

Symbols in coordination equilibria.

Elements

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| ML_n | symbolises a coordination compound in equilibrium in aqueous solution To simplify charges has been omitted. |
| n | is an integer ($0 \leq n \leq N$) : it means the number of (monodentate) <u>ligands</u> - L – which are bound to the metal ion M. |
| N | The <u>maximum coordination number</u> is N. |
| ML_n | is therefore a short notation for $ML_n(H_2O)_{N-n}$ (charges omitted). M may be called <u>metal ion</u> , <u>central ion</u> or <u>central atom</u> |

Concentration

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| $[ML_n]$ | molar concentration of the species ML_n |
| C_x | stoichiometric concentration of X - the molar concentration of X in total bound to the metal ions or free. Is often called the total concentration of X. For typographical reasons it may also be written as C(X). |
| C_M | Stoichiometric concentration of metal ion |
| C_L | Stoichiometric concentration of ligand |

The degree of formation

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| α_n | The degree of formation of ML_n (For typographical reasons it may also be written as $\alpha(n)$). $\alpha_n = \frac{[ML_n]}{C_M}$ |
| \bar{n} | The degree of formation of the <u>system</u> - (is pronounced n-mean). $\bar{n} = \frac{\sum n \cdot [ML_n]}{C_M} = \sum n \cdot \alpha_n$ |

Stability constant

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| K_n | the step wise stability constant for the step $ML_{n-1} + L \leftrightarrow ML_n$ $K_n = \frac{[ML_n]}{[ML_{n-1}] \cdot [L]} = \frac{\alpha_n}{\alpha_{n-1} \cdot [L]}$ |
| β_n | $\beta_n = \frac{[ML_n]}{[M] \cdot [L]^n} = \frac{\alpha_n}{\alpha_0 \cdot [L]^n}$ overall stability constant $\beta_n = \prod_0^n K_n$ |