Ultrasound in Chemistry

Analytical Applications

Edited by
José-Luis Capelo-Martínez
Ultrasound in Chemistry

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Further Reading

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Preface

The main reason for writing this book was the desire to promote the use of ultrasound as a tool for sample treatment more widely among the Analytical Chemistry community. This text is intended to serve as a laboratory guide in that it addresses the more practical aspects of the subject, reflecting the most important applications of ultrasound for sample treatment reported in the literature to date. This is definitely not a theoretical text.

Chapter 1 reviews the ultrasonic devices available nowadays to perform sample treatment for chemical analysis. Chapter 2 is devoted to applications of ultrasound for the extraction and determination of elements, including element speciation, in a wide variety of matrices, whilst Chapter 3 is dedicated to the extraction and analysis of organic compounds. Chapter 4 covers the different uses of ultrasound in analytical electrochemistry. Chapter 5 is dedicated to the acceleration of sample treatments of one growing area in analytical chemistry: proteomics – this is one of the most recent applications of ultrasonic energy. Finally, Chapter 6 deals with further applications of ultrasonic energy, not only in analytical chemistry but in the general chemistry arena.

I thank Dr Heike Nöthe and Dr Manfred Köhl from the publishers, Wiley, who kindly proposed me the edition and writing of this book. I am also grateful to all the co-authors, Professor R.G. Compton, Dr N.V. Rees, Dr C. Lodeiro, Dr R. Rial-Otero and H.M. Santos, M.Sc.

Finally, we hope that you will find this text useful and that ultrasonic energy will become not only a routine laboratory procedure but also an exciting research field for analytical chemists.

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