

The Hammond Postulate:

If two states, for example a transition state and an intermediate, occur consecutively during a reaction process and have nearly the same energy, their interconversion will involve only a small reorganization of molecular structure.

The Curtin–Hammett Principle:

In a chemical reaction that yields one product from one conformer/reactant and a different product from another conformer/reactant (and provided these two conformers/reactants are rapidly interconvertible relative to the rate of product formation), the product composition is controlled by the difference in free energies of the respective transition states.

The Principle of Microscopic Reversibility:

For reversible thermal reactions, the same pathway that is followed in the forward direction of a reaction will be followed in the reverse direction.