

References

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Book Reviews

Luminescence Spectrometry in Analytical Chemistry. By James D. Winefordner, Stephen G. Schulman, and Thomas C. O'Haver. Wiley, New York, N. Y. 1972. xiii + 354 pp. 16 × 23.5 cm. \$19.95.

This is a comprehensive and unified book covering the physical and analytical aspects of atomic and molecular luminescence spectroscopy. The treatment is unique, therefore, in that atomic fluorescence, molecular fluorescence, and phosphorescence are described in a single volume.

Approximately one-half of the monograph is devoted to theory. Though there is rather extensive mathematical development in this section, the authors demonstrate an exceptional ability to relate fundamental expressions and relationships to problems that can arise even in the most applied work. The remaining portion of the book includes discussions of instrumentation, methodology, and analytical use of luminescence spectroscopy. The treatment of molecular luminescence measurements is particularly good because sources of error in generating and interpreting data are well described. The last chapter contains tables listing detection limits for most of the elements using flame and solution fluorimetry. Included here as well are comparisons to data derived from other applicable methods (neutron activation analysis, spark source mass spectrometry). The utility of solution luminescence techniques in quantitative analysis of organic compounds is only briefly reviewed in the final chapter since a monograph exclusively devoted to applications is apparently planned in the "Chemical Analysis" series (edited by Elving and Kolthoff).

The text is relatively free of typographical errors. The notation used for chapters and subheadings is cumbersome and sometimes confusing. The authors consistently refer to extinction or molecular extinction coefficients instead of the more acceptable term, molar absorptivity. These are minor objections. The book is generally well written and is recommended as a general reference. If its "companion" monograph on analytical applications is as well done, the combined volumes could serve as a current and useful treatise on luminescence spectrometry.

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Studies of Neurotransmitters at the Synaptic Level. Edited by E. Costa, L. L. Iversen, and R. Paoletti. *Advances in Biochemical Psychopharmacology*. Vol. 6. Raven Press, New York, N. Y. 1972. viii + 248 pp. 16.4 × 24.3 cm. \$15.95.

This symposium volume contains 14 original contributions to the chemistry, histochemistry, cell biology, enzymology, and pharmacology of neurotransmitters and the nerve terminals, with emphasis on novel methodology used in these researches. The work reported extends to the role and disposition of newly synthesized amines in central catecholaminergic neurons and drugs affecting monoamines in the basal ganglia. A description of inhibitors of monoxygenases

and biochemical effects of dopa on *S*-adenosylmethionine and nor-epinephrine levels rounds out the sympathetic side of components of the nervous system. Studies on the isolation of the cholinergic receptor protein and the biochemical pharmacology of cholinergic function lead to the parasympathetic area. This also includes a new investigation of psychotomimetic anticholinergic agents of the Ditrane type. The book, addressed to the neurobiochemist and neuropharmacologist, is printed especially beautifully, indexed well, and remarkably free of errors.

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Stereochemistry and Its Application in Biochemistry. By W. L. Alworth. Wiley, New York, N. Y. 1972. xi + 311 pp. 15 × 23.5 cm. \$16.95.

This presentation is intended to provide introductory biochemistry students an insight into the stereochemical principles that are involved in molecular interactions within biological systems. The areas covered, which are representative of the field but general in nature, are historical aspects of biological stereospecificity, introductory aspects of molecular symmetry, molecular dissymmetry, optical activity, and biological stereospecificity, examples of stereochemical analysis, and numerous examples of biochemical differentiation between chemically like-paired groups. The latter sections of the book cover many of the classical examples of stereospecificity between chemically like-paired groups which are familiar to most students of biochemistry. Examples from the fundamental pathways of intermediate metabolism including TCA cycle, pyruvate metabolism, sterol biosynthesis, and ketose-aldehyde interconversions are discussed. In addition to the classical examples, the more recent experimental observations of biological stereospecificity between chemically like methyl hydrogens of chiral acetate and pyruvate are presented and discussed. The book is in no way meant to be an all encompassing review of the literature, but rather provides one with examples on which to build his knowledge and appreciation for the stereospecificity found in biological systems.

Utilization of the text at an advanced undergraduate level or an introductory graduate level course should provide the student with an appreciation for biological stereospecificity and will enable them to fully comprehend recent experimental results. It could also be highly recommended as a means of introduction or review of biological stereospecificity for practicing biochemists and chemists.

The author is to be commended for putting together a comprehensive introduction of the area of asymmetry in biological systems. The author's stated aims have been admirably achieved.

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