

Enzymes

Biology

How enzymes work, and what changes their rate.

Factors affecting enzyme-controlled reaction rate.

Factor	Effect
Temperature	Rate rises, then denatures past the optimum
pH	Optimum; extremes denature
Substrate concentration	Rises until enzymes are saturated
Enzyme concentration	Proportional, if substrate is in excess
Competitive inhibitor	Binds the active site; overcome by more substrate
Non-competitive	Binds elsewhere; not overcome by substrate

Induced fit replaced lock and key: the active site changes shape as the substrate binds, rather than being pre-formed.