

## Additions and Corrections

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**Unorthodox C,O Binding Mode of Me<sub>2</sub>BINOL in Pt(II) Complexes** [*J. Am. Chem. Soc.* **1998**, 120, 11002–11003].  
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In a recent communication documenting an unusual coordination mode for a late-metal binaphthol complex, we neglected to cite the first observation of this mode [Bergens, S. H.; Leung, P.; Bosnich, B. *Synthesis and Structure of a Biphenanthrol–Palladium Complex Displaying an Unusual Bonding Mode. Organometallics* **1990**, 9, 2406–2408]. We wish to thank Professors Bosnich and Bergens for bringing this oversight to our attention.

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## Book Reviews

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**Analytical Gas Chromatography (Second Edition).** By Walter Jennings, Eric Mittlefehldt, and Philip Stremple (J & W Scientific). Academic Press: San Diego. 1997. \$59.95. xii + 389 pp. ISBN 0-12-384357-X.

Anyone who has had the fortune to hear Professor Jennings lecture on the intricacies of gas chromatography or has followed his pioneering work in this area for the past thirty-plus years will know to expect a concise, practical, and comprehensive treatment of the science and sometimes art of gas chromatographic separation. This book does not disappoint that expectation. From the basic theory of GC separation to the nuts and bolts of new-column installation or general operational troubleshooting, this treatise offers a wealth of information for both the novice and the experienced chromatographer.

Initially, the book should be read from beginning to end but in practice can be approached selectively. While it is not meant as a methods manual, the text is filled with information and examples of specific applications. High-resolution separations are demonstrated for organics in drinking water and wines, volatile organics from black tea and other food products, oligomers with molecular weights as high as 1238 amu, enantiomers, protein amino acids, mycotoxins, lipids, natural gas, aromatic compounds, oxygenated compounds, extracts of fossilized wood, and nonionic surfactants. These example chromatograms along with a myriad of additional gas chromatographic applications to petroleum and chemical related samples, environmental samples, and biological and medical related samples demonstrate the breadth of the gas chromatographic technique as an analytical tool.

The book is organized, however, in a manner that is more applicable to understanding the instrument rather than the application. Chapter 1 provides a simplified overview of theory and operation. Chapter 2 discusses the chemistry and physics of the open tubular column. Chapter 3 describes the often-undervalued step of sample introduction. Understanding the varied approaches and methods of sample introduction is of paramount importance in obtaining maximal chromatographic resolution with quantitative results. Chapter 4 discusses the heart of the separation process, the stationary phase. The primary stationary phase used in gas chromatography, the polysiloxane phase, is discussed in lengthy detail. Effects of polarity, selectivity, bonding, cross-linking, etc. are described for these and other stationary phases.

Chapter 5 is the strength of the book. It provides detailed and quantitative descriptions of the effects that operating parameters have on the separation process. Volumetric flow, average linear velocity, carrier gas, column length, column diameter, stationary phase film thickness, stationary phase diffusivity, and temperature for both isothermal and temperature-programmed operation are presented in a way not found in other treatments of gas chromatography. Most informative in this presentation is a series of van Deemter plots for a variety of chromatographic operating conditions. According to the authors, these plots have been corrected from those in their earlier work to properly account for the relationship between the solute retention factor and temperature and pressure.

Chapter 6 provides information on column selection and installation while Chapter 7 describes how to convert chromatographs with standard open tubular columns to ones with packed large-diameter open tubular columns or packed-capillary columns. Chapter 8 reviews some of the special techniques used with gas chromatography such as flow stream switching, multidimensional chromatography, recycle chromatography, and fast chromatography. Chapter 9 reports a number of standard GC applications while the final chapter describes common troubleshooting methods used in GC.

The real weakness in this book is the lack of attention to GC detectors. Throughout the book there are references to various detection methods and descriptions of interface minutiae, but nowhere is there a logical overview for the efficient integration of detection methods with the separation process. Inappropriate detector choice or a nonoptimal detector interface can and will decrease both sensitivity and resolution of an otherwise well-designed chromatographic system.

Nevertheless, *Analytical Gas Chromatography* is the best concise book available for both the student and practitioner of gas chromatography. It should be a part of any library on chromatographic methods.

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