The book was found

Electrochemical Science And Technology: Fundamentals And Applications
Electrochemistry is a discipline of wide scientific and technological interest. Scientifically, it explores the electrical properties of materials and especially the interfaces between different kinds of matter. Technologically, electrochemistry touches our lives in many ways that few fully appreciate; for example, materials as diverse as aluminum, nylon, and bleach are manufactured electrochemically, while the batteries that power all manner of appliances, vehicles, and devices are the products of electrochemical research. Other realms in which electrochemical science plays a crucial role include corrosion, the disinfection of water, neurophysiology, sensors, energy storage, semiconductors, the physics of thunderstorms, biomedical analysis, and so on. This book treats electrochemistry as a science in its own right, albeit resting firmly on foundations provided by chemistry, physics, and mathematics. Early chapters discuss the electrical and chemical properties of materials from which electrochemical cells are constructed. The behavior of such cells is addressed in later chapters, with emphasis on the electrodes and the reactions that occur on their surfaces. The role of transport to and from electrodes is a topic that commands attention, because it crucially determines cell efficiency. Final chapters deal with voltammetry, the methodology used to investigate electrode behavior. Interspersed among the more fundamental chapters are chapters devoted to applications of electrochemistry: electrosynthesis, power sources, “green electrochemistry,” and corrosion. Electrochemical Science and Technology is addressed to all who have a need to come to grips with the fundamentals of electrochemistry and to learn about some of its applications. It will constitute a text for a senior undergraduate or graduate course in electrochemistry. It also serves as a source of material of interest to scientists and technologists in various fields throughout academia, industry, and government as well as chemists, physicists, engineers, environmentalists, materials scientists, biologists, and those in related endeavors. This book: Provides a background to electrochemistry, as well as treating the topic itself. Is accessible to all with a foundation in physical science, not solely to chemists. Is addressed both to students and those later in their careers. Features web links (through www.wiley.com/go/EST) to extensive material that is of a more tangential, specialized, or mathematical nature. Includes questions as footnotes to support the reader’s evolving comprehension of the material, with fully worked answers provided on the web. Provides web access to Excel® spreadsheets which allow the reader to model electrochemical events. Has a copious Appendix of relevant data.

**Book Information**

Paperback: 418 pages
Students will find it a good starting point to discover electrochemistry, which was pointed out as the primary objective by the authors. Job well done! (Chromatographia, 1 August 2013)

Electrochemistry is a discipline of wide scientific and technological interest. Scientifically, it explores the electrical properties of materials and especially the interfaces between different kinds of matter. Technologically, electrochemistry touches our lives in many ways that few fully appreciate; for example, materials as diverse as aluminum, nylon, and bleach are manufactured electrochemically, while the batteries that power all manner of appliances, vehicles, and devices are the products of electrochemical research. Other realms in which electrochemical science plays a crucial role include corrosion, the disinfection of water, neurophysiology, sensors, energy storage, semiconductors, the physics of thunderstorms, biomedical analysis, and so on. This book treats electrochemistry as a science in its own right, albeit resting firmly on foundations provided by chemistry, physics, and mathematics. Early chapters discuss the electrical and chemical properties of materials from which electrochemical cells are constructed. The behavior of such cells is addressed in later chapters, with emphasis on the electrodes and the reactions that occur on their surfaces. The role of transport to and from electrodes is a topic that commands attention, because it crucially determines cell efficiency. Final chapters deal with voltammetry, the methodology used to investigate electrode behavior. Interspersed among the more fundamental chapters are chapters devoted to applications of electrochemistry: electrosynthesis, power sources, green
electrochemistry, and corrosion. Electrochemical Science and Technology is addressed to all who have a need to come to grips with the fundamentals of electrochemistry and to learn about some of its applications. It will constitute a text for a senior undergraduate or graduate course in electrochemistry. It also serves as a source of material of interest to scientists and technologists in various fields throughout academia, industry, and government chemists, physicists, engineers, environmentalists, materials scientists, biologists, and those in related endeavors. This book: Provides a background to electrochemistry, as well as treating the topic itself. Is accessible to all with a foundation in physical science, not solely to chemists. Is addressed both to students and those later in their careers. Features web links (through www.wiley.com/go/EST) to extensive material that is of a more tangential, specialized, or mathematical nature. Includes questions as footnotes to support the reader's evolving comprehension of the material, with fully worked answers provided on the web. Provides web access to Excel® spreadsheets which allow the reader to model electrochemical events. Has a copious Appendix of relevant data.

The book is written very systematically. The web resources add great value to this book. They provide derivation of all the equations used in this book and also some of the problem discussed in the book. The book is also well illustrated with pictures and written clearly.

Download to continue reading...

Electrochemical Science and Technology: Fundamentals and Applications
Electrochemical Methods: Fundamentals and Applications
Electrochemical Impedance Spectroscopy in PEM Fuel Cells: Fundamentals and Applications
Fundamental and Applications of Electrochemical Science
Student Solutions Manual to accompany Electrochemical Methods: Fundamentals and Applications, 2e
Fundamentals of Electrochemical Deposition Impedance Spectroscopy: Applications to Electrochemical and Dielectric Phenomena
3D Reconstruction: Methods, Applications and Challenges (Computer Science, Technology and Applications)
Introduction to Electrochemical Science and Engineering
Freezing Colloids: Observations, Principles, Control, and Use: Applications in Materials Science, Life Science, Earth Science, Food Science, and Engineering
(Nanostructure Science and Technology) Science and Technology in the Global Cold War (Transformations: Studies in the History of Science and Technology)