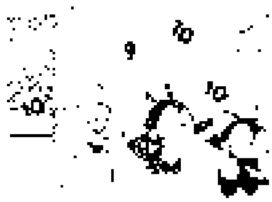
[illegible]

$$A : B = 16 : 7 \rightarrow \begin{cases} x + x + 3y = 23 \\ x + x + y = 10 + 3 \end{cases} \rightarrow \begin{cases} x = 4 \\ y = 5 \end{cases} \rightarrow 16A + 7B = 2243 \rightarrow \begin{cases} A = 89 & (Ala) \\ B = 117 & (Val) \end{cases}$$

$$\begin{cases} X, Y: (Ala)_a(Val)_b \\ Z: (Ala)_m(Val)_n \end{cases} \rightarrow \begin{cases} a = 2,\ b = 2 \\ m = 4,\ n = 1 \end{cases} \rightarrow \begin{cases} X, Y: (Ala)_2(Val)_2 \\ Z: (Ala)_4(Val)_1 \end{cases} \rightarrow \begin{cases} M_{X,Y} = 358 \\ M_Z = 401 \end{cases}$$

[illegible]

ĐỀ SỐ 6: KIÊN TRÌ



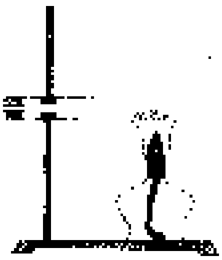
Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt

Bộ đề 9 điểm

DESO7: LAPIN

[illegible]

ĐỀ SỐ 7:



ĐỀ SỐ 7 LẬP LẠI

[illegible]

Nồng độ HCl dư $= \dfrac{0,4 - 0,2}{2} = 0,1 = 10^{-1}$ (mol/L) $\rightarrow [H^+] = 10^{-1}$ (mol/L) $\rightarrow$ pH = 1.

$(4HNO_3 \longrightarrow 4NO_2 + O_2 + 2H_2O)$

$(2KMnO_4 + 16HCl \longrightarrow 2KCl + 2MnCl_2 + 5Cl_2\uparrow + 8H_2O) \rightarrow k = \left(\dfrac{16}{5}\right) = 3,2.$

C: $(NH_4)_2CO_3 \xrightarrow{t^\circ} 2NH_3\uparrow + CO_2\uparrow + H_2O\uparrow$

Khối lượng dung dịch tăng = m – m_{H_2} = 3,2 (gam) → m = 3,2 + 0,2.2 = 3,6 (gam).

$$\begin{cases} Fe + 2AgNO_3 \longrightarrow Fe(NO_3)_2 + 2Ag\downarrow \\ Fe + Cu(NO_3)_2 \longrightarrow Fe(NO_3)_2 + Cu\downarrow \end{cases}$$

Nhân chéo: 3(2M + 16n) = 1(2M + 96n) → M = 12n → n = 2; M = 24 (Mg)

CrO (oxit bazơ), Cr_2O_3 (oxit lưỡng tính), CrO_3 (oxit axit): (b) sai.

D: Au + O_2 ⟶ Không phản ứng

$CH_3-CH(CH_3)-C\equiv CH + AgNO_3 + NH_3 \longrightarrow CH_3-CH(CH_3)-C\equiv CAg\downarrow + NH_4NO_3$

D. $CH_3-CH(OH)-CH_3 + CuO \xrightarrow{t^\circ} CH_3-CO-CH_3$ (xeton) + Cu + H_2O

ĐỀ SỐ 7: [illegible]

[illegible]

$D: CH_3-COO-CH=CH_2 + NaOH \rightarrow CH_3-COONa + CH_3CHO$

[illegible]

$$\left(CH_3COOH + C_2H_5OH \xrightleftharpoons[t^o]{H_2SO_4} CH_3COOC_2H_5 + H_2O \right)$$

[illegible]

Khái quát hóa $\begin{cases}(C_{15}H_{31}COO)(C_{17}H_{35}COO)_2C_3H_5\\(C_{15}H_{31}COO)_2(C_{17}H_{35}COO)C_3H_5\end{cases} \rightarrow \begin{cases}C_{55}H_{106}O_6\\C_{53}H_{102}O_6\end{cases} \rightarrow C_nH_{2n-4}O_6$

[illegible]

$$\left(Gly-Ala + 2HCl + H_2O \longrightarrow ClH_3N-CH_2-COOH + ClH_3N-CH(CH_3)-COOH \right)$$

[illegible]

(c) $$\begin{cases} CaO + 3C \xrightarrow{t^o} CaC_2 + CO \\ CaC_2 + 2H_2O \longrightarrow Ca(OH)_2 + C_2H_2\uparrow \end{cases}$$

Bình (2) đựng H_2SO_4 đặc để hấp thụ hơi nước, làm khô khí Cl_2 ở dạng.

(a) $\begin{cases} H_2SO_4 : a \\ KNO_3 : a \end{cases}$ → H^+ : 2a (mol)

(b) $\begin{cases} H_2SO_4 : a \\ HNO_3 : a \end{cases}$ → H^+ : 3a (mol)

(c) $\begin{cases} HNO_3 : a \\ KNO_3 : a \end{cases}$ → H^+ : a (mol)

Tỉ lệ thể tích khí thoát ra ở (a), (b) và (c) tương ứng là: $\frac{2}{4} : \frac{3}{4} : \frac{1}{4} = 1 : \frac{3}{2} : \frac{1}{2}$.

$n_{NO(a)} : n_{NO(b)} : n_{NO(c)} = 2 : 3 : 1 = 1 : \frac{3}{2} : \frac{1}{2} = V_1 : \frac{3V_1}{2} : V_2 \rightarrow V_1 : V_2 = 1 : \frac{1}{2} \rightarrow 2V_2 = V_1$.

Theo bài: $\begin{cases} n_{H_2} = 4a = \dfrac{1,344}{22,4} = 0,06 \\ 27(b - 2a) = \dfrac{4,5}{100}(137a + 27b) \end{cases} \Rightarrow \begin{cases} a = 0,015 \text{ (mol)} \\ b = 0,035 \text{ (mol)} \end{cases}$

$$\begin{cases} Ba: a \\ Al: b \end{cases} \begin{cases} n_{H_2} = 4a = 0,06 \\ 27(b - 2a) = 0,045(137a + 27b) \end{cases} \Rightarrow \begin{cases} a = 0,015 \\ b = 0,035 \end{cases} \rightarrow Y \begin{cases} OH^- : 0,020 \\ AlO_2^- : 0,035 \\ Na^+, Ba^{2+} \end{cases}$$

$$m_{\downarrow} = 78\left(\frac{n_{OH^-} + 4n_{AlO_2^-} - n_{H^+}}{3}\right) = 78\left(\frac{0,020 + 4.0,035 - 0,1}{3}\right) = 0,02.78 = 1,56 \text{ (gam)}.$$

$$n_e = 2n_{Mg} = 3n_{NO} + 2n_{H_2} + 8n_{NH_4^+} \rightarrow 2.0,13 = 3.0,02 + 2.0,02 + 8x \quad x = 0,02\ (mol)$$

$$n_{NH_4HSO_4} = \frac{2.0,13 - 3.0,02 - 2.0,02}{16} = 0,01\ (mol) \rightarrow n_{H_2SO_4} = 0,13 + \frac{0,02}{2} = 0,14\ (mol)$$

$$n_{HNO_3} = n_{NO} + 2n_{NH_4HSO_4} = 0,04\ (mol) \rightarrow m = 0,04.63 + 0,14.98 = 16,24\ (gam).$$

$(HCOO-C_6H_4-CH_3 + 2NaOH \longrightarrow HCOONa + NaO-C_6H_4-CH_3 + H_2O)$

$m = m_{CaCO_3} - (m_{CO_2} + m_{H_2O}) = 0,13.100 - (0,13.44 + 0,12.18) = 5,12$ (gam)

$n_{H_2O} = 3n_X = 0,12$ (mol); $n_{CO_2} = n_C = \dfrac{22,5.2.0,04 - 0,24.1}{12} = 0,13$ (mol)

$m = 0,13.100 - (0,13.44 + 0,12.18) = 5,12$ (gam)

$$(C_6H_{10}O_5)_n + nH_2O \xrightarrow{H^+} nC_6H_{12}O_6$$

$$(C_{17}H_{35}COO)_3C_3H_5 + 3H_2O \underset{}{\overset{H^+}{\rightleftharpoons}} 3C_{17}H_{35}COOH + C_3H_5(OH)_3$$

$$\underset{(X)}{CH_2=C(COOC_2H_5)(COOH)} + 2NaOH \longrightarrow \underset{(Y)}{CH_2=C(COONa)_2} + C_2H_5OH + H_2O$$

$$\underset{(Y)}{CH_2=C(COONa)_2} + H_2SO_4 \longrightarrow \underset{(Z)}{CH_2=C(COOH)_2} + Na_2SO_4$$

$$CH_2=C(COOH)_2 + HBr \longrightarrow CH_3-CBr(COOH)_2 + CH_2Br-CH(COOH)_2$$

[illegible]

