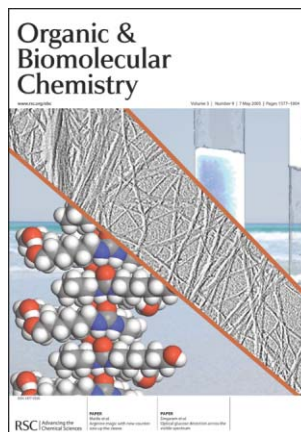
**Cover**

See M. Nishihara, F. Perret, T. Takeuchi, S. Futaki, A. N. Lazar, A. W. Coleman, N. Sakai and S. Matile, pp. 1659–1669

Their spectacular synergism suggests that counterions may account for many 'mysterious' functions of oligoarginines in biomembranes in a general manner compelling reasons to use rather than to ignore them!

Image reproduced by permission of Stefan Matile from *Org. Biomol. Chem.*, 2005, **3**, 1659.

**Inside Cover**

See M. de Loos, A. Friggeri, J. van Esch, R. M. Kellogg and B. L. Feringa, pp. 1631–1639

Cyclohexane bis-urea compounds can be used for the gelation of water and aqueous solutions. These hydrogels can be tailored for a specific function or application.

Image reproduced by permission of Jan van Esch from *Org. Biomol. Chem.*, 2005, **3**, 1631.

CHEMICAL SCIENCE

C33

Drawing together the research highlights and news from all RSC publications, *Chemical Science* provides a 'snapshot' of the latest developments across the chemical sciences showcasing newsworthy articles, as well as the most significant scientific advances.

Chemical Science

May 2005/Volume 2/Issue 5

www.rsc.org/chemicalscience

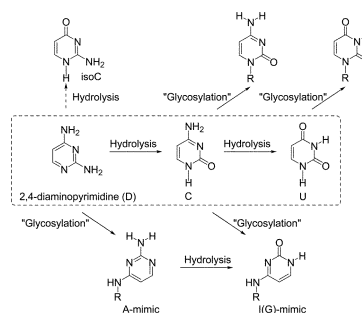
ESSAY

1591

Genetic alphabetic order: what came before A?

Jay S. Siegel* and Yitzhak Tor

Could a single heterocycle be responsible for the precursor to our present genetic alphabet? A "prebiotic" postulate is discussed.



EDITORIAL STAFF

Managing editor

Caroline Potter

Assistant editors

Suzanne Abbott, James Crow

Crystallographic data editor

Kirsty Anderson

Publishing assistant

Emma Crisp

Team leader, serials production

Michelle Canning

Technical editors

Susan Askey, David Barden, Nicola Burton,
Christopher Incles, Elinor Richards,
Michael Spencelayh, Joanna Stevens

Editorial secretaries

Sonya Spring, Julie Thompson, Rebecca Gotobed

Publisher

Janet Dean

Organic & Biomolecular Chemistry (print: ISSN 1477-0520; electronic: ISSN 1477-0539) is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to Portland Customer Services, Commerce Way, Colchester, Essex, CO2 8HP. Tel +44 (0) 1206 226050; E-mail sales@rscdistribution.org

2005 Annual (print + electronic) subscription price: £2400; US\$3960. 2005 Annual (electronic) subscription price: £2160; US\$3656. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any RSC journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip. 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 paid at Rahway, NJ, USA, and at additional mailing offices. Airfreight and mailing in the USA by Mercury Airfreight International Ltd., 365 Blair Road, Avenel, NJ 07001, USA.

US Postmaster: send address changes to Organic & Biomolecular Chemistry, c/o Mercury Airfreight International Ltd., 365 Blair Road, Avenel, NJ 07001. All despatches outside the UK by Consolidated Airfreight.

PRINTED IN THE UK

Advertisement sales: Tel +44 (0) 1223 432243;
Fax +44 (0) 1223 426017; E-mail advertising@rsc.org

Organic & Biomolecular Chemistry

An international journal of synthetic, physical and biomolecular organic chemistry

www.rsc.org/obc

Organic & Biomolecular Chemistry brings together molecular design, synthesis, structure, function and reactivity in one journal. It publishes fundamental work on synthetic, physical and biomolecular organic chemistry as well as all organic aspects of: chemical biology, medicinal chemistry, natural product chemistry, supramolecular chemistry, macromolecular chemistry, theoretical chemistry, and catalysis.

