

short but informative description of in situ peptide mapping procedures.

The ability of the authors to discuss most of the techniques and their associated artefacts and

technical problems from first hand experience makes this a valuable contribution to the literature.

N. Spencer

## *Biological applications of Raman Spectroscopy, Vols 1 & 2*

Edited by Thomas G. Spiro

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Vol. 1, xv + 343 pages + 8 page index; Vol. 2, xi + 353 pages + 13 page index. £ 57.45 each volume

These are the first two of a three-volume series of reviews. The authors are some of the leading researchers in the field and they have produced a wide-ranging and authoritative treatment of the major applications of Raman spectroscopy to biological systems under the able guidance of Tom Spiro. The volumes all are dedicated to Richard C. Lord, who pioneered Raman studies of proteins and nucleic acids and trained several of the contributors to these volumes.

Volume 1 treats proteins, nucleic acids, and lipids, as isolated systems and in organized assemblies: ocular lenses, viruses and membranes. A theoretical treatment of collective vibrational modes of proteins is also included, as is a review of Raman optical activity and related techniques. Volume 2 opens with a useful review of resonance Raman theory and goes on to explore applications to rhodopsin, the purine and pyrimidine bases of nucleic acids, protein backbone and chromophoric side chain modes of vibration, flavins, and the use

of resonance Raman labels in studies of enzyme-substrate reactions. I understand that Volume 3 will be devoted to haem proteins, chlorophylls, and non-haem metalloproteins.

This review series serves as an up-date of the unified treatment of the subject given by P.R. Carey in his book on 'Biochemical Applications of Raman and Resonance Raman Spectroscopies' (Academic Press, New York, 1982). It also is a useful supplement to Volume 13 of 'Advances in Spectroscopy', edited by R.J.H. Clark and R.E. Hester under the title 'Spectroscopy of Biological Systems' (John Wiley & Sons, Ltd., Chichester, 1986). The power and importance of Raman spectroscopic studies in molecular biology should receive wider recognition thanks to this new review series. Professor Spiro and his authors have done an excellent job. It is a pity that the production quality of the books could not match that of their contents.

R.E. Hester