X – [illegible] – CH_2 – COOH; Y = H_2N – CH_2 – CO – NH – CH_2 – COOH

[illegible]

$$\begin{cases}130x + 132y = 6,72\\ 2x + 2y = 0,10\end{cases} \rightarrow \begin{cases}x = 0,02\\ y = 0,03\end{cases} \rightarrow m = 6,72 + 0,1.40 - 0,07.18 = 9,46 \text{ (gam)}.$$

[illegible]

Theo bài: $\begin{cases}x + y = 0,04\\ 46x + 60y = 1,704 + 0,02.18\end{cases} \rightarrow \begin{cases}x + y = 0.04\\ 46x + 60y = 2,064\end{cases} \rightarrow \begin{cases}x = 0,024 \text{ (mol)}\\ y = 0,016 \text{ (mol)}\end{cases}$

$$\begin{cases} X: C_2H_5OH: 0{,}04 \\ Y: C_3H_7OH: 0{,}04 \end{cases} \quad \begin{cases} x + y = 2.0{,}02 = 0{,}04 \\ 46x + 60y = 1{,}704 + 0{,}02.18 \end{cases} \rightarrow \begin{cases} x = 0{,}024 \\ y = 0{,}016 \end{cases} \rightarrow \begin{cases} H_1 = 60\% \\ H_2 = 40\% \end{cases}$$

$$\begin{cases} C + H_2O \xrightarrow{t^o} CO + H_2 \\ Mol: a \longrightarrow a \longrightarrow a \end{cases} \qquad \begin{cases} C + 2H_2O \xrightarrow{t^o} CO_2 + 2H_2 \\ Mol: b \longrightarrow b \longrightarrow 2b \end{cases}$$

$n_C = n_{CO} + n_{CO_2} = 0{,}035 + 0{,}010 = 0{,}045$ (mol) $\rightarrow m_C = 0{,}045.12 = 0{,}54$ (gam).

$n_{O\,(mất)} = n_{H_2} + n_{CO} \rightarrow 3x + y = 0{,}18$ (mol).

$n_{H_2SO_4} = 2n_{...} + 2n_{...} \to 4x + 2y = \frac{42.70\%}{98} = 0,30$ (mol).

$$\begin{cases} Fe_2O_3 : x \\ CuO : y \end{cases} \to \begin{cases} Fe : 2x \\ Cu : y \end{cases} \to \begin{cases} 3x + y = 0,07 + 0,11 = 0,18 \\ 2.2x + 2y = \frac{42.0,7}{98} = 0,3 \end{cases} \to \begin{cases} x = 0,03 \\ y = 0,09 \end{cases} \to m = 12,0 \text{ (gam)}.$$

$$\frac{1}{2}X \begin{cases} Ca^{2+} : x \\ Mg^{2+} : y \\ HCO_3^- : z \\ Cl^- : 0,02 \end{cases} + \begin{cases} Ca^{2+} \\ OH^- \end{cases} \left(\begin{array}{l} HCO_3^- + OH^- \to CO_3^{2-} + H_2O \\ \text{Mol: } z \longrightarrow z \\ Ca^{2+} + CO_3^{2-} \to CaCO_3 \downarrow \\ \text{Mol: } z \longrightarrow z \end{array} \right) \quad 100z = 4,00.$$

$$\begin{cases} 100x + 84y = 2{,}84 \\ 100z = 4{,}00 \\ 2x + 2y = z + 0{,}02 \end{cases} \rightarrow \{x = 0{,}02\ (mol);\ y = 0{,}01\ (mol);\ z = 0{,}04\ (mol)$$

(1) Do $Fe_3O_4 = FeO.Fe_2O_3$ → Quy đổi X = FeO và Fe_2O_3.

ĐỀ SỐ 7: LẶP LẠI

$72x + 160y = 5,2$; $2x + 6y = 4z$

$$\begin{cases} 72x + 160y = 5,2 \\ 2x + 6y = 4z \\ 143,5.5z + 108(x - 0,75z) = 30,86 \end{cases} \rightarrow \begin{cases} 72x + 160y = 5,2 \\ 2x + 6y - 4z = 0 \\ 108x + 636,5z = 30,86 \end{cases} \rightarrow \begin{cases} x = 0,05 \\ y = 0,01 \\ z = 0,04 \end{cases}$$

$\rightarrow m = 0,02.108 + 0,035.56 = 4,12$ (gam)

$$\left(\begin{cases} FeS_2 : a \\ FeO : b \end{cases} + HNO_3 \xrightarrow{t^o} \begin{cases} Fe(NO_3)_3 : a+b \\ H_2SO_4 : 2a \end{cases} + \begin{cases} NO : c \\ NO_2 : d \end{cases} + H_2O\right)$$

Theo bài $160.\dfrac{(a+b)}{2} + 233.2a = 9,46 \rightarrow \begin{cases} 120a + 72b = 4,8 \\ 80(a+b) + 233.2a = 9,46 \end{cases} \rightarrow \begin{cases} a = 0,01 \\ b = 0,05 \end{cases}$

$$\begin{cases} 3Cu + 8H^+ + 2NO_3^- \longrightarrow 3Cu^{2+} + 2NO\uparrow + 4H_2O \\ \text{Mol: } 0,045 \longleftarrow 0,12 \longrightarrow 0,03 \end{cases} \quad (\max)$$

$m_{Cu(max)} = (0,045 + 0,03).64 = 4,8$ (gam)

$$m_{Cu(max)} = 64\left(\frac{n_{Fe^{3+}}}{2} + \frac{3n_{H^+}}{8}\right) = 64\left(\frac{0,06}{2} + \frac{3(0,04 + 0,08)}{8}\right) = 4,8 \text{ (gam)}.$$

Bảo toàn nguyên tố oxi: [illegible] $= 2.0,36 + 0,32 - 2.0,30 = 0,28$

$$\begin{cases} CH_2=CH-COOH : x\ (mol) \\ C_3H_5(OH)_3 \qquad : y\ (mol) \end{cases} \rightarrow \begin{cases} x+y = 0,12 \\ 2x+4y = 0,32 \end{cases} \rightarrow \begin{cases} x = 0,08\ (mol) \\ y = 0,04\ (mol) \end{cases}$$

$$\overline{C} = \frac{n_{CO_2}}{n_X} = 3;\ \overline{O} = \frac{n_{O(X)}}{n_X} = \frac{7}{3} \rightarrow \begin{cases} CH_2=CH-COOH: 0,08 \\ C_3H_5(OH)_3 \qquad : 0,04 \end{cases} \quad \begin{cases} CH\equiv C-COOH: 0,8/15 \\ C_3H_5(OH)_3 \qquad 1,0/15 \end{cases}$$

m = 0,08.72 + 0,04.92 + 0,06.98 – 0,12.18 = 13,16 (gam).

$$m = \left(m_{CO_2} + m_{H_2O} - m_{O_2}\right) = (7{,}04 + 2{,}16 - 0{,}17.32) = 3{,}76\ (gam)$$

[illegible]

$$\frac{n_{H_2O}}{n_{CO_2}} = \frac{n+1}{n} = \frac{4}{3} \rightarrow n = 3 \rightarrow \text{Ancol: } C_3H_5(OH)_3.$$

[illegible]

$C_xH_yO_z$: $x : y : z = 0{,}16 : 0{,}24 : 0{,}10 = 8 : 12 : 5 \rightarrow C_8H_{12}O_5 \rightarrow (RCOO)(R'COO)C_3H_5(OH)$;

$R + R' = 42 \rightarrow \left[R = 1\ (H-);\ R' = 41\ (C_3H_5-)\right] \vee \left[R = 15\ (CH_3-);\ R' = 27\ (C_2H_3-)\right]$.

$$n_E : n_{KOH} = \left(\frac{4,14}{138}\right) : 0,09 = 0,03 : 0,09 = 1 : 3 \to E = HCOO - C_6H_4 - OH.$$

$$E \begin{cases} C_xH_yO_z \end{cases} \quad x : y : z = \frac{14}{12} : \frac{1}{1} : \frac{8}{16} = 7 : 6 : 3 \to C_7H_6O_3 \to HCOO - C_6H_4 - OH$$

$$m = 4,14 + 80\left(\frac{8,4}{100}\right) - 0,06.18 = 9,78 \text{ (gam)}.$$

$$\begin{cases} 6x + 3y = \dfrac{7,2}{40} = 0,18 \\ y = \dfrac{1,84}{92} = 0,02 \end{cases} \to \begin{cases} x = 0,02 \text{ (mol)} \\ y = 0,02 \text{ (mol)} \end{cases}$$

