a. Asociación del ligando auxiliar

b. Disociación de los quelones

c. Constantes de estabilidad de los diferentes complejos

Calcio EDTA
$$log O(av = 10.7)$$
Amoniaco $log b_1 = -0.2$; $log b_2 = -0.8$; $log b_3 = -1.6$; $log b_4 = -2.7$
Calcón $log Colod = 5.3$
Calmagita $log Colod = 6.1$

Magnesio EDTA $log O(av) = 8.70$
Amoniaco $log b_1 = 0.23$; $log b_2 = 0.08$; $log b_3 = -0.36$; $log b_4 = -1.1$
Calcón $log Mglad = 8.10$

d. Constantes de estabilidad de los quelatos protonados

Factores

FHY =
$$2.47$$

FLM Calcio = 1.41
Magnesio = 2.63
FMHY Calcio = 1.00
Magnesio = 1.00
FHInd Calcio = $10^{2.46}$
Magnesio = $10^{1.32}$

Constantes condicionales

Cálculos dependientes del P.E.

Cálculo de porcentaje de error

Magnesio

Calcio

$$\begin{array}{l}
O'MgN = \frac{[MgY^2] \, F_{MMY}}{[Mg^{24}]_{FF} \cdot [N^{A}] \cdot F_{LM} \cdot F_{HY}} & : [Y^{4}] = \frac{[MgY^2] \, F_{MHY}}{[Mg^{24}]_{PF} \cdot O'MgY \cdot F_{LM} \cdot F_{HY}} = 3,42 \times 10^{-7} M \\
O'CaN = \frac{[CaY^2] \, F_{MMY}}{[Ca^{24}]_{PF} \cdot [N^{A}] \cdot F_{LM} \cdot F_{HY}} & : [Ca^{24}]_{PF} = \frac{[CaY^2] \, F_{MMY}}{Q'caY \cdot [N^4] \cdot F_{LM} \cdot F_{HY}} = 4.17 \times 10^{-8} M \\
P^{Ca}_{HF} = \log \left(\frac{1}{[Ca^{14}]_{PF}} \right) = 7.34 \\
\Delta P^{M} = P^{Ca}_{PF} - P^{Ca}_{PF} = 7,34 - 6,62 = 0.82
\end{array}$$

a. Asociación del ligando auxiliar

Amoniaco
$$69\beta = 9,37$$

b. Disociación de los quelones

EDTA
$$pQOM = 1.99$$
; $pQQz = 2.68$; $pQQ3 = 6.41$; $pQq4 = 10.17$
Calmagita $pQInd1 = 8.10$; $pQInd2 = 12.4$
Calcón $pQInd1 = 7.00$; $pQInd2 = 13.5$

c. Constantes de estabilidad de los diferentes complejos

Calcio	EDTA Amoniaco Calcón Calmagita	log (Cay = 10,7 log b1=-0,2; log b2=-0,8; log b3=-1,6; log b4=-2,7 log Calad=5,3 log (alad=6,1
Magnesio	EDTA Amoniaco Calcón Calmagita	log () MgY = 8,70 log β1=0,23; log β2=0,08; log β3=-0,36; log β4=-1,1 log Mg/nd=7,6 log Mg/nd=8,10

d. Constantes de estabilidad de los quelatos protonados

Calcio
$$\bigcirc_{M_9H_7} = 10^{3,4}$$
Magnesio $\bigcirc_{M_9H_7} = 10^{3,9}$

Factores

FHY =
$$2.47$$

FLM Calcio = 1.41
Magnesio = 2.63
FMHY Calcio = 1.60
Magnesio = 1.60
FHInd Calcio = 1.60
Magnesio = 1.60

Constantes condicionales

Cálculos dependientes del P.E

$$[Ca^{2}]_{RE} = 2.96 \times 10^{-7} \text{M} \cdot PCa_{RE} = 6.52$$

 $[Mg^{2}]_{RE} = 2.16 \times 10^{-6} \text{M} \cdot PM_{9RE} = 5.66$

Cálculo de porcentaje de error

Magnesio

$$[Mq^{2t}]_{P,F} = \frac{F_{HInd}}{10^{Q_{Ng}Ind}} = \frac{10^{2,46}}{10^{8.7}} = 2.24 \times 10^{-6} M : pMg_{P,F} = 5,65$$

$$\Delta pM = pMg_{P,F} - pMg_{P,E} = 5.65 - 5.66 = -0.01$$

$$Z = \frac{10^{Q_{PM}} - 10^{Q_{PM}}}{\sqrt{Q_{PM}^2 + Q_{PM}^2}} \cdot 100 = \frac{10^{-0,01} - 10^{0,01}}{\sqrt{10^{8.49} \cdot 2.5 \times 10^{-3} M}} \cdot 100 = +0.22$$

Calcio

$$\frac{\left[Mg^{\gamma^{2}}\right] F_{MWY}}{\left[Mg^{2}\right]_{PF} \left[N^{\Delta}\right] \cdot F_{LM} \cdot F_{HY}} := \left[N^{4}\right] = \frac{\left[Mg^{\gamma^{2}}\right] F_{MHY}}{\left[Mg^{2}\right]_{PF} \cdot \left[N^{\Delta}\right] \cdot F_{LM} \cdot F_{HY}} = 3,42 \times 10^{-7} M$$

$$\frac{\left[C_{\alpha}V^{2}\right] F_{MWY}}{\left[C_{\alpha}V^{2}\right] F_{MWY}} := \left[C_{\alpha}V^{2}\right]_{PF} \cdot \left[C_{\alpha}V^{2}\right] F_{MWY}} = 4,17 \times 10^{-8} M$$

$$\frac{\left[C_{\alpha}V^{2}\right] F_{MWY}}{\left[C_{\alpha}V^{2}\right] \cdot F_{LM} \cdot F_{HY}} := \left[C_{\alpha}V^{2}\right]_{PF} \cdot \left[C_{\alpha}V^{2}\right] F_{MWY}} = 4,17 \times 10^{-8} M$$

$$\frac{\left[C_{\alpha}V^{2}\right] F_{MWY}}{\left[C_{\alpha}V^{2}\right] \cdot F_{LM} \cdot F_{HY}} := 7,34$$

$$\frac{\left[C_{\alpha}V^{2}\right] F_{MWY}}{\left[C_{\alpha}V^{2}\right] \cdot F_{LM} \cdot F_{LM}} := 7,34$$

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