

1. Record Nr.	UNINA9910459098003321
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Titolo	Principles of chemical kinetics [[electronic resource] /] / James E. House
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier/Academic Press, c2007
ISBN	1-282-54031-9 9786612540318 0-08-055050-9
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (337 p.)
Disciplina	541/.394
Soggetti	Chemical kinetics Chemistry, Physical and theoretical Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Principles of Chemical Kinetics; Copyright Page; Preface; Contents; Chapter 1: Fundamental Concepts of Kinetics; 1.1 Rates of Reactions; 1.2.1 First-Order; 1.2.3 Zero-Order; 1.2.4 Nth-Order Reactions; 1.3 Cautions on Treating Kinetic Data; 1.5 Some Common Reaction Mechanisms; 1.5.3 Substitution Reactions; References for Further Reading; Problems; Chapter 2: Kinetics of More Complex Systems; 2.1 Second-Order Reaction, First-Order in Two Components; 2.3 Parallel Reactions; 2.7 Autocatalysis; References for Further Reading; Problems; Chapter 3: Techniques and Methods 3.1 Calculating Rate Constants 3.2 The Method of Half-Lives; 3.4 Using Large Excess of a Reactant (Flooding); 3.5 The Logarithmic Method; 3.6 Effects of Pressure; 3.9 Tracer Methods; References for Further Reading; Problems; Chapter 4: Reactions in the Gas Phase; 4.1 Collision Theory; 4.2 The Potential Energy Surface; 4.3 Transition State Theory; 4.4 Unimolecular Decomposition of Gases; 4.5 Free Radical or Chain Mechanisms; 4.6 Adsorption of Gases on Solids; 4.6.2 B-E-T Isotherm; References for Further Reading; Problems; Chapter 5: Reactions in Solutions; 5.1 The Nature of Liquids 5.1.1 Intermolecular Forces 5.1.2 The Solubility Parameter; 5.1.3 Solvation of Ions and Molecules; 5.1.4 The Hard-Soft Interaction

Principle (HSIP); 5.2 Effects of Solvent Polarity on Rates; 5.3 Ideal Solutions; 5.5 Effects of Solvent Cohesion Energy on Rates; 5.6 Solvation and Its Effects on Rates; 5.7 Effects of Ionic Strength; 5.8 Linear Free Energy Relationships; 5.9 The Compensation Effect; 5.10 Some Correlations of Rates with Solubility Parameter; References for Further Reading; Problems; Chapter 6: Enzyme Catalysis; 6.1 Enzyme Action; 6.2.2 Lineweaver-Burk and Eadie Analyses 6.3.1 Competitive Inhibition References for Further Reading; Problems; Chapter 7: Kinetics of Reactions in the Solid State; 7.1 Some General Considerations; 7.2 Factors Affecting Reactions in Solids; 7.3 Rate Laws for Reactions in Solids; 7.3.1 The Parabolic Rate Law; 7.3.2 The First-Order Rate Law; 7.3.3 The Contracting Sphere Rate Law; 7.4 The Prout-Tompkins Equation; 7.5 Rate Laws Based on Nucleation; 7.6 Applying Rate Laws; 7.7 Results of Some Kinetic Studies; 7.7.1 The Deaquation-Anation of $[\text{Co}(\text{NH}_3)_5\text{H}_2\text{O}]\text{Cl}_3$; 7.7.3 The Dehydration of $\text{Trans-}[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{IO}_3 \cdot 2\text{H}_2\text{O}$ 7.7.4 Two Reacting Solids Problems; Chapter 8: Nonisothermal Methods in Kinetics; 8.1 TGA and DSC Methods; 8.3 The Reich and Stivala Method; 8.4 A Method Based on Three (α, T) Data Pairs; 8.5 A Method Based on Four (α, T) Data Pairs; 8.6 A Differential Method; 8.7 A Comprehensive Nonisothermal Kinetic Method; 8.8 The General Rate Law and a Comprehensive Method; References for Further Reading; Problems; Chapter 9: Additional Applications of Kinetics; 9.1 Radioactive Decay; 9.1.1 Independent Isotopes; 9.1.2 Parent-Daughter Cases; 9.3 A Further Look at Solvent Properties and Rates References for Further Reading

Sommario/riassunto

James House's revised Principles of Chemical Kinetics provides a clear and logical description of chemical kinetics in a manner unlike any other book of its kind. Clearly written with detailed derivations, the text allows students to move rapidly from theoretical concepts of rates of reaction to concrete applications. Unlike other texts, House presents a balanced treatment of kinetic reactions in gas, solution, and solid states. The entire text has been revised and includes many new sections and an additional chapter on applications of kinetics. The topics covered include quantitative