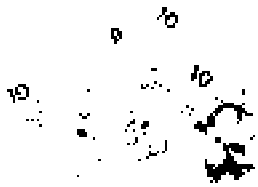
$$\begin{cases} 4,5(2p - 1)x + (4,5n + 5)y = 1,78 \\ x = y = 0,02 \end{cases} \rightarrow \begin{cases} 2p + n = \dfrac{59}{3} \\ x = y = 0,02 \end{cases} \rightarrow \begin{cases} 2p + n = \dfrac{59}{3} \\ 2 < p < 3 \end{cases} \rightarrow \begin{cases} 13,66 < n < 15,66 \\ 2p + n = \dfrac{59}{3} \end{cases}$$

$$E \begin{cases} X : x \\ Y : y \end{cases} \begin{cases} 6x + 3y = 0,18 \\ y = 0,02 \end{cases} \rightarrow \begin{cases} x = 0,02 \\ y = 0,02 \end{cases} \qquad E \begin{cases} C_{m}H_{[illegible]}O_{[illegible]}N_{2} : 0,02 \\ (C_nH_{2n+1}COO)_3C_3H_5 : 0,02 \end{cases} + O_2 : 1,78$$

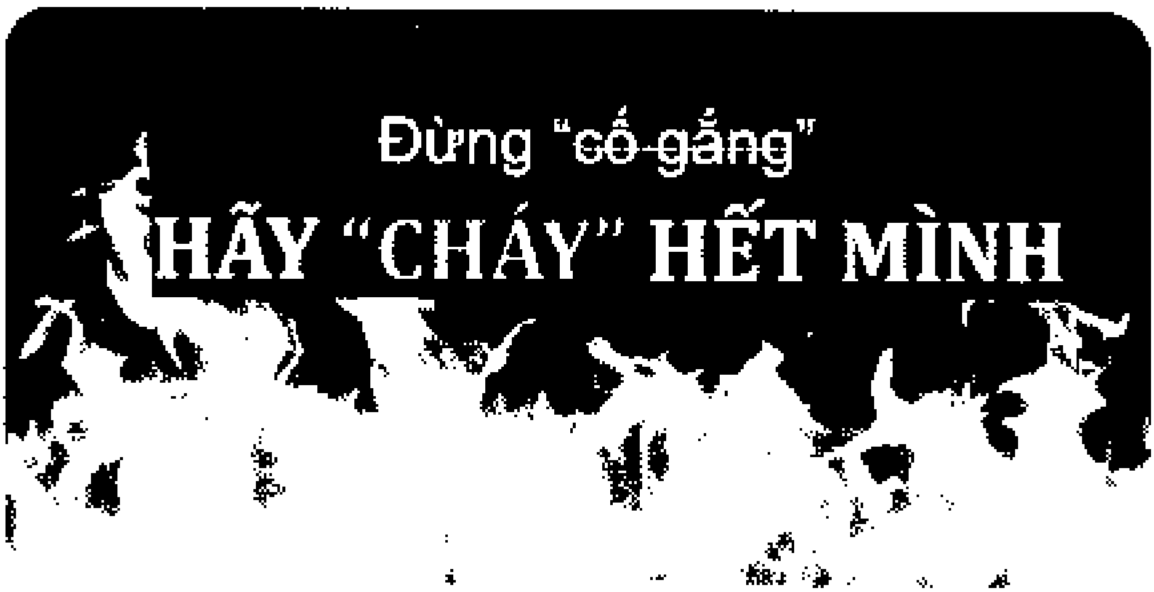
$$0,26 + 1,78.2 = 0,24p + 0,04(3n + 6) + 0,02(6p - 2) + 0,02(3n + 4)$$

$$3,54 = 0,36p + 0,18n \rightarrow 2p + n = \frac{59}{3} \rightarrow n = 15; p = \frac{7}{3} \rightarrow m = (388 + 806).0,02 = 23,88.$$

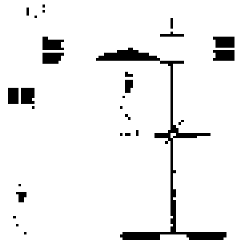
ĐỀ SỐ 7



Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt


Đừng "cố-gắng"
HÃY "CHÁY" HẾT MÌNH

ĐỀ SỐ 8. DUNG PHÁT



ĐỀ SỐ 8: HÙNG PHÁT

ĐỀ SỐ 8

Đ: $Si + 2NaOH + H_2O \rightarrow Na_2SiO_3 + 2H_2\uparrow$

Đ: $Na_2S + 4H_2SO_4 \xrightarrow{t^o} Na_2SO_4 + 4SO_2\uparrow + 4H_2O$

Theo bài: $2(n+1)a = 4a \rightarrow n = 1 \rightarrow$ Oleum: $H_2SO_4.SO_3$

(b): $Cr + H_2SO_4 \xrightarrow{t^o} CrSO_4 + H_2\uparrow$

ĐỀ SỐ 8: RỪNG PHẠT

$\{a = 0{,}075\ (mol);\ b = 0{,}075\ (mol) \rightarrow \%m_{Mg} = \dfrac{1{,}8}{6}.100\% = 30\%$

(c) $\{2Fe + 3Cl_2 \xrightarrow{t^o} 2FeCl_3\}$. Dây sắt chỉ bị ăn mòn hóa học.

$$\begin{cases} Fe + Cu(NO_3)_2 \longrightarrow Fe(NO_3)_2 + Cu\downarrow \\ \text{Mol: } 0,05 \longrightarrow 0,05 \longrightarrow 0,05 \end{cases}$$

C: $Ca(HCO_3)_2 + 2NaOH \longrightarrow CaCO_3\downarrow + Na_2CO_3 + 2H_2O$

B: $2NaCrO_2 + 3Br_2 + 8NaOH \longrightarrow 2Na_2CrO_4 + 6NaBr + 4H_2O$

$$\begin{cases} CH_2=CH-CH=CH_2 + Br_2 \xrightarrow[\text{[illegible]}]{\text{[illegible]}} Br-CH_2-CH=CH-CH_2-Br \\ Br-CH_2-CH=CH-CH_2-Br + H_2 \xrightarrow[t^o]{Ni} Br-CH_2-CH_2-CH_2-CH_2-Br \end{cases}$$

$$\begin{cases} H-COOH + 2AgNO_3 + 4NH_3 + H_2O \xrightarrow{t^o} (NH_4)_2CO_3 + 2Ag\downarrow + 2NH_4NO_3 \\ CH_3-CH_2-CHO \xrightarrow[t^o]{+AgNO_3/NH_3} CH_3-CH_2-COONH_4 + 2Ag\downarrow \end{cases}$$

$$X\begin{cases} R-COO-R' \\ R''-COO-R' \end{cases}\quad \begin{cases} R-COO-R' + NaOH \rightarrow R-COONa + R'-OH \\ R''-COO-R' + NaOH \rightarrow R''-COONa + R'-OH \end{cases}$$

$$M = \left(\frac{1,6}{0,05}\right) = 32 \rightarrow CH_3OH;\quad M = \left(\frac{4,3}{0,05}\right) = 86 \rightarrow CH_2=CH-COO-CH_3$$

$$\begin{cases} C_2H_5NH_3NO_3 + NaOH \longrightarrow C_2H_5NH_2\uparrow + NaNO_3 + H_2O \\ \text{Mol: } 0,1 \longrightarrow 0,1 \longrightarrow 0,1 \end{cases}$$

$$(b)\begin{cases} 3Cl_2 + 2NH_3 \longrightarrow N_2\uparrow + 6HCl \\ NH_3 + HCl \longrightarrow NH_4Cl \end{cases}$$

$$(d)\begin{cases} FeCl_2 + 2AgNO_3 \longrightarrow Fe(NO_3)_2 + AgCl\downarrow \\ Fe(NO_3)_2 + AgNO_3 \longrightarrow Fe(NO_3)_3 + Ag\downarrow \end{cases}$$

$$Fe + NO_3^- + 4H^+ \longrightarrow Fe^{3+} + NO\uparrow + 2H_2O$$

$$\text{Mol:} \quad \frac{3a}{4} \longleftarrow 3a \longrightarrow \frac{3a}{4}$$

$$Fe + 2Fe^{3+} \longrightarrow 3Fe^{2+}$$

[illegible] thể tích khí thoát ra ở (a), (b) và (c) tương ứng là: [illegible]

Bảo toàn nguyên tố hiđro: $2n_{H_2SO_4} = n_{NaOH} + n_{HCl} + 2n_{H_2} \Rightarrow n_{H_2} = \frac{x + y + 0,05}{2}$

$$X\begin{cases} Na: x \\ K: y \\ O: z \end{cases} \begin{cases} 23x + 39y + 16z = 3,66 \\ x + y = 2z + 2.0,025 \\ 40x + 56y + 0,04(36,5 + 98) = 8,54 + 18(x + y) \end{cases} \rightarrow \begin{cases} x = 0,040 \\ y = 0,060 \\ z = 0,025 \end{cases}$$

$m = 40.0,04 + 56.0,06 = 4,96$ (gam)

