Mass Spectrometry—Principles and Applications
Edmond de Hoffmann and Vincent Stoobant (Eds.), Wiley, Chichester, 2001, 2nd edition, 407 pp, ISBN 0-471-48565-9

1. Mass spectrometry at its best

When I read the first chapters in "Mass Spectrometry—Principles and Applications" by Edmond de Hoffmann and Vincent Stroobant, it immediately occurred to me that the easiest way to write this review would be to compress it into a few simple words: *Absolutely excellent and outstanding!* But of course any potential reader rightfully expects and deserves some more detailed information.

At first sight, the clear and precise organization of the book become obvious. After a short introduction, the first chapter presents all different kinds of ion sources, followed by a broad discussion of the principles of mass analysis through different mass analyzers. Other topics such as tandem mass spectrometry, fragmentation reactions, the coupling of mass spectrometry to chromatography, or the analysis of biomolecules form the other sections of the book. The many different aspects of mass spectrometry are presented in a concise, well balanced and up-to-date way. Each of the chapters ends with an extensive list of modern references for further reading giving an easy entry to the literature.

When I took a closer look, I was surprised and pleased by the precise and comprehensive, but at the same time clear and conveniently brief presentation. For example, in the chapter on ion sources and ionization techniques, standard methods such as EI, MALDI, or ESI are mentioned as well as the less frequently used methods such as spark or discharge sources. Despite this broad range of different source types, the high density of information allows the authors to even discuss topics like negative chemical ionization or the influence of electrochemical processes on electrospray ionization which are rarely included in standard textbooks on mass spectrometry. The easy to read text successfully focuses on the conceptual understanding starting with the difference of even and closed shell particles right on the first page of the "Introduction" and leading all the way up to the quasi-equilibrium and RRKM theories describing fragmentation reactions. Nevertheless, many chapters contain a subsection with practical considerations that give interesting details close to application.

The authors prepared the book with great care. The diagrams and graphics are informative and well selected. Not only did they include such little, but useful things like a history table and appendices on definitions, units, abbreviations, and the natural abundances of isotopes. Also, the table of contents and the index are well organized and make the book easy to maneuver.

Briefly, the book is one of, if not the best textbook on mass spectrometry I have seen so far. It may well form the basis of an extensive lecture course on mass spectrometry. From the experienced student to the mass spectrometric practitioner, the book has much to offer to all of them. I definitely hope that it finds a broad readership!

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