

Book Reviews

CHROM. 3800

Photoluminescence of Solutions, by C. A. PARKER, Elsevier, Amsterdam, London, New York, 1968, 544 pp., price Dfl. 85,-.

The appearance of this book is to be welcomed for a number of reasons. One of the more obvious reasons is demonstrated by a glance at the list of recently published, complementary texts suggested by the author on the page preceding the bibliography. Since the lifetime of a chemical text is about five years, there is no doubt that a need exists for a current discussion of the selected topic.

Having acknowledged this need, the question arises as to how well the author has responded to it. In the author's preface it is stated that the book is intended both as a reference work for a spectroscopist and as an introduction to the topic for students or newcomers to the field. In the opinion of this reviewer it is more successful in the latter than in the former aim. The deliberately simplified treatment of the theoretical aspects of the material, the non-mathematical presentation of the subjects discussed, and the somewhat limited bibliography necessitate the use of auxiliary material, for example, in the area of excimer formation and emission, singlet-singlet energy transfer, magnetic dipole transitions, etc.

The strongest recommendation for the book is related to the second of the author's intentions. Any reader with a sufficient command of the English language and an understanding of basic chemical principles should be able to construct a suitable instrument, use it in such a way as to obtain meaningful luminescence spectra (which means free of chemical, physical, mechanical, and electronic artifacts—one could wish that some researchers would take advantage of this author's advice), and to interpret these, with the reservations already noted. Chapter three, entitled "*Apparatus and Experimental Methods*", takes up more than 1/3 of the book and is worth the attention of both groups of readers.

The other chapters consist of an introduction to basic principles, kinetics of luminescence, special topics and applications (which discuss the determination of emission parameters ($\Phi, \tau, k_{I.C.}$), secondary emission processes, polarisation measurements (all too briefly), solvent effects, and monitoring of photochemical reactions) and a chapter on analytical applications. At the end of this chapter, apparently as an afterthought, there is a brief mention of the luminescence of inorganic materials. In the usual subjective opinion of all reviewers, this one wishes that the author had devoted more attention to this topic and to the use of combined luminescence and absorption spectra in the determination of ligand field parameters.

The book is written in the same clear style found in Dr. PARKER's published research and the bibliography seems to cover the literature up to 1966 with a few references to results published in English in 1967. Despite the reservations noted above, the book undoubtedly should find a place in the library of all chemists interested in the emission of complex molecules.

Istituto di Chimica, Rome (Italy)

D. WEBB