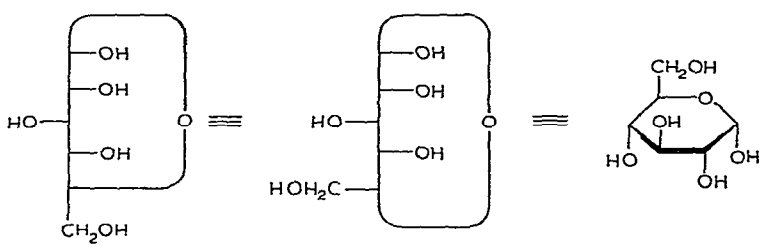
Book review

Monosaccharide Chemistry by R J. FERRIER (Victoria University of Wellington, New Zealand) and P M COLLINS (Birkbeck College, London), Penguin Books Ltd., Harmondsworth, Middlesex, 1972, 318 pages, 15×21 cm, paper, £2 50

There has been a great need for a general text-book of monosaccharide chemistry, written from a modern standpoint, at the senior undergraduate–research student level Ferrier and Collins have satisfied this need Here is a book filled to the brim with up-to-date and reliable information, at a price which every chemist can afford

Parts of the book are not easy to read I should not recommend the novice to learn about the structure of glucose by way of the opening pages of Chapter 2 I find it difficult to follow pages 20–24 because there is a mixture of the historical and modern approach, with no logical thread of argument The formulae on page 21, and the point that L-glucose is not L-idose, I found distracting to the main theme There is no difficulty in deriving a Haworth-type formula, provided the Fischer projection is represented properly, *e g* in the case of α-D-glucopyranose



Once these preliminaries are out of the way, the authors get into their stride The remainder of Chapter 2, describing the shapes of monosaccharides and their equilibria in solution, includes a brief description of conformational nomenclature

Chapter 3 discusses the reactions at the anomeric centre, and Chapter 4 those at non-anomeric carbon atoms Chapter 5 consists of the reactions of the hydroxyl groups Since many of the compounds described here have already been used in Chapter 4, there is a certain lack of coherence Chapter 6 selects a few particularly complex syntheses of natural products and might perhaps have appeared after Chapter 7, which deals with monosaccharides and their derivatives as natural products This chapter includes a section on polysaccharides and a lightning tour of the nucleic acids Chapter 8 gives some biochemical transformations of monosaccharides Chapter 9 describes physical methods and laboratory techniques in carbohydrate chemistry, giving special emphasis to n m r spectroscopy The section on infrared

spectroscopy makes little mention of its use in the detection of functional groups, which is of major value in carbohydrate chemistry

The book is free from typographical errors In my copy, I noted two printing blemishes (pages 40 and 118) The formulae are excellent, with not one "curly arrow" out of place The index is sufficiently comprehensive There are no references to the original literature, but the suggestions for further reading give a good coverage of the subject.

Every research student and practitioner of carbohydrate chemistry should have his own copy of this book, and I can wholeheartedly recommend it to senior undergraduates in Departments whose speciality is carbohydrate chemistry

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