Theo bài: $40(2x + 3y) + 24z = 6,8 \Rightarrow 80x + 120y - 24z = 6,8$

Theo bài: $\begin{cases} 24(2x + 3y + z) + 35,5.2a + 96a = 21,5 \\ n_e = 4x + 6y - 2z = 2(2x + 3y + z) = 4a \end{cases} \Rightarrow \begin{cases} 2x + 3y + z = 0,2 \\ a = 0,1 \end{cases}$

$$X\begin{cases} O_2: x \\ O_3: y \end{cases} \to Y\begin{cases} MgO: (2x + 3y) \\ Mg: z \end{cases} + \begin{cases} HCl: 2a \\ H_2SO_4: a \end{cases} \to \begin{cases} 80x + 120y - 24z = 6,8 \\ z = 1,5(x + y) \\ 24(2x + 3y + z) + 167a = 21,5 \\ 2(2x + 3y + z) = 4a \end{cases}$$

$a = 0,100$ (mol); $x = y = z = 0,025$ (mol) $\to V = 0,05.22,4 = 1,12$ (L).

$$\begin{cases}(b-2a)=0,02\\3b=8a\end{cases}\rightarrow\begin{cases}(b-2a)=0,02\\3b=8a\end{cases}\rightarrow\begin{cases}a=0,03\ (mol)\\b=0,08\ (mol)\end{cases}$$

$$\begin{cases}Ba:a\\Al:b\end{cases}\begin{cases}b-2a=0,02\\2a+3b=1,25(2a+6a)\end{cases}\rightarrow\begin{cases}a=0,03\\b=0,08\end{cases}\rightarrow Y\begin{cases}OH^-:0,02\\AlO_2^-:0,08\\Na^+:0,04\\Ba^{2+}:0,03\end{cases}+\begin{cases}H^+:0,08\\SO_4^{2-}:0,04\end{cases}$$

$$m=\frac{0,08-0,02}{2}.102+0,03.233=10,05\ (gam).$$

$$D + 2NaOH \xrightarrow{t^\circ} HCOONa + CH_2(OH)-CH(OH)-CH_2 + CH_3COONa$$

$$\left.\begin{array}{l} CH\equiv CH + H_2 \xrightarrow{Ni,\,t^\circ} CH_2=CH_2 \\ CH\equiv CH + 2H_2 \xrightarrow{Ni,\,t^\circ} CH_3-CH_3 \end{array}\right\} \rightarrow Y \begin{cases} C_2H_4,\ C_2H_6 \\ C_2H_2,\ H_2 \end{cases}$$

$$X\begin{cases}C_2H_2 : x\\ H_2 \quad : 2x\end{cases} \begin{cases}30x = 0,82 + 0,06.(34/3)\\ \to x = 0,05\end{cases} \to Y \equiv X\begin{cases}C_2H_2 : 0,05\\ H_2 \quad : 0,10\end{cases} + O_2 \longrightarrow \begin{cases}CO_2 : 0,10\\ H_2O : 0,15\end{cases}$$

$V_{O_2} = (0,10 + 0,15/2).22,4 = 3,92$ (l).

$$\left(CH_3-CHO + 2AgNO_3 + 3NH_3 + H_2O \xrightarrow{t^o} CH_3-COONH_4 + 2Ag\downarrow + 2NH_4NO_3\right)$$

$$3CH_2=CH_2 + 2KMnO_4 + 4H_2O \longrightarrow 3C_2H_4(OH)_2 + 2MnO_2\downarrow + 2KOH$$

$$Nilon-6,6 + 2nNaOH \xrightarrow{t^o} nNaOOC-(CH_2)_4-COONa + nH_2N-(CH_2)_6-NH_2$$

$\Rightarrow M_{R'OH} = \dfrac{1,84}{0,04} = 46 \Rightarrow C_2H_5OH \Rightarrow R = 137 - 16 - 44 - 29 = 28\ (-C_2H_4-)$.

$M_{..} = (40,24 - 40.0,96) : 0,04 = 46\ (C_2H_5OH) \Rightarrow R$ [illegible]

$$\begin{cases} na = 0,12\ (mol) \\ (n-1)a = 0,20\ (mol) \end{cases} \Rightarrow \begin{cases} a = 0,08\ (mol) \\ n = 1,5 \end{cases} \Rightarrow n = 1,5$$

$$X\begin{cases}C_nH_{2n+1}OH: 0{,}08\end{cases} \to n = \frac{0{,}12}{0{,}08} = 1{,}5 \to (I)\begin{cases}CH_3OH\\ R-CH_2-OH\end{cases} \quad (II)\begin{cases}CH_3OH\\ R-CH(OH)-R'\end{cases}$$

$$\begin{cases}CH_3OH & : x\\ R-CH(OH)-R' & : y\end{cases} \to \begin{cases}HCHO & : x\\ R-CO-R' & : y\end{cases} \to \begin{cases}x = 0{,}06\\ y = 0{,}02\end{cases} \to CH_3-CH(OH)-CH_3.$$

$n_e = 2n_{Mg} + n.n_M = 2n_{O_2} + 4n$ → $2a + nb = 0{,}28$ (mol). Theo bài: $24a + Mb = 5{,}82$.

$$\begin{cases} Cl_2: 0,06 \\ O_2: 0,04 \end{cases} \begin{cases} Mg: a \\ M: b \end{cases} \to Y \begin{cases} MgCl_2: a \\ MCl_2: b \\ HCl: 0,04 \end{cases} + NaOH\ (0,40) \begin{cases} [Ca] & 2a + 2b + 0,04 = 0,40 \\ [Cr, Al] & 2a + 4b + 0,04 = 0,40 \\ [Zn] & 2a + 4b + 0,04 = 0,40 \end{cases}$$

[Zn] $2a + 2b = 0,28 \to a = 0,08; b = 0,06 \to M = (5,82 - 24.0,08) : 0,06 = 65.$

N_2O và NO_2 có cùng số mol: $NO_2.N_2O = NO.N_2O = NO + N_2O$ (Kĩ thuật ghép oxit ...)

Bảo toàn electron: [illegible] $\to 3x + 2y = 0,072 +$ [illegible]

$NO_2, N_2 \to NO, N_2O = NO + N_2O \Rightarrow$ NO: 0,008 (mol); N_2O: 0,00[illegible] (mol)

$$\begin{cases} Al: x \\ Mg: y \end{cases} \quad \begin{cases} Mg(NO_3)_2: y \\ NH_4NO_3: a \end{cases} \quad \begin{cases} 6(27x + 24y) = 213x + 148y + 80a \\ 4x + 2y + a = 19{,}04 : 40 \end{cases} \Rightarrow \begin{cases} y = 0{,}06 \\ a = 0{,}036 \end{cases} \Rightarrow m = 3{,}6$$

Theo bài: $\begin{cases} \dfrac{3x}{2} = \dfrac{V}{22{,}4}; \quad 2y = \dfrac{10{,}08}{56} = 0{,}18 \end{cases} \Rightarrow \begin{cases} \dfrac{3x}{2} = \dfrac{V}{22{,}4}; \quad y = 0{,}09 \text{ (mol)} \end{cases}$

$$\Rightarrow x = 0,12\ (mol),\ k = \frac{1}{3} \Rightarrow V = \frac{3x}{2}.22,4 = \frac{3.0,12}{2}.22,4 = 4,032\ (L)$$

$$P_1 \begin{cases} Al & : x \\ Al_2O_3 & : y \\ Fe & : 2y \end{cases} \Rightarrow \begin{cases} \dfrac{3x}{2} = \dfrac{V}{22,4} \\ y = 0,09 \end{cases} \qquad P_2 \begin{cases} Al & : kx \\ Al_2O_3 & : ky \\ Fe & : 2ky \end{cases} \Rightarrow \begin{cases} k\left(\dfrac{3x}{2} + 2y\right) = \left(\dfrac{2}{3}\right)\dfrac{V}{22,4} \Rightarrow x \\ y = 0,09 \end{cases}$$

$$(27x + 102y + 112y)(k+1) = 30 \Rightarrow x = 0,12,\ k = \frac{1}{3} \Rightarrow V = \frac{3.0,12}{2}.22,4 = 4,032.$$

[illegible]

Trong 2,24 lít X: $n_O = 2n_{O_2} + 2n_{CO_2} + n_{CO} = 0,14$ (mol); $n_C = n_{CO_2} + n_{CO} = 0,08$ (mol).

[illegible]

[illegible] $\frac{[illegible]}{96500}$ [illegible]

[illegible]

$$\begin{cases} CO: x \\ CO_2: y \\ O_2: z \end{cases} \quad \begin{cases} x + y + z = 0,1 \\ 28x + 44y + 32z = 3,2 \\ y = 0,02 \end{cases} \Rightarrow \begin{cases} x = 0,06 \\ y = 0,02 \\ z = 0,02 \end{cases}$$

[illegible] $= 0,20$ [illegible]

$m_C = 12(n_{CO} + n_{CO_2}) = 0,96$ (gam)

$m_C = 0,96.10$ [illegible] $\frac{150000.24.3600}{96500}$ [illegible] $0,28 =$ [illegible] (kg).

[illegible]

$2x = \frac{4,32}{108} = 0,04$ (mol); $(194 + R)(x + y) = 12,48$ (gam).

