

W. Plieth

R. Holze, Elektrochemisches Praktikum. In: Teubner's Studienbücher Chemie. Teubner, Stuttgart, 2001, 296 pp (ISBN 3-519-03614-2) €32.00

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While a variety of textbooks on electrochemistry have appeared in recent years, there is a deficit in guides to the modern practice of electrochemistry. The general books on the practice of physical chemistry are no help, because the field of electrochemistry is covered in these books only in a rudimentary way. The new book by Rudolf Holze fills this gap. It supplements the textbook on electrochemistry by the same author; in seven chapters it covers a broad range of modern electrochemical practice.

The book begins with an introduction to electrochemical practices, describing cell and electrode design. The next chapter has the title "Electrochemistry without current flux" and concentrates on potentiometry. From the title of the second chapter it is obvious that the next chapter must concentrate on "Electrochemistry with current flux". This chapter is the real kernel. It begins with classical examples (for instance, Hittorf numbers), but also covers experimental examples of the most important standard methods like cyclic voltammetry, chronopotentiometry and chronoamperometry, impedance spectroscopy and, not expected in this chapter, an experiment on corrosion and passivity. Most of the following chapters deal with special applications,

describing in chapter 4 electroanalytical experiments, in chapter 6 experiments on energy storage and fuel cells, and in chapter 7 experimental examples of electrosynthesis (from Cu refining to Kolbe synthesis). The methodological chapter 5 presents spectroelectrochemical (non-classical) methods, experiments with IR and UV/vis reflectance spectroscopy, surface enhanced Raman spectroscopy, etc. At the end the reader finds lists of symbols and abbreviations.

Each experiment is described in detail and can be reproduced by a student in the appropriate semester. That raises the question, which is the "appropriate" semester? Very simple experiments are described together with more advanced exercises. The book presents examples for beginners as well as for more experienced students. The most to profit from the book will undoubtedly be the advanced student beginning to specialize for a Masters or PhD and persons needing an introduction to electrochemical practice but having already some background in chemistry.

Summarizing, the book is a very good complement to the usual textbooks of electrochemistry and provides a lot of information for the practice of this discipline.