

cence detected circular dichroism (FDCD) and circularly polarized luminescence (CPL) are now available and although there is a lack of commercial instrumentation the potential of these newer techniques is considered.

In considering fluorescence detection in chromatography, there is an introduction to liquid chromatography which is not necessarily relevant to the main theme of the book. Nevertheless, the application of fluorescence detection to thin-layer and high performance liquid chromatography is dealt with in some detail and the application to a wide range of organic molecules, including pharmaceuticals and natural products is given in tabular form. The final chapter on luminescence immunoassay focuses on the analysis of complex biological mixtures containing

subnanogram quantities of the substance requiring analysis. The use of fluorescence labels instead of radioactive labels has obvious advantages and the present levels of detection are in the  $10^{-12}$  M range. Applications tend to have clinical connections but this powerful technique has implications for the analysis of natural products.

The book is well presented, and indeed, it is of considerable benefit to scientists involved in sensitive assay techniques for the determination of a wide range of compounds including a fine selection of natural products.

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**Membranes and Compartmentation in the Regulation of Plant Function:** edited by A. M. BOUDET, G. ALIBERT, G. MARIGO and P. J. LEA. Proceedings of the Phytochemical Society of Europe, Vol. 24. Clarendon Press, Oxford, 1984. 334 pp. £30.

This symposium volume, which contains 18 reviews and a summary chapter by D. J. Morré, has a pronounced gallic flavour and stems from a meeting held in Toulouse University during the summer of 1983. The rather vague title masks a great variety of contributions which centre around one common theme—the plant cell membrane. The chapters range from a consideration of the cellular compartmentation of the two secondary compounds, dhurrin and coumarin, by Eric Conn to the various actions of different herbicides on cell membranes by R. Scallia and C. Gauvrit. One new area of plant research centres around calcium ions, the protein calmodulin and membrane-bound protein kinases and three chapters are

variously devoted to those subjects. P. J. C. Kuiper's review of membranes, salinity and low temperature brings out a number of new findings, for example that increases in membrane sterol levels may be correlated with salt resistance in some crop plants. Pierre Benveniste and his colleagues from Strasbourg also discuss here sterol biosynthesis in relationship to plasmalemma structure and function. More familiar themes also receive review treatment, such as auxin binding and membrane receptors, phytochrome action at the membrane, pH regulation and membranes and so on.

Once again, therefore, this review series has led to a successful volume. The book is produced to a high standard and there is a very adequate index. But it is a pity that the cover is so drab! And surely, the title of the symposium should appear on it somewhere?

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**The Genetic Manipulation of Plants and its Application to Agriculture:** edited by P. J. LEA and G. R. STEWART. Annual Proceedings of the Phytochemical Society of Europe, Vol. 23. Clarendon Press, Oxford, 1984. 318 pp. £24.

I well remember this symposium, since it was one of the most popular ever held by the Phytochemical Society and seats in the auditorium for the lectures were at a premium. The excitement and topicality of the subject were conveyed to an enthusiastic audience by a line up of distinguished scientists. Such events do not always transfer successfully to the printed page. Furthermore in such a

rapidly expanding field, some contributions can become outdated even before they have been edited and prepared for publication. In this case, however, little seems to have been lost and the written version bears up well to later inspection. Indeed, in what is for the non-expert a relatively complicated field, there is much advantage in having time and leisure to comprehend the fascinating intricacies of molecular cloning, the dideoxy method of DNA sequencing, the restriction map of the legumin gene and so on, which make up the illustrations in these proceedings.

This meeting took place at the crucial moment in the history of plant science when the possibilities of geneti-