[illegible]

$y = 0,04$ (mol); $R = \frac{13,18}{0,02 + 0,04} - 194 - 14$

$$\begin{cases} X: CH \ldots R \ldots COO: x \\ Y: CH \ldots R \ldots COOH: y \end{cases} \begin{cases} 2x = 4,32 : 108 = 0,04 \\ (194 + R)(x + y) = 12,46 \\ 3x + 2y = 0,14 \end{cases} \rightarrow \begin{cases} x = 0,02; y = 0,04; R = 14 \\ m = \ldots 0,02 + 84 \cdot 0,04 = \ldots \end{cases}$$

$$\begin{cases} a + b = 0,15 \\ (14n + 96)a + (14m + 44)b = 10,02 \end{cases} \rightarrow \begin{cases} a + b = 0,15 \\ 14(na + mb) + 2a = 3,42 \end{cases}$$

$n = 1 \rightarrow X = CH_3COOH$ (0,10 mol) $\rightarrow \%m_X = \dfrac{0,10.60}{10,02}.100\% = 59,88\%$.

Theo bài: $m_{\uparrow} = m_{ancol} - m_{H_2} = 1,80$ (gam) $\rightarrow m_{ancol} = 1,80 + 0,02.2 = 1,84$ (gam).

$x : y : z : t = 0,16 : 0,16 : 0,16 : 0,08 = 2 : 2 : 2 : 1 \rightarrow C_2H_2O_2Na$.

$X + 2NaOH \longrightarrow NaOOC-CH_2-CH_2-COONa + C_2H_5OH$

Mol 0,08 0,04 0,04

$M_{ancol} = \frac{1,88 + 2.0,02}{0,04} = 46\ (C_2H_5OH)$ $C_xH_yO_zNa_t$: $x : y : z : t = 0,24 : 0,36 : 0,16 : 0,08$

$= 3 : 2 : 2 : 1 \Rightarrow CH_3COONa \Rightarrow NaOOCC_2H_4COONa \Rightarrow HOOC-CH=CH-COOC_2H_5$

Theo bài: $\frac{3np - 1,5p}{2}a = \frac{10,08}{22,4} = 0,45$; $(np)a = \frac{2np - p + 2}{2}a = 2a$ $\Rightarrow 0,5np + 1,5pa = 0,90$; $p = 6$

$$\begin{cases} 75(x+y+z) + 14(y+3z) = 534 \\ x+y+z=6 \end{cases} \rightarrow \begin{cases} y+3z=6 \\ x+y+z=6 \end{cases} \rightarrow \begin{cases} z=1 \\ y=3 \\ \ldots \end{cases} \rightarrow E: (Gly)_2(Ala)_3(Val)_1$$

$m = \ldots - (m_{\ldots} + m_{\ldots}) = 0,36.197 - (0,36.44 + 0,32.18) = 49,32$ (gam)

H_2O ... a ... $\frac{(2n-1)\ldots a}{2}$

$$M_1 = \frac{27,92 + 18b - 10,8a}{b} = 444 \rightarrow (Gly)_2(Ala)_4(Val)_1 \rightarrow C_{\ldots}H_{\ldots}O_{\ldots}N_{\ldots}$$

$7a + 0,45.2 = 18a.2 + 16a \rightarrow a = 0,02 \rightarrow m = 197.0,36 - (0,36.44 + 0,32.18) = 49,32$

ĐỀ SỐ [illegible] RUNG PHÁT

10

9

10 10

Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt

ĐỀ SỐ 9: TỐC ĐỘ

[illegible]

[illegible]

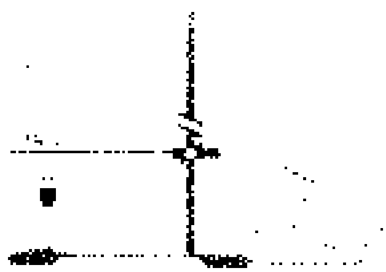
[illegible]

[illegible] khong [illegible]

[illegible] khong [illegible]

[illegible] khong [illegible]

[illegible]



ĐỀ SỐ 9.

Al tác dụng với HCl theo phương trình: $Al + 3HCl \longrightarrow AlCl_3 + \frac{3}{2}H_2$

$\dots = 0{,}025 \dots \Rightarrow M = \frac{2{,}1}{0{,}025} = 84\ (MgCO_3)$

ĐỀ SỐ 9. [illegible]

[illegible]

$$A:\begin{cases} 3Fe^{2+} + NO_3^- + 4H^+ \longrightarrow 3Fe^{3+} + NO\uparrow + 2H_2O \\ AgNO_3 + HCl \longrightarrow AgCl\downarrow + HNO_3 \end{cases}$$

[illegible]

$$\{Fe(NO_3)_2 + AgNO_3 \longrightarrow Fe(NO_3)_3 + Ag\downarrow\}$$

[illegible]

Theo bài: $M\left(\frac{0,65}{n}\right) = 7,8 \rightarrow M = 12n \rightarrow n = 2; M = 24\ (Mg)$

$Y: C_xH_y \quad x : y = n_{CO_2} : 2n_{H_2O} = \left(\frac{m_{CO_2}}{44}\right) : \left(\frac{2m_{H_2O}}{18}\right) = \left(\frac{11}{44}\right) : \left(\frac{12}{18}\right) = \frac{1}{4} : \frac{2}{3} = 3 : 8 \rightarrow C_3H_8$

$$\begin{cases} 44a + 60b = 4{,}0 \\ 2a = \dfrac{10{,}8}{108} = 0{,}1 \end{cases} \rightarrow \begin{cases} a = 0{,}05 \text{ (mol)} \\ b = 0{,}03 \text{ (mol)} \end{cases} \rightarrow m = 77(a + b) = 77.0{,}08 = 6{,}16 \text{ (gam)}.$$

$$m_{dd\,NaOH} = 0{,}075.40.\left(\frac{100}{6}\right) = 50 \text{ (gam)} \rightarrow m_{dd} = 50.\left(\frac{94}{100}\right) = 47 \text{ (gam)}$$

$$(g)\ CaF_2 + H_2SO_4 \xrightarrow{t^o} CaSO_4 \downarrow + 2HF \uparrow$$

$$(d)\ \left\{ \begin{array}{l} Na + H_2O \longrightarrow NaOH + \frac{1}{2}H_2 \uparrow \\ CuSO_4 + 2NaOH \longrightarrow Cu(OH)_2 \downarrow + Na_2SO_4 \end{array} \right.$$

$$\begin{cases} NO_2 : 4a \\ O_2 \quad : \end{cases} + H_2O \qquad \begin{cases} \quad 4NO_2 + O_2 + 2H_2O \longrightarrow 4HNO_3 \\ \text{Mol: } 4a \longrightarrow a \longrightarrow \quad \longrightarrow 4a \end{cases}$$

$$V = \frac{4}{3}\left(n_{O_2} + n_{NH_3}\right) = \frac{4}{3}\left(\frac{5}{4} + \frac{1}{2} + \frac{1}{4} + 1\right)n_{NH_3} = \left(\frac{12}{3}\right)0,3.0,1.22,4 = 2,688\ (L).$$

$$\begin{cases} R_2CO_3 \ : x \\ RHCO_3 : y \end{cases} + Ba(OH)_2 \quad \begin{cases} \quad R_2CO_3 + Ba(OH)_2 \longrightarrow BaCO_3\downarrow + 2ROH \\ \text{Mol: } x \longrightarrow x \\ \quad RHCO_3 + Ba(OH)_2 \longrightarrow BaCO_3\downarrow + ROH + H_2O \\ \text{Mol: } y \longrightarrow y \end{cases}$$

ĐỀ SỐ 9: TỐC ĐỘ

$$(2R + 60)x + (R + 61)y = \frac{10,5}{3} \rightarrow (2R + 60).0,02 + (R + 61).0,02 = 3,5$$

$$V_{KOH} = 2\left(\frac{3,94}{197} + \frac{7,88 - 3,94}{197}\right) : 2 = 0,04\ (L) = 40\ (mL).$$

Bảo toàn nguyên tố clo: $n_{HCl} = n_{AgCl} = 10.\frac{4,879}{143,5} = 0,34 \rightarrow x = 0,34$ (mol).

