Bootcamp : Maths

Baptiste Rouger

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$$S_1 + E \rightleftharpoons S_1E \rightarrow P_1 + EP_2$$
$$S_2 + EP_2 \rightleftharpoons S_2EP_2 \rightarrow P + Ex$$

$$V_0 \propto [S_1E] = a.[E]\frac{[S_1]}{[S_1] + K}$$

Strong dissociation contant = lower ones.

Chemistry is an issue of energy and distribution of energy, which laws are discribed by thermodynamics.

Metabolism : deal with energy in the cell. In the metabolism, we find :

- catabolism : decomposing complew molecules
- anabolism : biosynthesis of molecules to store energy from the catabolism.

Metabolism is also :

- exoenergetic
- endoenergetic

Both are required.

It is a law of the Universe that everything evolves toward a maximisation of the spread of energy.

Second law of thermodynamics : The total entropy of a system and its surroundings always increases for a spontaneous process.
The distribution of thermal energy in a system is characterized by the number of quantized microstats that are accessible; the more of these there are, the greater the entropy of the system.

$$S = k \ln \Omega$$

k Boltzmann constant, Ω the number of microstates (corresponding to given macrostate).

$$\tau_+ = \frac{1}{k_+[B]}$$
$$\tau_- = \frac{1}{k_-}$$