

1. Record Nr.	UNINA9910144319203321
Titolo	Electron-transfer and electrochemical reactions [[electronic resource] ] : photochemical and other energized reactions // editor, J.J. Zuckerman; subject index editor, A.P. Hagen
Pubbl/distr/stampa	[Deerfield Beach, FL], : VCH, c1986
ISBN	1-282-30827-0 9786612308277 0-470-14530-7 0-470-14551-X
Descrizione fisica	1 online resource (426 p.)
Collana	Inorganic reactions and methods ; ; v. 15
Altri autori (Persone)	Zuckerman J. J <1936-1987.> (Jerold J.)
Disciplina	541.3/9 541.39
Soggetti	Photochemistry Charge transfer 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.
Nota di contenuto	Inorganic Reactions and Methods; Contents; How to Use this Book; Preface to the Series; Editorial Consultants to the Series; Contributors to Volume 15; Electron-Transfer and Electrochemical Reactions; Introduction; Electron Transfer; Introduction; Classification of Electron-Transfer Reactions; Outer-Sphere Reactions; Examples of Outer-Sphere Reactions; Outer-Sphere Transition States; Inner-Sphere Reactions; Inner-Sphere Reactions: Scheme I; Inner-Sphere Reactions: Scheme II; Inner-Sphere Reactions: Scheme III; Double-Ligand Bridging; Other Reaction Classes Mixed Outer- and Innersphere Reactions Intramolecular Electron Transfer; Two-Electron Transfers; Theory of Electron-Transfer Reactions; The Stability of the Precursor Complex; Potential-Energy Surfaces; of Zero Order.; of First Order.; The Electronic Factor; Electron-Exchange Reactions; The Reorganization Energy; Nuclear Tunneling in Electron Exchange; Quantum-Mechanical Treatment; Comparison of Observed and Calculated Parameters for Electron Exchange; Electron

Transfer Accompanied by a Net Chemical Change; Semiclassical Treatment; Cross Reactions and Electron-Exchange Rates  
Quantum-Mechanical Treatment Conclusions; General Reactivity Patterns in Electron Transfer; The Inner-Shell Reorganization Energy: Exchange Rates of Aquo Ions; Variations with Ligand: The Outer-Shell Reorganization Energy; Electronic Factors: Nonadiabaticity; Free-Energy Relations; Inner-Sphere Versus Outer-Sphere Electron Transfer; Rate Saturation in Electron Transfer; Specific Reactivity Patterns in Electron-Transfer Reactions; Variation with the Reductant; One-Electron Reductants; Two-Electron Reductants; Variation with the Oxidant; One-Electron Oxidants; Multiple-Electron Oxidants  
Oxidation and Reduction of Coordinated Ligands Catalysis in Electron-Transfer Reactions; Catalyzed Electron Transfer; Catalyzed Ligand Substitution; Induced Electron-Transfer Reactions; Photoinduced Electron-Transfer Reactions; Electrochemical Reactions; Introduction; The Electrode Process; Reversibility; Electrochemical Reversibility; Chemical Reversibility; Complex Electrode Mechanisms; Diagnostic Electrochemical Measurements; Voltammetric Methods; Direct-Current Polarography; Pulse-Polarographic Methods; Alternating-Current Polarography; Cyclic Voltammetry; Evaluation of Formal Potentials Involving Stable Reactants and Products. Involving Unstable Electrode Products.; Involving Reactants Undergoing Multiple-Electrode Reactions.; Chemical Reactions Accompanying Electrode Reactions; Reactions Preceding Electron Transfer (CE); Slow-Reaction ( $1 \gg a$ ) Limit; Intermediate-Reaction Kinetics; Reactions Following Electron Transfer (EC); Giving Electroinactive Products.; Giving Electroactive Products (ECE).; Other Coupled Chemical Reactions; Electrochemical Synthesis; by Controlled-Potential Electrolysis.; Involving Bulk Preparations.;  
Conclusions  
Thermodynamics of Simple Electrochemical Reactions

---

Sommario/riassunto

How to Use this Book. Preface to the Series. Editorial Consultants to the Series. Contributors to Volume 15. 12. Electron-Transfer and Electrochemical Reactions. 12.1. Introduction. 12.2. Electron Transfer. 12.3. Electrochemical Reactions. 13. Photochemical and Other Energized Reactions. 13.1. Introduction. 13.2. Photosubstitution and Photoisomerization. 13.3. Photoinduced Cleavage of Metal-Metal Bonds. 13.4. Photoinduced Electron-Transfer Reactions. 13.5. Pulse Radiolysis. List of Abbreviations. Author Index. Compound Index. Subject Index

---