

canonical rate constant

The *rate constant* for a system in which the *reactants* are in thermal equilibrium at a given temperature.

In statistical mechanics the expression ‘canonical ensemble’ is used to refer to a closed system in thermal equilibrium, the species being present in a statistical distribution. By contrast, a microcanonical ensemble is composed of systems all having the same energy: a canonical ensemble therefore consists of a statistical distribution of microcanonical ensembles. The canonical or thermal rate constant can be obtained from the microcanonical rate constant by summing over the energy, taking into account the statistical distribution.

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