



NUMBER 7 7 APRIL 1996

PAGES 593-752 ISSN 0300-922X

# PERKIN

TRANSACTIONS



---

An international  
journal of organic  
and bio-organic  
chemistry

# The Royal Society of Chemistry

## *Journal of the Chemical Society, Perkin Transactions 1*

Scientific Editor Professor Gerald Pattenden, FRS  
Associate Scientific Editor Professor Nigel S. Simpkins

Department of Chemistry  
University of Nottingham  
University Park  
Nottingham  
UK NG7 2RD

Tel: +44 (0) 115 951 3530

Fax: +44 (0) 115 951 3564

E-Mail: [pczgp@unix.ccc.nottingham.ac.uk](mailto:pczgp@unix.ccc.nottingham.ac.uk)

### International Advisory Board

J.-E. Bäckvall (Uppsala)	A. Dondoni (Ferrara)	S. V. Ley (Cambridge)	A. B. Smith III (Philadelphia)
J. Barluenga (Oviedo)	B. L. Feringa (Groningen)	L. N. Mander (Canberra)	W. N. Speckamp (Amsterdam)
D. H. R. Barton (College Station)	L. Ghosez (Louvain-la-Neuve)	G. Mehta (Hyderabad)	L. F. Tietze (Göttingen)
M. J. Crossley (Sydney)	A. E. Greene (Grenoble)	A. I. Meyers (Fort Collins)	B. M. Trost (Stanford)
D. P. Curran (Pittsburgh)	B. Halton (Wellington)	K. Mori (Tokyo)	H. G. Viehe (Louvain-la-Neuve)
S. J. Danishefsky (New York)	T. Hudlicky (Gainesville)	H. Prinzbach (Freiburg)	E. Winterfeldt (Hannover)
S. E. Denmark (Urbana)	R. M. Kellogg (Groningen)	J. Rebek Jr (Cambridge, MA)	C.-H. Wong (La Jolla)
F. N. Diederich (Zurich)	M. Lautens (Toronto)	S. Shinkai (Fukuoka)	

### Editorial Staff

Managing Editor Dr Sheila R. Buxton  
Deputy Editor Miss Nicole Brooks  
Editorial Production Coordinator Miss Nicola P. Coward  
Technical Editors Dr Helen M. Saxton, Dr Jeff R. White  
Editorial Secretary Miss Daphne E. Houston

Manuscripts and correspondence on editorial matters should be addressed to:

The Managing Editor, Perkin Transactions 1  
The Royal Society of Chemistry  
Thomas Graham House  
Science Park  
Cambridge  
UK CB4 4WF

Tel +44 (0) 1223 420066

Fax +44 (0) 1223 420247

E-Mail [perkin@rsc.org](mailto:perkin@rsc.org)

RSC Server <http://chemistry.rsc.org/rsc/>

Advertisement sales: Tel +44 (0) 171 287 3091. Fax +44 (0) 171 494 1134

### Information for Authors

The subject matter of *Perkin Transactions 1* embraces all aspects of organic and bio-organic chemistry. These include synthetic organic chemistry of all types, organometallic chemistry, chemistry and biosynthesis of natural products, the relationship between molecular structure and biological activity, the chemistry of polymers and biological macromolecules, and medicinal and agricultural chemistry where there is originality in the science.

*Perkin Transactions 2* deals with the physicochemical aspects of organic, organometallic and bio-organic chemistry including kinetic, mechanistic, structural, spectroscopic, and theoretical studies. Such topics include structure-activity relationships and physical aspects of biological processes and of the study of polymers and biological macromolecules.

All contributions are judged on the criteria of (i) originality and quality of scientific content and (ii) appropriateness of the length to the content of new science. Short papers are acceptable provided that they constitute full reports of completed pieces of work and are not fragments of more extensive studies. Preliminary accounts of novel and significant work of exceptional specialist interest, in any branch of organic chemistry, may be published as Communications in *Perkin Transactions 1* or *2* as appropriate.

Further information on the submission of manuscripts is given on the inside back cover.

The Scientific Editor (who may be contacted directly or *via* the Editorial Office) welcomes comments, suggestions, and advice on general policy matters concerning *Perkin Transactions 1*.

*Perkin Transactions 1* (ISSN 0300-922X) is published twice monthly by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 4WF. All orders accompanied with payment should be sent directly to the Royal Society of Chemistry, Turpin Distribution Services Limited, Blackhorse Road, Letchworth, Herts, UK SG6 1HN. *NB:* Turpin Distribution Services Limited, distributors, is wholly owned by the Royal Society of Chemistry. 1996 Annual Subscription Rate EEA £783.00, Rest of World £803.00, USA \$1486.00. Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank. Periodicals postage is paid at Rahway, NJ. Airfreight and mailing in the USA by Mercury Airfreight International Ltd. Inc., 2323 Randolph Avenue, Avenel, New Jersey, NJ 07001, USA and at additional mailing offices. USA POSTMASTER: Send address changes to *Perkin Transactions 1*, C/O Mercury Airfreight International Ltd. Inc., 2323 Randolph Avenue, Avenel, New Jersey, NJ 07001. All despatches outside the UK by Consolidated Airfreight. PRINTED IN THE UK.

© Royal Society of Chemistry, 1996. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photographic, recording, or otherwise, without prior permission of the publishers.