Chemistry of Viruses (second edition)

by C. A. Knight
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The first edition of 'Chemistry of Viruses' was published in 1963 as part of a series on viruses, sponsored by Protoplasmatologia. Its aim was to review the major principles and techniques of chemical virology. The literature of this subject has expanded enormously since that time and the present edition attempts to update the earlier survey and particularly aims to integrate the findings relating to the various major classes of viruses (i.e. of animals, bacteria and plants).

The book gives strong emphasis to historical aspects of chemical virology and for that reason appears somewhat dated. Indeed, of the 846 references less than half were published in the last ten years. While such an approach is invaluable to the student of the early development of virology, it perhaps gives the newcomer to the subject the false impression that chemical virology has passed its peak of activity.

After a short introductory chapter describing the events leading to the chemical era of virology, Chapter II gives a comprehensive description of the purification of viruses. Chapter III comprises the major portion of the book and describes the composition of viruses, with lengthy sections on the protein and nucleic acid constituents and smaller, though useful sections, on viral lipids, carbohydrates, polyamines etc. The section on proteins begins with a detailed account of the preparation of viral proteins, mainly from plant viruses. There follows a review of methods of analysis of such proteins including an introduction to the techniques used in protein chemistry, amino acid analyses, end group determination etc. The section on viral nucleic acids a includes a detailed review of methods of preparation. There is a good account of the analysis of nucleic aci including the more recent sequencing methods which have been developed since the first edition was publis

The chapter on the action of chemical and physica agents on viruses is very useful, in that it brings togetl information from a wide range of studies on this topi in a way that standard virology textbooks seldom attempt. The inactivation of viral particles and the mutation of viruses by such agents are both comprehensively reviewed. The morphology and reproductio viruses are each dealt with in further chapters, but sir both topics are themselves so vast the treatment is of necessity only sketchy.

This book will be of great value to newcomers and established workers in virology who have come into t subject from a non-chemical background and need instruction in basic biochemical techniques; for the biochemical virologist it will be a useful compendium For less specialised students, however, Professor Knig book 'Molecular Virology' (McGraw-Hill, New York 1974) which covers very much the same ground, but without so much chemical detail, is probably more suitable.

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