

Essentials of Pharmaceutical Chemistry

Third edition

Donald Cairns



(PP)
Pharmaceutical Press

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London • Chicago

Pharmaceutical Press

Published by the Pharmaceutical Press

An imprint of RPS Publishing

1 Lambeth High Street, London SE1 7JN, UK

100 South Atkinson Road, Suite 200, Grayslake, IL 60030-7820, USA

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First edition published 2000

Second edition published 2003

Third edition published 2008

Typeset by J&L Composition, Filey, North Yorkshire

Printed in Great Britain by TJ International, Padstow, Cornwall

ISBN 978 0 85369 745 9

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

For Elaine, Andrew and Mairi

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Preface to the third edition

The last few years have seen many changes to the science and practice of pharmacy. The number of UK Schools of Pharmacy is set to double, independent pharmacist prescribing is a reality, and the Royal Pharmaceutical Society is set to split with the creation of a regulatory body and a Royal College. This third edition of *Essentials of Pharmaceutical Chemistry* has been written against this backdrop of major change. A new chapter on regulation and licensing of drugs and medicines has been included and every other chapter has been reviewed and updated, particularly the chapter on analytical spectroscopy which now includes a section on structure elucidation. In response to requests from a number of readers, a short bibliography of books which I find useful has been included.

As ever, I am grateful for the help, advice and comments of colleagues, readers and most of all, the many undergraduate students of pharmacy and pharmaceutical science who have to use this book as part of their studies. The inspiration to write the first edition came from the comments of a pharmacy student and the only reason the book exists at all is to help students understand the importance of pharmaceutical chemistry to their course and subsequent careers.

Donald Cairns
December, 2007

Acknowledgements

This book could not have been completed without the help of a great many people. I am very grateful to my colleagues, past and present, for their advice and encouragement and, particularly, for allowing me to assimilate their good practice (with or without their knowledge!). This book would be poorer without their efforts. Special thanks must go to Paul Hambleton who read and commented on my first drafts and who not only allowed me to use a great many of his examination questions but also provided most of the answers!

I am grateful to Paul Weller, Christina De Bono, Linda Paulus and all the staff at the Pharmaceutical Press for keeping me on track when diversions threatened and giving helpful advice about indexes, content pages, etc.

Finally, I must thank my wife, Elaine, who looked after the weans while I bashed the keyboard upstairs.

About the author

Donald Cairns obtained a Bachelor of Science degree in pharmacy from the University of Strathclyde in 1980 and after a pre-registration year spent in hospital pharmacy, he returned to Strathclyde to undertake a PhD on the synthesis and properties of benzyimidazolines. Following a year as a post-doctoral research fellow in the department of pharmacy at Sunderland Polytechnic (now the University of Sunderland), Dr Cairns moved to Leicester Polytechnic (now De Montfort University) where he held a five-year lectureship in Pharmacy. In 1992 Dr Cairns was appointed senior lecturer in medicinal chemistry in Sunderland School of Pharmacy and in 2003 moved to his present post of Associate Head of the School of Pharmacy at The Robert Gordon University in Aberdeen. In 2006, he was promoted to Professor of Pharmaceutical and Medicinal Chemistry at RGU.

Professor Cairns has been external examiner at Strathclyde, Liverpool and Aberdeen Schools of Pharmacy and has authored over 50 peer reviewed research papers.

His research interests include the design and synthesis of selective anticancer agents, the molecular modelling of drug–DNA interactions and the design of prodrugs for the treatment of nephropathic cystinosis.

Donald Cairns is a member of the Royal Pharmaceutical Society of Great Britain (RPSGB), the Royal Society of Chemistry and the Association of Pharmaceutical Scientists. In 2006 he was appointed to the British Pharmacopoeia Commission and serves on an Expert Advisory Group of the Commission on Human Medicines.

To travel hopefully is a better thing than to arrive, and the true success is to labour.

Robert Louis Stevenson, 1850–1894