[illegible]

Bảo toàn nguyên tố natri: [illegible] $= 0,02$ (mol)

[illegible]

$$n_{[illegible]} = \frac{n_{[illegible]}}{2} = \frac{0,02}{2} = 0,01\ (mol) \rightarrow \frac{n_{[illegible]}}{n_{[illegible]}} = \frac{0,01}{0,02 + 0,01} = \frac{1}{3}$$

[illegible]

(f) Tổng số liên kết π trong phân tử F = [illegible]

[illegible]

$$\begin{cases} C_nH_{2n-8}O_6 + 2H_2 \xrightarrow{t^0} C_nH_{2n-4}O_6 \\ \text{Mol: } a \longrightarrow 2a \end{cases}$$

$$\begin{cases} nCO_2 \\ (n-4)H_2O \end{cases} \to E \begin{cases} nC \\ (2n-8)H \to C_nH_{2n-8}O_6 \xrightarrow{+2H_2} C_{57}H_{110}O_6 \to 57 + 110 + 6 - 4 = 169. \\ 6O \end{cases}$$

$$\begin{cases} m_X = 26x + 2.2x = 30x \text{ (gam)}; \ n_X = 3x = \dfrac{V}{22,4} \text{ (mol)}. \end{cases}$$

$$\left(\begin{array}{l} \quad CH_2 = CH_2 \quad + \quad Br_2 \longrightarrow CH_2Br - CH_2Br \\ \text{Mol: } a \longrightarrow a \end{array}\right) \rightarrow a = \frac{4,8}{160} = 0,03 \text{ (mol).}$$

$$X\begin{cases} C_2H_2 : x \\ H_2 \ \ : 2x \end{cases} \begin{cases} \Delta n = n_X - n_Y = 3x - \dfrac{30x}{20} = 1,5x \\ \Delta n = \Delta n_{k.a} = 2x - (\dfrac{2.2,4}{240} + \dfrac{4,8}{160}) \end{cases} \rightarrow \begin{cases} x = 0,1 \text{ (mol)} \\ V = 3.0,1.22,4 = 6,72 \text{ (L)} \end{cases}$$

$$\begin{cases} X: \text{Hexapeptit} \\ Y: H_2NCH_2COONH_3CH_3 \end{cases} \qquad M_X = \frac{10,26 + 0,04.31 + 0,05.18 - 0,10.40 - 0,04.106}{0,01} = 416$$

$$\rightarrow (Gly)_2(Ala)_4 \rightarrow (C_2H_5O_2N)_2(C_3H_7O_2N)_4 - 5(H_2O) = C_{16}H_{28}O_7N_6$$

$$\begin{cases} CH_3OH & : x \\ C_2H_4(OH)_2 : y \end{cases} \quad \begin{cases} 2C_2H_4(OH)_2 + Cu(OH)_2 \longrightarrow [C_2H_4(OH)O^-]_2Cu + 2H_2O \\ \text{Mol: } 0{,}06 \longleftarrow 0{,}03 \end{cases}$$

$$\begin{cases} a = 0{,}06 \\ (n+1)a = 0{,}20 \end{cases} \rightarrow \begin{cases} a = 0{,}06\ (mol) \\ n = \dfrac{7}{3} \end{cases} \quad \dfrac{7}{3} \quad \begin{cases} C_2H_4(OH)_2 : x\ (mol) \\ C_3H_5(OH)_3 : y\ (mol) \end{cases}$$

$$(I) \begin{cases} CH_3OH & : x \\ C_2H_4(OH)_2 : y \end{cases} \quad \begin{cases} 2x + 3y = 0{,}20 \\ y = 0{,}06 \end{cases} \rightarrow \{x = 0{,}01\ (mol);\ y = 0{,}06\ (mol)$$

$$(II) \{C_nH_{2n+2-n}(OH)_n : a \quad \begin{cases} a = 0{,}06 \\ n = 7/3 \end{cases} \rightarrow \{C_2H_4(OH)_2 : 0{,}04\ (mol);\ C_3H_5(OH)_3 : 0{,}02 (mol).$$

$$\begin{cases} 30x + 44y = 2,6 \\ 4x + 2y = \dfrac{27}{108} = 0,25 \end{cases} \rightarrow \begin{cases} x = 0,050 \text{ (mol)} \\ y = 0,025 \text{ (mol)} \end{cases}$$

Theo bài. $\begin{cases} a + b = 0,04 \\ 74a + 88b = 3,1 \end{cases} \rightarrow \begin{cases} a = 0,03 \text{ (mol)} \\ b = 0,01 \text{ (mol)} \end{cases}$

$$\begin{cases} HCHO \quad : x \\ CH_3CHO : y \end{cases} \begin{cases} 30x + 44y = 2,6 \\ 4x + 2y = 0,25 \end{cases} \rightarrow \begin{cases} x = 0,050 \\ y = 0,025 \end{cases} \rightarrow \begin{cases} CH_3OH \ : 0,050 \text{ (mol)} \\ C_2H_5OH : 0,025 \text{ (mol)} \end{cases}$$

$$\begin{cases} CH_3COOCH_3 : a \\ CH_3COOC_2H_5 : b \end{cases} \begin{cases} a + b = 0,04 \\ 74a + 88b = 3,10 \end{cases} \rightarrow \begin{cases} a = 0,03 \\ b = 0,01 \end{cases} \rightarrow \{ H_X = 60\%; \ H_Y = 40\%.$$

$$X, Y \ \{C_xH_yO_z \qquad \left(x : y : z = \frac{m_C}{12} : \frac{m_H}{1} : \frac{m_O}{16} = \frac{14}{12} : \frac{1}{1} : \frac{8}{16} = 7 : 6 : 3 \rightarrow C_7H_6O_3 \right)$$

$$n_{KOH} : n_{hh} = 0,08 : \left(\frac{4,14}{138}\right) = 0,08 : 0,03 = \frac{8}{3} \in (2; 3) \rightarrow \begin{cases} X: HCOO-C_6H_4-OH \\ Y: HO-C_6H_4-COOH \end{cases}$$

$$X, Y \ \{C_xH_yO_z \quad x : y : z = \frac{14}{12} : \frac{1}{1} : \frac{8}{16} = 7 : 6 : 3 \rightarrow C_7H_6O_3 \rightarrow \begin{cases} X: HCOO-C_6H_4-OH \\ Y: HO-C_6H_4-COOH \end{cases}$$

$m = 4,14 + 80.0,112 - 0,06.18 = 12,02$ **(gam).**

Theo bài: $\begin{cases} 0{,}5x + y + 1{,}5z = \dfrac{2{,}464}{22{,}4} = 0{,}11 \\ 23x + 137y + 27z = 5{,}2 \end{cases}$; $Y: \begin{cases} OH^- & : 0{,}02 + x + 2y - z \\ AlO_2^- & : z \\ Na^+ & : 0{,}02 + x \\ Ba^{2+} & : y \end{cases}$

$$\begin{cases} n_{H^+(min)} = n_{OH^-} + n_{+} \\ n_{H^+(max)} = n_{OH^-} + 4n_{AlO_2^-} - 3n_{\downarrow} \end{cases} \rightarrow \begin{cases} 0,10 = n_{OH^-} + 1(2t) \\ 0,15 = n_{OH^-} + 4n_{AlO_2^-} - 3(3t) \end{cases} \rightarrow 11x + 22y - 3z = 0,90$$

$x = 0,06$; $y = 0,02$; $z = 0,04 \rightarrow m = 197y + 78z = 7,06$ (gam).

Theo bài: $16(4y + z) = 0,21(27x + 232y + 80z) \rightarrow 5,67x - 15,28y + 0,8z = 0.$

$$342.\frac{x}{2} + 400.\frac{3y}{2} + 160z = 3,4(27x + 232y + 80z) \rightarrow 79,2x - 188,8y - 112z = 0.$$

$$\begin{cases} 5,67x - 15,28y + 0,8z = 0 \\ 79,2x - 188,8y - 112z = 0 \\ 3x + y = 0,225 \end{cases} \Rightarrow \begin{cases} x = \dfrac{0,2}{3} \text{ (mol)}, y = 0,025 \text{ (mol)}, z = 0,005 \text{ (mol)} \end{cases}$$

$$\begin{array}{lccccccc} & M_xO_y & + & yCO & \xrightarrow{t^o} & xM & + & yCO_2 \\ \text{Mol:} & \dfrac{0,025}{y} & \leftarrow & & & \dfrac{0,025x}{y} & \leftarrow & 0,025 \end{array}$$

$$\begin{pmatrix} & X & + & H_2SO_4 & \xrightarrow{t^0} & M_2(SO_4)_n & + & SO_2 & + & H_2O \\ \text{Mol:} & & & 0{,}175 & & & & 0{,}075 & & 0{,}175 \end{pmatrix}$$

[illegible]

$$\text{Trong oxit } Cu_xO_y: \begin{cases} m_{Cu} = 6{,}4 \\ m_O = 7{,}2 - 6{,}4 = 0{,}8 \end{cases} \rightarrow \frac{64x}{16y} = \frac{6{,}4}{0{,}8} \rightarrow \frac{x}{y} = \frac{2}{1} \rightarrow Cu_2O$$

[illegible]

$$\left(a + b = \frac{1{,}344}{22{,}4} = 0{,}06\ (mol) \rightarrow n_{NO_3^-} = n_{HNO_3} - (n_{NO} + n_{NO_2}) = 0{,}4 - 0{,}06 = 0{,}34\ (mol) \right)$$

[illegible]

[illegible]

Y trung hòa điện nên: $3(x + 3y) + 1.0,12 = 1.0,34 + 2.0,04 \Rightarrow x + 3y = 0,1$ (mol)

