Excited States of Biological Molecules

Edited by J. B. Birks
John Wiley and Sons; London–New York–Toronto–Sydney, 1976
xviii + 652 pages £ 18.50, $ 40.70

The monograph is from the series of books on photophysics of organic molecules and is based on the materials of the International Conference on the Excited States of Biological Molecules, Lisbon, April 1974. (However, some papers are updated to 1975.) The conference was devoted to consideration of theoretical and experimental studies of excitation processes in biological molecules, biological molecules' properties in excited states and routes of excitation energy dissipation and energy transfer. Interpretations of photophysical data in terms of structure, conformation and biological function were discussed for such compounds as proteins, nucleic acids, porphyrins and retinols. The conference proceedings are accordingly grouped in 6 sessions:

(1) Excited states of Biological Molecules
(2) Excited states of DNA and nucleotides
(3) Excited states of photosynthetic pigments
(4) Excited states of proteins and amino acids
(5) Excited states of visual pigments
(6) Energy transfer in biological molecules

Session proceedings include full text of the plenary lectures given by leading scientists in the field, and more than 70 papers, part of which are given as abstracts.

Plenary lectures give surveys of their respective problems; some of them do it systematically (B. Rosenberg, 'Excited states of retinals, retinols and visual pigments', T. Eisinger, R. E. Dale, 'What has energy transfer done for biochemistry lately?') some highlight the more crucial problems of their field. Thus the excellent lecture by C. Hélène deals with the excited state interactions and energy transfer processes in the photochemistry of protein–nucleic acid complexes. Very interesting is the lecture by G. Weber 'What we have learnt about proteins from the study of their photo excited states'.

The papers contributed to the conference (1974) and then published (1976) in this monograph contain results of theoretic and experimental studies many of them of considerable interest and importance. Since 1974 the majority of the results were already published in periodic literature. Here lies the main defect of the book; it took it two years to be published and of course, in the case of symposia, the sooner the proceedings are published the better. As a nice example I can name the Proceedings of the International Symposium on Ageing, Carcinogenesis and Radiation biology, Williamsbourgh, May 2–6 1975, which were published six months after the event. Nonetheless the book is fine and will be interesting not only to biophysicists, but also to many scientists occupied with structure–function relationships.

Its outer appearance is very attractive. Perhaps it is one of the reasons why it took so much time to appear?

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