

R_{XS} {
completas $\rightarrow IR \rightarrow$ | solo paso
incompletas $\rightarrow R \leftrightarrow$ multipasos
Ke ó KR

Título de la nota

23/06/2025

Barbital $pK_a = 7.43$

$$C_0 = 10^{-1}$$

$$\frac{K_a}{C_0} = \frac{10^{-7.43}}{10^{-1}} = 10^{-6.43}$$

$$\frac{K_a}{C_0} \geq 10^1 \quad \text{ácido fuerte}$$

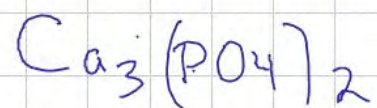
$$\frac{K_a}{C_0} \leq 10^{-2} \quad \text{ácido débil}$$

$$pH = \frac{1}{2} pK_a - \frac{1}{2} \log C_a$$

$$= \frac{1}{2} (7.43) - \frac{1}{2} \log 10^{-1}$$

$$= 3.715 + 0.5 = \underline{4.215}$$

pe del o-fostato de calcio



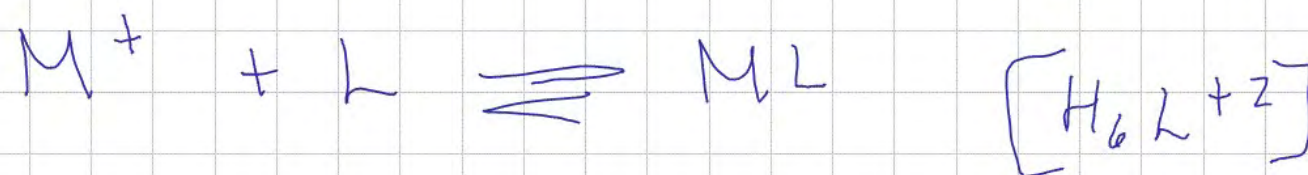
$$M = \frac{310 \text{ g}}{\text{mol.}}$$

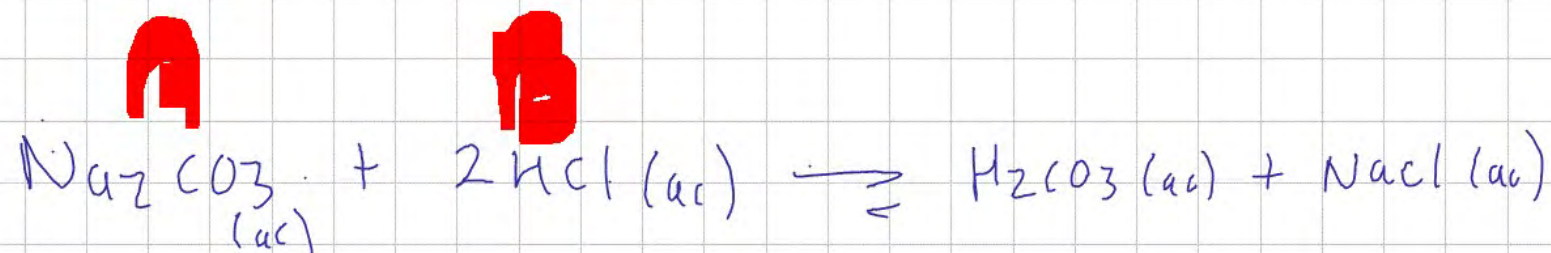
$$\frac{3 \text{ Ca}^{+2}}{6} = \text{pe} = \frac{\text{Pa Ca}^{+2}}{2} = \frac{40 \text{ g}}{2} = \frac{20 \text{ g}}{\text{eq}}$$

$$\text{pe } (\text{PO}_4)^{-3} = \frac{2 (\text{PO}_4)^{-3}}{6} = \frac{1}{3} M (\text{PO}_4)^{-3} = \frac{95 \text{ g}}{3 \text{ eq}} = \frac{31.66 \text{ g}}{\text{eq}}$$

$$\text{pe } \text{Ca}_3(\text{PO}_4)_2 = \frac{M \text{ Ca}_3(\text{PO}_4)_2}{6} = \frac{310}{6} = \frac{51.66 \text{ g}}{\text{eq}}$$

