

FORMERLY PERKIN TRANSACTIONS 1 AND 2

Cover

Incorporating Acta Chemica Scandinavica

See Gianluca DiMartino, Michael B. Hursthouse, Mark E. Light, Jonathan M. Percy, Neil S. Spencer and Malcolm Tolley, page 4423.

The cover depicts the overlaid crystal structures of two highly fluorinated cyclodecenones, synthesised using the thermal neutral oxy-Cope rearrangement, superimposed upon a seasonal image of hoarfrost from Lake Kussharo, Japan. The authors thank Professor Kenneth G. Libbrecht (Caltech, USA, www.its.caltech.edu/~atomic/snowcrystals/) for kind permission to use his image.



Chemical biology articles published in this journal also appear in the *Chemical Biology Virtual Journal:* www.rsc.org/chembiol

contents COMMUNICATIONS





New biophysical probes for structure–activity analyses of vacuolar-H $^+$ -ATPase enzymes

Neil Dixon, Tibor Pali, Stephen Ball, Michael A. Harrison, Derek Marsh, John B. C. Findlay and Terence P. Kee

We demonstrate the potential of two new, complementary molecular probes for the analysis of inhibitor binding to the vacuolar ATPase enzyme.

Synthesis of the cyclobutanone core of solanoeclepin A *via* intramolecular allene butenolide photocycloaddition

Bui T. B. Hue, Jan Dijkink, Sanne Kuiper, Kimberly K. Larson, Frank S. Guziec, Jr., Kees Goubitz, Jan Fraanje, Henk Schenk, Jan H. van Maarseveen and Henk Hiemstra

The intramolecular [2 + 2]-photocycloaddition between allene and butenolide CC-double bonds, connected by a two-carbon tether, occurs with high crossed regioselectivity.



WWW.FSC. OFEI CHEMICALSCIENCE

ARTICLES

Isoprenoid biosynthesis *via* the MEP pathway. Synthesis of (3R,4S)-3,4-dihydroxy-5-oxohexylphosphonic acid, an isosteric analogue of 1-deoxy-D-xylulose 5-phosphate, the substrate of the 1-deoxy-D-xylulose 5-phosphate reducto-isomerase

Odile Meyer, Catherine Grosdemange-Billiard, Denis Tritsch and Michel Rohmer

The synthetic isosteric phosphonate analogue of deoxyxylulose phosphate (DXP), the first C, intermediate in the MEP pathway for isoprenoid biosynthesis, is a substrate of the DXP reducto-isomerase.

Synthesis of rhamnosylated diosgenyl glucosides as mimetics of cytostatic steroidal saponins from Ornithogalum saundersiae and Galtonia candicans

René Suhr, Pascal Pfefferkorn, Saskia Weingarten and Joachim Thiem

As novel mimetics of highly cytostatic natural saponins diosgenyl disaccharides could be synthesised.

Demethylation of 2,4-dimethoxyquinolines: the synthesis of atanine

Keith Jones, Xavier Roset, Sharon Rossiter and Philip Whitfield

Selective demethylation of 2,4-dimethoxyquinolines using iodotrimethylsilane leads to 2-quinolines.

Efficient synthesis of (-)- and (+)-tricyclic compounds with enone functionalities in rings A and C. A novel class of orally active anti-inflammatory and cancer chemopreventive agents

Tadashi Honda, Frank G. Favaloro, Jr., Tomasz Janosik, Yukiko Honda, Nanjoo Suh, Michael B. Sporn and Gordon W. Gribble

The synthesis of both enantiomers of **3** could lead to a new orally active anti-inflammatory and cancer chemopreventive agent.

Polymer-assisted solution phase synthesis of the antihyperglycemic agent Rosiglitazone (Avandia[™])

Xin Li, Chris Abell, Brian H. Warrington and Mark Ladlow

The preparation of the antihyperglycemic agent Rosiglitazone (AvandiaTM) in high purity by a multi-step polymer-assisted solution phase synthesis requiring no conventional chromatography is reported.



Rosiglitazone (Avandia™)



4367

synthesis

OH

он

H₃C

óн

sid A (R = H)

R

DXP

reducto-

isomerase

.OH

ОН

Ōн

437

.OH

οн

43



Candic

ii



Remarkable effect of 2a-modification on the VDR antagonistic activity of 1α-hydroxyvitamin D₃-26,23-lactones

Nozomi Saito, Toshihiro Matsunaga, Toshie Fujishima, Miyuki Anzai, Hiroshi Saito, Kazuya Takenouchi, Daishiro Miura, Seiichi Ishizuka, Hiroaki Takayama and

Synthesis and biological evaluation of novel vitamin D receptor (VDR) antagonists are reported.

Reaction of [60]fullerene with free radicals generated from active methylene compounds by manganese(III) acetate

Ting-Hu Zhang, Ping Lu, Fan Wang and Guan-Wu Wang

Reaction of C₆₀ with dimethyl malonate, diethyl malonate, diethyl bromomalonate, malononitrile and ethyl cyanoacetate in the presence of Mn(OAc), gives singly bonded fullerene dimers, 1,4-adducts, a 1,16-adduct and methanofullerenes.

Bifurcated, modular syntheses of chiral annulet triazacyclononanes

Gilles Argouarch, Graham Stones, Colin L. Gibson, Alan R. Kennedy and David C. Sherrington

Three chiral 2,6-disubstituted triazacyclononanes were prepared by modular methods employing two independent routes to the key triazaheptane intermediates.

