Pages 1177–1240 ISSN 0022-4936



Journal of the Chemical Society

Chemical Communications

Preliminary accounts of important new work in chemistry

The Royal Society of Chemistry Journal of the Chemical Society, Chemical Communications

Editorial Board (Journals Management Committee)

Professor H. M. Frey (Reading) (Chairman)

Dr R. Baker (Merck Sharp & Dohme)
Dr A. G. Fogg (Loughborough)
Miss A. R. Haygarth Jackson (Chairman, PIB)

Professor G. W. Kirby (Glasgow) Professor G. J. Leigh (AFRC, Sussex) Professor S. M. Roberts (Exeter)
Professor I. W. M. Smith (Birmingham)
Professor A. R. West (Aberdeen)
Dr I. A. Williams (RSC, Cambridge)

Regional Advisory Board

E. Angelescu (Bucharest)
J. L. Atwood (Alabama)
A. L. J. Beckwith (Canberra)
M. H. Chisholm (Indiana)
G. Ferguson (Guelph)
C. Floriani (Lausanne)
C. Fuganti (Milan)

P. Gray (Cambridge)
E. Kimura (Hiróshima)
G. W. Kirby (Glasgow)
J.-M. Lehn (Strasbourg)
P. M. Maitlis (Sheffield)
G. Mehta (Hyderabad)
J. Michalski (Łodz)

H. Moon (Taejong)
K. C. Nicolaou (California)
H. Pfeifer (Leipzig)
C. N. R. Rao (Bangalore)
C. W. Rees (London)
P. v. R. Schleyer (Erlangen)
T. Shono (Osaka)

Editorial Staff

Manager, Journals: Alan McNaught
Editor: Peter Whittington
Senior Assistant Editor: David Bradley
Assistant Editors: Suzanne Davison, Dorn Matthews
Editorial Secretaries: Michelle Brown, Mandy Scripps

Text Artwork: Dennis Halls

Manuscripts and correspondence on editorial matters should be addressed to:

The Editor, Chemical Communications, The Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road

Milton Road, Cambridge UK CB4 4WF

E-Mail (INTERNET): RSC1@RSC.ORG

Telephone:

National: Cambridge (0223) 420066 International: +44223 420066

Fax (Group III):

National: Cambridge (0223) 423623 or 420247

International: +44223 423623 or 420247

Telex: 818293 ROYAL

Dialcom/Telecom Gold Mailbox No: 84:BUR500

The 1993 Annual member subscription price is £57.00. Members' orders, subscription (preferably accompanied by the appropriate remittance), and correspondence concerning the supply of Chemical Communications should be addressed to The Membership Officer at the above address.

Chemical Communications (ISSN 0022–4936) is published twice monthly by The Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 4WF. All orders accompanied by payment should be sent directly to The Royal Society of Chemistry, Turpin Distribution Services Ltd., Blackhorse Road, Letchworth, Herts, UK SG6 1HN. N.B. Turpin Distribution Services Ltd., distributors, is wholly owned by The Royal Society of Chemistry. 1993 annual subscription rate: EC £380.00, Rest of World £418.00, Canada (excl. GST) £439.00, USA \$836.00. Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank. Second class postage is paid at Rahway, NJ. Airfreight and mailing in the USA by Mercury Airfreight International Ltd. Inc., 2323 Randolph Avenue, Avenel, NJ 07001, USA, and at additional mailing offices. USA Postmaster: send address changes to Chemical Communications, c/o Mercury Airfreight International Ltd. Inc., 2323 Randolph Avenue, Avenel, NJ 07001. All despatches outside the UK by Consolidated Airfreight. PRINTED IN THE UK.

© The 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 the prior permission of the publishers.