PHYSICOCHEMICAL PRINCIPLES OF PHARMACY

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THIRD EDITION

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First published 1981 by
MACMILLAN PRESS LTD
Houndmills, Basingstoke, Hampshire RG21 6XS
and London
Companies and representatives
throughout the world

First edition 1981
Second edition 1988
Third edition 1998

ISBN 978-0-333-69081-9 ISBN 978-1-349-14416-7 (eBook)
DOI 10.1007/978-1-349-14416-7

A catalogue record for this book is available
from the British Library.

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10 9 8 7 6 5 4 3 2 1
07 06 05 04 03 02 01 00 99 98

Typeset in Great Britain by
Aarontype Limited
Easton, Bristol

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Preface

Textbooks are never completed, only abandoned, probably by readers as well as by authors. We have been intent for some time on revising the second edition of this book, published in 1988, but the work of revision took longer than anticipated. Now we are pleased that this new edition has been completed, rewritten and updated but retaining the essential character of the book which has proved successful since the book was first published 17 years ago. We have again used exclusively pharmaceutical examples to illustrate the physical chemistry which is the basis of the book.

Some material has been removed and new material added. There has been a reintroduction of some of the thermodynamics lost from the second edition. A general introduction takes the reader into the subject more gently than before, and there is a new chapter on peptides and proteins as pharmaceuticals. Solutions, the solid state and the gaseous state are discussed (the latter particularly with pressurised aerosols in mind), while ionization of drugs is considered at length as it affects so many properties of drugs in solution, as well as their absorption. Surface chemistry retains its place and the treatment of colloidal systems is enhanced with further discussion of liposomes and other colloidal carriers now used more widely in therapeutics.

The properties of soluble, insoluble and dispersible natural and synthetic polymers – elements of many delivery systems – are described. Each route used for delivering medicines is treated by considering the physiology of the route and the conditions of the route that affect the drug and dosage form, with a brief description of the factors affecting the performance of each type of delivery device. Wherever possible calculations and worked examples are included to encourage a better understanding of the equations described. We hope that the book will continue to be useful not only in undergraduate and postgraduate courses in pharmacy but those in the pharmaceutical sciences and related studies too.

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February 1998

Acknowledgements

Mrs Maureen Lucas transcribed the text of the second edition of the book on to disk to make the task of revision easier and Mrs Gillian Patterson and Miss Barbara Grant made the many revisions that the text has gone through since work on the third edition was begun, interpreting the additions, deletions and comments. Over the years the book has been in existence, many colleagues have offered both favourable and critical comments that have spurred us on to revise the book. We thank them and encourage them also to write to us with any observations on how the present edition can be further improved.

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