Biomimetic total synthesis of forbesione and desoxymorellin utilizing a tandem Claisen/Diels-Alder/Claisen

Eric J. Tisdale, Irina Slobodov and Emmanuel A. Theodorakis

A concise synthesis of forbesione and desoxymorellin based on a regioselective Claisen/Diels-Alder/Claisen reaction cascade is

Syntheses of selectively fluorinated cyclodecenones: the first deployment of the neutral oxy-Cope rearrangement in organofluorine chemistry

Gianluca DiMartino, Michael B. Hursthouse, Mark E. Light, Jonathan M. Percy, Neil S. Spencer and Malcolm Tolley

The thermal, neutral oxy-Cope rearrangement provides a modular method for the construction of selectively fluorinated



ARTICLES

Pressure control of enantiodifferentiating photoisomerization of cyclooctenes sensitized by chiral benzenepolycarboxylates. The origin of discontinuous pressure dependence of the optical yield

Masayuki Kaneda, Asao Nakamura, Sadayuki Asaoka, Haruhiko Ikeda, Tadashi Mori, Takehiko Wada and Yoshihisa Inoue

A new and interesting pressure-induced switching behavior with potential utility as a tool for controlling the rate and selectivity of photochemical, as well as thermal and enzymatic, enantio- and diastereo-differentiating reactions.

Photolysis of regioisomeric diazides of 1,2-diphenylacetylenes studied by matrix-isolation spectroscopy and DFT calculations

Hideo Tomioka and Shinji Sawai

Azidophenylethynyl groups exhibited a dramatic effect not only on the photochemical pathway of phenyl azides but also on the electronic and molecular structure of the photoproducts.

Synthesis, structural determination and dynamic behavior of 2-chloro-4,6-bis(pyrazolylamino)-1,3,5-triazines

Angel Díaz-Ortiz, José Elguero, Concepción Foces-Foces, Antonio de la Hoz, Andrés Moreno, Sergio Moreno, Ana Sánchez-Migallón and Gema Valiente

The structures of 2-chloro-4,6-bis(pyrazolylamino)-1,3,5-triazines were determined in solution by NMR spectroscopy and confirmed in the solid state by X-ray diffraction.

3,3-Diethyl- and 3,3-dibenzyl-1,2-diferrocenylcyclopropenes

Elena I. Klimova, Tatiana Klimova Berestneva, Arnaldo Cinquantini, Maddalena Corsini, Piero Zanello, Ruben A. Toscano, Simón Hernández-Ortega and Marcos Martínez García

Reactions of 2,3-diferrocenylcyclopropenone with ethyl- and benzylmagnesium chlorides afford 3,3-diethyl- and 3,3-dibenzyl-1,2-diferrocenylcyclopropenes, respectively.

Synthesis of light-harvesting dendrimers focally anchored with crown ethers or terpyridine ligands

Yongchun Pan, Meng Lu, Zhonghua Peng and Joseph S. Melinger

Crown ethers and terpyridine ligands have been attached to the core of unsymmetrical conjugated monodendrons to create new functional materials.

iv

\frown	CUMULATIVE AUTHOR INDEX
ix	
\frown	CONFERENCE DIARY
xix	Dates, venues and contact details of forthcoming events.
COPIES OF	CITED ARTICLES

The Library and Information Centre (LIC) of the RSC offers a first class Document Delivery Service for items in Chemistry and related subjects. Contact the LIC, The Royal Society of Chemistry, Burlington House, Piccadilly, London W1V 0BN, UK.

This service is only available from the LIC in London and not the RSC in Cambridge.

ADVANCED CONTENTS LISTS

Contents lists in advance of publication are available on the web via www.rsc.org/obc – or take advantage of our free e-mail alerting service (www.rsc.org/ej_alert) to receive notification each time a new list becomes available.

ADVANCE ARTICLES AND ELECTRONIC JOURNAL

Free site-wide access to Advance Articles and the electronic form of this journal is provided with a full-rate institutional subscription. See www.rsc.org/ejs for more information.

* Indicates the author for correspondence: see article for details.

Electronic supplementary information is available on http://www.rsc.org/esi: see article for further information.

RSC Journals Grants for International Authors

Applications are invited from RSC journal authors wishing to receive funding from the RSC Journals Grants for International Authors scheme to visit laboratories outside their normal country of residence for one or both of the following objectives: to collaborate in research; to give or receive special expertise or training.

There are no restrictions on the countries between which visits may be made, but a significant proportion of these grants will be for visits to the UK and other European Union countries. Applicants should have a recent record of publishing in RSC journals. A grant will not exceed £2000.

Applications will be assessed by a panel chaired by the President of the RSC.

For the full criteria for applications and an application form, please see www.rsc.org/jgrant or contact: Dr Adrian P Kybett, Journals Grants for International Authors, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF; e-mail jga@rsc.org

RSC Members may also apply for Jones Travelling Fellowships to make overseas laboratory study visits. For further information and an application form, contact: Mr S Langer, Royal Society of Chemistry, Burlington House, Piccadilly, London W1V 0BN; e-mail langers@rsc.org; www.rsc.org/lap/funding/fundpostdoc.htm

This journal is © The Royal Society of Chemistry 2003