

CHAPTER OVERVIEW

2: Reaction Kinetics

2.1: Introduction to Reaction Kinetics

2.1.1: First-Order Reactions

2.1.2: Half-lives

2.1.3: Reaction Rate

2.1.3.1: The "Speed" of a Chemical Reaction

2.1.3.2: The Rate of a Chemical Reaction

2.1.4: Reaction Rates- A Microscopic View

2.1.5: Second-Order Reactions

2.1.5.1: Pseudo-1st-order reactions

2.1.6: Zero-Order Reactions

2.2: Introduction to reaction kinetics- Basic rate laws

2.2.1: Collision theory, transition state theory, and the prediction of rate laws and rate constants

2.2.2: Complex reaction mechanisms

2.2.3: Kinetics of catalysis

2.3: Chemical Kinetics II- Reaction Mechanisms

2.3.1: A Mechanism is a Sequence of Elementary Reactions

2.3.2: The Principle of Detailed Balance

2.3.3: Multiple Mechanisms are often Indistinguishable

2.3.4: The Steady-State Approximation

2.3.5: Rate Laws Do Not Imply Unique Mechanism

2.3.6: The Lindemann Mechanism

2.3.7: Some Reaction Mechanisms Involve Chain Reactions

2.3.8: A Catalyst Affects the Mechanism and Activation Energy

2.3.9: The Michaelis-Menten Mechanism for Enzyme Catalysis

2.3.10: Predicting Rate Laws from Proposed Mechanisms

2.3.E: Chemical Kinetics II- Reaction Mechanisms (Exercises)

This page titled [2: Reaction Kinetics](#) is shared under a [not declared](#) license and was authored, remixed, and/or curated by [Layne Morsch](#).