[illegible]

$$X\begin{cases} Fe : x \\ Fe_3O_4 : y \end{cases} \quad Y\begin{cases} Fe^{3+} : x + 3y \\ H^+ : 0,12 \\ NO_3^- : 0,34 \\ SO_4^{2-} : 0,04 \end{cases} \quad \begin{cases} 56x + 232y = 7,2 \\ x + 3y = 0,1 \end{cases} \rightarrow \begin{cases} x = 0,025 \\ y = 0,025 \end{cases}; \quad \begin{cases} a + b = 0,06 \\ 3a + b = 0,1 \end{cases}$$

$$\Rightarrow a = 0,02;\ b = 0,04 \qquad m = m_{Fe(OH)_3} + m_{BaSO_4} = 0,05.107 + 0,02.233 = 10,01 \text{ (gam)}$$

[illegible]

$$n_{CO_2} = \frac{5}{3}\left(\frac{V}{22,4}\right) \to \bar{C} = \frac{n_{CO_2}}{(a+b)} = \frac{5}{3}\left(\frac{V}{22,4}\right) : \frac{1}{2}\left(\frac{V}{22,4}\right) = \frac{10}{3}$$

$$E \begin{cases} RCOOH \\ R'(COOH)_2 \end{cases} \quad \bar{C} = \frac{n_{CO_2}}{n_E} = \frac{5V}{3} : \frac{V}{2} = \frac{10}{3} \to \begin{cases} CH_2 = CH - COOH : a \\ HOOC - CH_2 - COOH : b \end{cases} \to \begin{cases} a + b = 0,1 \\ 4a = b \end{cases}$$

$a = 0,02$ (mol); $b = 0,08$ (mol) $\to m = 94.0,02 + 148.0,08 = 13,72$ (gam)

Số nguyên tử cacbon trung bình = $\frac{n_{CO_2}}{a+b} < \frac{n_{CO_2}}{a} = \frac{0,22}{0,08} = 2,75$. Axit chứa 1 hoặc 2 cacbon.

$\begin{cases} CH_3COOH : a\ (mol) \\ C_3H_7OH : b\ (mol) \end{cases} \rightarrow \begin{cases} a = 0,08\ (mol) \\ 2a + 3b = 0,22\ (mol) \end{cases} \rightarrow \begin{cases} a = 0,08\ (mol) \\ b = 0,02\ (mol) \end{cases}$

$C = \frac{n_{CO_2}}{n_X} < \frac{n_{CO_2}}{n_{axit}} = \frac{0,22}{0,08} = 2,75 \rightarrow$ (I) $\begin{cases} HCOOH : 0,08 \\ C_2H_5OH : 0,07 \end{cases}$; (II) $\begin{cases} CH_3COOH : 0,08 \\ C_3H_7OH : 0,02 \end{cases}$

$\rightarrow m_{este} = 0,02.50\%.102 = 1,02$ (gam).

... $= 0,150 - 0,075 = 0,075$ (mol) → ... $x + y + 3z = 0,075$ (mol).

n_{CO_2} = (n+1).0,05 + m.0,2 + (2n+m+2).0,025 = 1,075   4n + 9m = 39.

$$\begin{cases} C_nH_{2n-1}COOH & : x \\ C_mH_{2m}(OH)_2 & : y \\ (C_nH_{2n-1}COO)_2C_mH_{2m} & : z \end{cases} \quad \begin{cases} n_{H_2O} - n_{CO_2} = -x + y - 3z = 0,075 \\ n_{O(E)} = 2x + 2y + 4z = 0,600 \\ n_{Br_2} = x + 2z = 0,100 \end{cases} \rightarrow \begin{cases} x = 0,050 \\ y = 0,200 \\ z = 0,025 \end{cases}$$

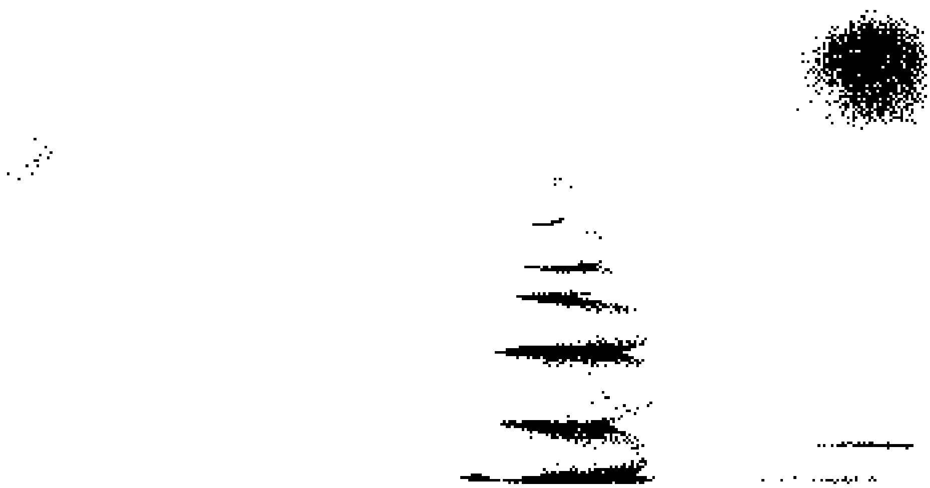
24,8 + 0,1.2 + 0,08.40 + 0,02.56 – 0.225,76 – 0,05.18 = 11,32 (gam).

Quy đổi: $\begin{cases} X : a \ (mol) \\ Y : 2a \ (mol) \end{cases} = \begin{cases} C_nH_{2n-1}ON : b \ (mol) \\ H_2O \qquad : 3a \ (mol) \end{cases}$

$$\begin{cases} C_2H_5O_2N : x \ (mol) \\ C_3H_7O_2N : y \ (mol) \end{cases} \to \begin{cases} x + y = 0,08 \\ 2x + 3y = 2,375(x + y) \end{cases} \to \begin{cases} x = 0,05 \ (mol) \\ y = 0,03 \ (mol) \end{cases}$$

$$\begin{cases} n_{Gly} = 0,005p + 0,01h = 0,05 \\ n_{Ala} = 0,005q + 0,01k = 0,03 \end{cases} \to \begin{cases} p + 2h = 10 \\ q + 2k = 6 \end{cases} \to \begin{cases} p = 2, q = 2 \\ h = 4, k = 2 \end{cases} \to \begin{cases} X = (Gly)_2(Ala)_2 \\ Y = (Gly)_4(Ala)_2 \end{cases}$$

ĐỀ SỐ 10 - THÀNH CÔNG



ĐỀ SỐ 10: THÀNH CÔNG

DE SO 146: THANH CONG

ĐỀ SỐ 10: THÀNH CÔNG

ĐỀ SỐ 16: THÀNH CÔNG

ĐỀ SỐ 10. THANH ĐỒNG

ĐỀ SỐ 10: THÀNH CÔNG

$2HCl \longrightarrow 2Cl^- + H_2$ $\qquad$ $2H_2O \longrightarrow 2OH^- + H_2$

Mol: 0,02 $\longrightarrow$ 0,01 $\qquad$ Mol: 0,02 $\leftarrow$ 0,01

$n_{\ldots} = 2n_{H_2} - n_{\ldots} = 2.0,02 - 0,02 = 0,02\ (mol) \rightarrow n_{\ldots} = \frac{1}{2} n_{\ldots} = 0,01\ (mol)$

ĐỀ SỐ 10: THÀNH CÔNG

$$\frac{V_1}{V_2} = \frac{0,1(x-y)}{0,05x} = \frac{2(x-y)}{x} = \frac{4}{7} \rightarrow x:y = 7:5$$

$$\frac{V_1}{V_2} = \frac{n_{\ldots} - n_{\ldots}}{(1/2)n_{\ldots}} \rightarrow \frac{0,1x - 0,1y}{0,05x} = \frac{4}{7} \rightarrow x:y = 7:5.$$

$$\begin{pmatrix} & X & + & HNO_3 & \longrightarrow & Fe(NO_3)_3 & + & NO & + & H_2O \\ Mol: & & & (3a+0,06) & & a\ mol & & 0,06 & & \frac{3a+0,06}{2} \end{pmatrix}$$

$$X:\begin{cases}Fe: a\\ O: b\end{cases}\quad\begin{cases}56a + 16b = 8{,}16\\ [illegible] = 2n_{[illegible]} + 3n_{[illegible]}\end{cases} \rightarrow \begin{cases}a = 0{,}12\\ b = 0{,}09\end{cases} \rightarrow n_{[illegible]} = 3n_{[illegible]} + n_{[illegible]} = 0{,}42$$

$$n_{[illegible]} = \frac{8}{3}\left(\frac{5{,}04}{56} - \frac{n_{[illegible]}}{2}\right) = \frac{8}{3}(0{,}09 - 0{,}06) = 0{,}08 \rightarrow n_{[illegible]} = 0{,}50\ (mol).$$

$$\begin{cases}CaC_2: x\ mol\\ Al_4C_3: y\ mol\end{cases} + H_2O \longrightarrow \begin{cases}X\ \{Ca(AlO_2)_2: x\ mol\\ Al(OH)_3\downarrow\end{cases} + Y\begin{cases}C_2H_2: x\ mol\\ CH_4: 3y\ mol\end{cases}$$