A EDTA $\rightarrow$ ácido hexaprotico





$$a = 1$$

$$b = 2$$

$$b \text{ moles A} = a \text{ moles B}$$

$$\text{moles A} = \frac{a}{b} \text{ moles B}$$

$$\frac{g_A}{M_A} = \frac{a}{b} (M_B V_B)$$

$$g_A = \frac{a}{b} (M_B V_B) M_A$$

$$= \frac{a}{b} \left[\left(\frac{\cancel{\text{mol}}}{\cancel{\text{L}}} \right) \left(\cancel{\text{L}} \right) \right] \frac{g}{\cancel{\text{mol}}} \checkmark$$

$$g_{PP} = \frac{a}{b} (M_{HCl} V_{HCl}) M_{PP}$$

$$\frac{g_{PP}}{M_{PP}} = \frac{1}{2} (M_{HCl} V_{HCl})$$

$$M_{HCl} = \left(\frac{g_{PP}/M_{PP}}{V_{HCl}} \right) 2 = \left(\frac{0.2008g/106g/mol}{0.0402L} \right) 2$$

$$M_{HCl} = 0.09425 \frac{\text{mol}}{\text{L}} \checkmark$$

Ácido-base Lewis

{ ácido especie química
deficiente en electrones
 Ca^{+2} , H_3O^+

{ base comparte electrones
 OH^-

Analysis

Via

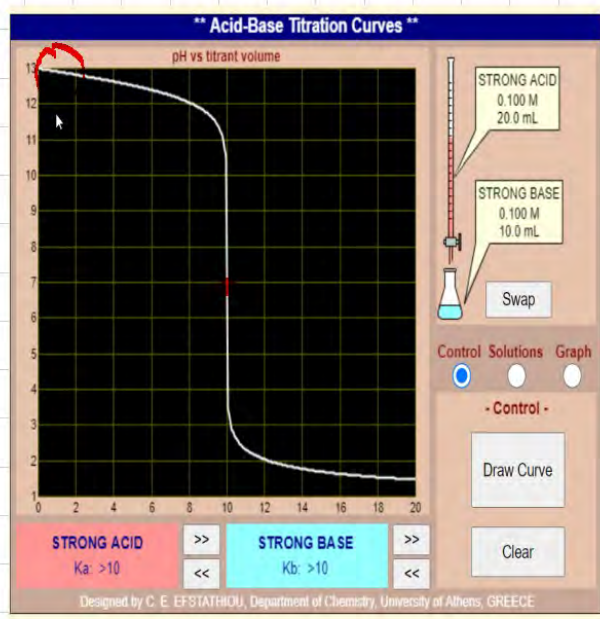
húmeda

Ácido-base

complejos solubles

complejos insolubles

Redox



Inicio

$$pH = pK_s + \log C_b$$

$$= pK_w + \log C_b$$

$$= 14 + \log 10^{-1}$$

$$= 14 - 1 = \underline{13}$$

/

$$pH \quad p.e = 7$$

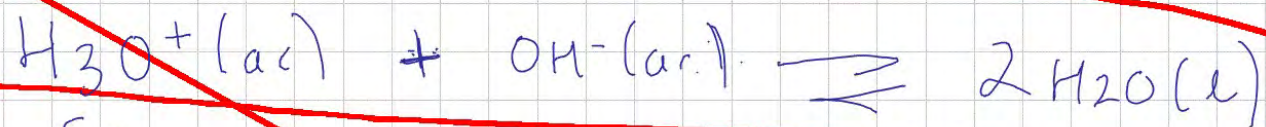
$$[H_3O^+][OH^-] = K_w$$

$$[H_3O^+] = [OH^-] \Rightarrow [H_3O^+]^2 = K_w$$

$$[H_3O^+]^2 = 10^{-14}$$

$$[H_3O^+] = 10^{-14/2} = 10^{-7}$$

$$pH = -\log [H_3O^+] = -\log 10^{-7} = 7$$



Inicio

 C_0

Ag

 $x C_0$

APE

 $C_0(1-x)$ ≈ 0

PE

 εC_0 εC_0

DPE

 ~ 0 $C_0(x-1)$



$$K_D = 10^{14} = \frac{1}{K_W}$$

$$K_D = \frac{1}{[H_3O^+][OH^-]} = \frac{1}{\epsilon c_0 \epsilon c_0}$$

$$\epsilon = \sqrt{\frac{10^{-14}}{(10^{-5})^2}} = \sqrt{\frac{10^{-14}}{10^{-10}}} = 10^{-4/2} = 10^{-2}$$

$$\varepsilon = 10^{-2}$$

$$\% Q = (1 - \varepsilon) 100$$

$$= (1 - 10^{-2}) = 99\%$$
