Advances in Enzymology and Related Areas of Molecular Biology: Vol. 61

Edited by Alton Meister

Wiley-Interscience; New York, 1988

vii + 557 pages. £52.50

This newest addition to the above series, the 3rd such successive volume to appear in 1988, comprises 8 reviews on widely differing topics, most of broad general interest.

The first, on A Unifying Model of the Thermodynamics of Formation of Dehydrogenase-Ligand Complexes (by H. Fisher) deals with the concept that ligand binding may induce specific energetically significant changes in a protein molecule, in which the protein chain 'folding problem' plays a key role. This is followed by a detailed survey of the structure, function and other properties of Sorbitol Dehydrogenase (by J. Jeffery), and its relationship to other enzymes, particularly alcohol dehydrogenases.

A chapter on Molecular Size Determination of Enzymes by Radiation Inactivation (by E.S. Kempner) is really an up-dated version of the so-called target theory with the use of ionizing radiations for determination of molecular size of a macromolecule with a measurable biological activity. This is the approach originally introduced as 'Die Treffenprinzip in der Biologie' in a well-known classical paper by Timofeeff, Zimmer and Delbruck in 1935. In addition to a comprehensive treatment of the theoretical and experimental aspects, there is an extremely useful and very extensive table on recent data. It is, however, rather surprising that, although there are numerous references to the literature for 1986, no mention is made of the elegant application of this technique by Gibson et al. ((1986) Biochemistry 25, 6264–6268) to determination of the different target sizes for fusion, leakage and neuraminidase activities of influenza virus.

A chapter on The Behaviour and Significance of Slow-Binding Enzyme Inhibitors (by J.F. Mor-