ĐỀ SỐ 10: THÀNH CÔNG

$$\begin{cases} n_{Al(OH)_3\ (max)} = 4n_{Al_4C_3} - 2n_{Ca(AlO_2)_2} = 4y - 2x \\ n_{Al(OH)_3\ (min)} = 2n_{Ca(AlO_2)_2} = 2x \end{cases} \rightarrow 2x = 2(4y - 2x) \rightarrow x : y = 4 : 3.$$

$$\begin{cases} C_2H_5NH_3NO_3 \\ (CH_3NH_3)_2CO_3 \end{cases}$$

$$C_2H_5NH_3NO_3 + NaOH \longrightarrow C_2H_5NH_2\uparrow + NaNO_3 + H_2O$$

Mol: $x \longrightarrow x \longrightarrow x$

$$(CH_3NH_3)_2CO_3 + 2NaOH \longrightarrow 2CH_3NH_2\uparrow + Na_2CO_3 + 2H_2O$$

Mol: $y \longrightarrow 2y \longrightarrow y$

$(CH_3NH_3)_2CO_3 \quad x + 2y = 0,04 \rightarrow y = 0,01$

$$M_{RCOOK} = \frac{1,86}{0,02} = 93 \rightarrow R = 31\ (HO-CH_2-) \rightarrow X \begin{cases} HO-CH_2-COOH: a\ (mol) \\ HO-CH_2-CHO\ : b\ (mol) \end{cases}$$

$$m = \left(\frac{n_{Ag}}{2}\right).60 + \left(0,02 - \frac{n_{Ag}}{2}\right).76 = \left(\frac{0,0375}{2}\right).60 + \left(0,02 - \frac{0,0375}{2}\right).76 = 1,22\ (gam).$$

$$MSO_4 + H_2O \xrightarrow{đpdd} M_{(catot)} + \frac{1}{2}O_2\uparrow_{(anot)} + H_2SO_4$$

$$\begin{cases} MSO_4 + H_2O \xrightarrow{đpdd} M + \frac{1}{2}O_2 + H_2SO_4 \\ \text{Mol:} \qquad\qquad\qquad\qquad\qquad 1{,}75a \end{cases}$$

$$\begin{cases} 3Fe^{2+} + NO_3^- + 4H^+ \longrightarrow 3Fe^{3+} + NO + 2H_2O \\ \text{Mol: } 0,015 \leftarrow 0,02 \end{cases}$$

$$m = m_{AgCl} + m_{Ag} = 143,5(n_{HCl}) + 108\left(n_{Fe^{2+}} - \frac{3}{4}n_{H^+}\right) = 143,5.0,06 + 108.0,005 = 9,15.$$

[illegible]

$$\begin{cases} Al\ (2x) \longrightarrow H_2\ (3x) \\ Cr\ (2x) \longrightarrow H_2\ (2x) \end{cases} \Rightarrow \ldots = 3x + 2x \Rightarrow x = \frac{1}{2}\ldots = 0{,}02\ (mol)$$

$$\Rightarrow \%m = \frac{0{,}02}{0{,}03}\cdot 100\% = 66{,}67\%$$

[illegible]

$$\begin{cases} Al : 0{,}17 \\ Al_2O_3 : 0{,}03 \end{cases} + \begin{cases} H_2SO_4 : a \\ NaNO_3 : b \end{cases} \longrightarrow \begin{cases} Al_2(SO_4)_3 : 0{,}115 \\ Na_2SO_4 \\ (NH_4)_2SO_4 \end{cases} + \begin{cases} H_2 : 0{,}015 \\ \ldots \end{cases} + H_2O$$

[illegible]

$$2n_{H_2SO_4} = 8n_{(NH_4)_2SO_4} + 2n_{H_2} + 2n_{NO} + n_{H_2O} \Rightarrow n_{H_2O} = 0,4 - 4.0,0075 - 0,015 = 0,355\ (mol).$$

$$n_{Al_2(SO_4)_3} = \frac{0,17 + 2.0,03}{2} = 0,115;\ n_{H_2SO_4} = n_{BaSO_4} = 0,4;\ n_{(NH_4)_2SO_4} = \frac{0,935 - 8.0,115}{2} = 0,0075$$

$$n_{Na_2SO_4} = 0,4 - 3.0,115 - 0,0075 = 0,0475;\ n_{NaNO_3} = 2.0,0475 = 0,095;\ n_{H_2O} = 0,355$$

$$m = 7,65 + 0,4.98 + 0,095.85 - 0,115.342 - 0,0475.142 - 0,0075.132 - 0,355.18 = 1,47.$$

$$C1:\begin{cases}46a+60b=27,2\\142a+204b=89,6\end{cases}\rightarrow\begin{cases}a=0,20\\b=0,30\end{cases}\qquad C2:\begin{cases}46a+60b=27,2\\6a+9b=3,9\end{cases}\rightarrow\begin{cases}a=0,20\\b=0,30\end{cases}$$

$$\begin{cases}C_2H_5OH: x\\C_3H_7OH: y\end{cases}\begin{cases}x+y=0,16\\46x+60y=6,76+0,08.18\end{cases}\rightarrow\begin{cases}x=0,10\\y=0,06\end{cases}\qquad T\begin{cases}C_2H_5OH: a\\C_3H_7OH: b\end{cases}$$

$$\begin{cases}46a+60b=27,2\\(a+b)+2.1,95=2(2a+3b)+(3a+4b)\end{cases}\rightarrow\begin{cases}a=0,20\\b=0,30\end{cases}\rightarrow\begin{cases}H_1=(x:a).100\%=50\%\\H_2=(y:b).100\%=20\%\end{cases}$$

$$\begin{cases}X=HOOC-C\equiv C-COOH & (C_4H_2O_4)\\Y=HOOC-C\equiv C-COO-CH_2-CH_2-OH & (C_6H_6O_5)\end{cases}$$

$$\begin{cases} Y: C_xH_yO_z \;\; x:y:z = 0,14 : 0,15 : \left(\dfrac{3,95 - 0,15.1 - 0,15.0,12}{16}\right) = 6:6:5 \rightarrow C_6H_6O_5 \\ HOOC - R - COO - C_xH_y(OH) = C_6H_6O_5 \rightarrow Y: HOOC - C \equiv C - COO - C_2H_2(OH) \end{cases}$$

Theo bài: $m_Y = m_{muối} - m_{K} = 2,48$ (gam) $\rightarrow m_{muối} = 2,40 + 0,04.2 = 2,56$ (gam).

$c = n_{CO_2} - n_{H_2O} = 0,24 \;\; 0,22 = 0,02$ (mol) $\rightarrow a + b = 0,08 - 0,02 = 0,06$ (mol).

ĐỀ SỐ 18 – THANH LONG

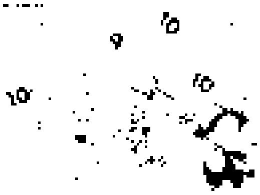
$$M = \frac{2,48 + 0,08.2.56}{0,08} = 32 \Rightarrow CH_3OH;\quad M = \frac{5,88}{0,08} = 73,5 \Rightarrow \begin{cases} H-COO-CH_3 \\ CH_3-COO-CH_3 \end{cases}$$

$$\begin{cases} H-COO-CH_3 & : a \\ CH_3-COO-CH_3 & : b \\ C_nH_{2n-1}-COO-CH_3 & : c \end{cases} \quad \begin{cases} c = n_{CO_2} - n_{H_2O} = 0,24 - 0,22 = 0,02 \\ a + b + c = 0,08 \\ n_{CO_2} = 2.0,06 + b + (n+2).0,02 = 0,24 \end{cases} \rightarrow \begin{cases} 3 < n < 4\ (n = 3) \\ \%m = 34,01\% \end{cases}$$

$$\begin{cases} X: (Gly)_a(Ala)_b : x \\ Y: (Gly)_m(Ala)_n : y \end{cases} \quad \begin{cases} a + b = 5 \\ m + n = 6 \end{cases} \quad \begin{cases} x + y = 0,7 \\ 5x + 6y = 3,8 \end{cases} \rightarrow \begin{cases} x = 0,4 \\ y = 0,3 \end{cases} \quad 0,4(2a + 3b) = 0,3(2m + 3n)$$

$\rightarrow 8a + 12b = 6m + 9n \rightarrow 4b + 4 = 3n \rightarrow$ $b = 2; n = 4; a = 3; m = 2$

$m = (3.0,4+2.0,3).97+ (2.0,4+4.0,3).111 = 396,6$ (gam).



Lần	Thời gian (phút)	Điểm đạt	Lần	Thời gian (phút)	Điểm đạt

BỘ ĐỀ 9 ĐIỂM HÓA HỌC

TS. Nguyễn Văn Hai
ThS. Lê Đăng Khương

NHÀ XUẤT BẢN DÂN TRÍ

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Chịu trách nhiệm xuất bản:

BÙI THỊ HƯƠNG

Chịu trách nhiệm nội dung:

NGUYỄN PHAN HÁCH

Biên tập: [illegible]

Vẽ bìa: [illegible]

Sửa bản in: [illegible]

Trình bày sách: [illegible]

Chế bản: [illegible]

[illegible]