

## 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](#).