Pages 999–1090 ISSN 0300–922X



Journal of the Chemical Society

# Perkin Transactions 1

AN INTERNATIONAL JOURNAL OF ORGANIC

AND BIO-ORGANIC CHEMISTRY

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

# **Perkin Editorial Board**

Professor S. M. Roberts Professor M. S. Baird

Professor H. M. Frey (ex officio)

Professor B. C. Gilbert Professor I. E. Markó

Dr. H. Maskill Dr. H. S. Rzepa Dr. J. K. M. Sanders Dr. R. Southgate

### **Editorial Office**

Royal Society of Chemistry Thomas Graham House Science Park Milton Road Cambridge CB4 4WF United Kingdom

Tel: 44 (0)223 420066 Fax: 44 (0)223 420247

E-mail: RSC1@UK.AC.RUTHERFORD.

GEC-B (JANET) Telex: 818293 ROYAL

## **International Advisory Board**

J.-E. Bäckvall (Sweden)

J. Barluenga (Spain)

D. H. R. Barton (USA)

M. J. Crossley (Australia)

D. P. Curran (USA)

S. J. Danishefsky (USA)

S. E. Denmark (USA)

F. N. Diederich (Switzerland)

A. Dondoni (Italy)

B. L. Feringa (The Netherlands)

L. Ghosez (Belgium)

A. Goosen (South Africa)

B. Halton (New Zealand)

T. Hudlicky (USA)

R. M. Kellogg (The Netherlands)

M. Lautens (Canada)

S. V. Ley (UK)

G. Mehta (India)

A. I. Meyers (USA)

K. Mori (Japan)

G. Pattenden (UK)

H. Prinzbach (Germany)

S. Shinkai (Japan)

A. B. Smith III (USA)

W. N. Speckamp (The Netherlands)

B. M. Trost (USA)

H. G. Viehe (Belgium)

E. Winterfeldt (Germany)

C.-H. Wong (USA)

Dr. S. R. Buxton, Editorial Manager and Editor, Perkin Transactions 2

Dr. E. R. Smith, Editor, Perkin Transactions 1

Dr. C. J. Leeding, Senior Assistant Editor

Miss N. L. Metz, Senior Assistant Editor

Dr. C. Cregg, Assistant Editor

Dr. A. P. Kybett, Assistant Editor

Miss J. G. Motherwell, Assistant Editor

Karen White, Editorial Secretary, Perkin Transactions 1
Mandy Scripps, Editorial Secretary, Perkin Transactions 2

### Information for Authors

The subject matter of *Perkin Transactions* 1 embraces all aspects of organic and bioorganic 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.

All queries relating to the presentation and submission of papers, and any correspondence regarding accepted papers and proofs, should be directed to the Editor, *Perkin Transactions 1* or 2 (address as above). Members of the Perkin Editorial Board (who may be contacted directly or via the Editorial Office) welcome comments, suggestions, and advice on general policy matters concerning *Perkin Transactions*.

Perkin Transactions 1 (ISSN 0300-922X) is published twice monthly by the Royal Society of Chemistry. 1993 Annual Subscription Price European Community £586.00, Rest of World £645.00, USA \$1290.00, Canada £677.00 (excl. GST). Change of address and orders with payment in advance to the Royal Society of Chemistry, Turpin Distribution Services Ltd., Blackhorse Road, Letchworth, Herts SG6 1HN, UK, Tel: 44 (0)462 672555, Telex: 825372 Turpin G, Fax: 44 (0)462 480947. Payment should be made by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank. Turpin Distribution Services Ltd. is wholly owned by the Royal Society of Chemistry. Air Freight and mailing in the US by Publications Expediting Inc., 200 Meacham Avenue, Elmont, New York 11003. US Postmaster: send address changes to Perkin Transactions 1, Publications Expediting Inc., 200 Meacham Avenue, Elmont, New York 11003. Second class postage paid at Jamaica, New York 11431. All other despatches outside the UK by Bulk Airmail within Europe and Accelerated Surface Post outside Europe. PRINTED IN THE UK.

© Royal Society of Chemistry, 1993. 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.