EDITORIAL BOARD

Chair

Professor Ben Feringa, Groningen

Professor Chris Abell, Cambridge
Professor Varinder Aggarwal, Bristol
Professor Donna Blackmond,
London

Professor Thomas Carell, Munich
Professor Andrew Hamilton, Yale
Professor Karl Jørgensen, Aarhus
Professor Laura Kiessling,
Wisconsin-Madison

Professor Shu Kobayashi, Tokyo
Professor K C Nicolaou, Scripps;
UC-San Diego

Professor Jay Siegel, Zürich
Professor Itamar Willner, Jerusalem
Professor Peter Wipf, Pittsburgh

Associate editor for North America

Professor Peter Wipf
Department of Chemistry,
University of Pittsburgh
Pittsburgh, PA 15260, USA

Tel +1 412 624 8606

E-mail pwipf@pitt.edu

International advisory board

Roger Alder (Bristol, UK)
Vincenzo Balzani (Bologna, Italy)
Barry Carpenter (Cornell, USA)
Andre Charette (Montreal, Canada)
Peter Chen (ETH, Switzerland)
Jonathan Ellman (Berkeley, USA)
Kurt Faber (Graz, Austria)
Malcolm Forbes (North Carolina,
USA)
Sam Gellman (Wisconsin, USA)
Jan Kihlberg (Umea, Sweden)
Philip Kocienski (Leeds, UK)
Steven V Ley (Cambridge, UK)
Manuel Martín Lomas, (Seville,
Spain)
Zhang Li-He (Beijing, China)

Michael Martinelli (Amgen, USA)
Keiji Maruoka (Kyoto, Japan)
E W 'Bert' Meijer (Eindhoven,
The Netherlands)
Eiichi Nakamura (Tokyo, Japan)
Ryoji Noyori (Nagoya, Japan)
Mark Rizzacasa (Melbourne,
Australia)
Alanna Schepartz (Yale, USA)
Oliver Seitz (Berlin, Germany)
Kevan Shokat (UC San Francisco;
UC Berkeley)
Steve Street (Pfizer, UK)
Suzanne Walker (Harvard, USA)
Jon Waltho (Sheffield, UK)

James D White (Oregon, USA)
Henry N. C. Wong (Hong Kong,
China)
Sam Zard (Ecole Polytechnique,
France)

INFORMATION FOR AUTHORS

Full details of how to submit material for publication in Organic & Biomolecular Chemistry are given in Instructions for Authors on our Web site <http://www.rsc.org/authors>. Correspondence on editorial matters should be addressed to: Dr Caroline V Potter, Managing Editor, Organic Publications, The Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK, CB4 0WF. Tel +44 (0) 1223 432137; Fax +44 (0) 1223 420247 E-mail obc@rsc.org

Authors may reproduce/republish portions of their published contribution without seeking permission from the RSC, provided that any such republication is accompanied by an acknowledgement in the form: (Original citation) – Reproduced by permission of the Royal Society of Chemistry

© The Royal Society of Chemistry, 2005. Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the

Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulations 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA. The Royal Society of Chemistry takes reasonable care in the preparation of this publication but does not accept liability for the consequences of any errors or omissions.

Ⓢ The paper used in this publication meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper).

Royal Society of Chemistry: Registered Charity No. 207890

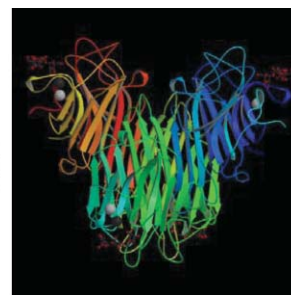
1593

Lectins: tools for the molecular understanding of the glycode

Moira Ambrosi, Neil R. Cameron* and Benjamin G. Davis*

An overview of lectins, their interactions with carbohydrates and possible therapeutic applications is presented.

Concanavalin A bound to trimannoside (PDB ID: 1CVN, J. H. Naismith and R. A. Field)



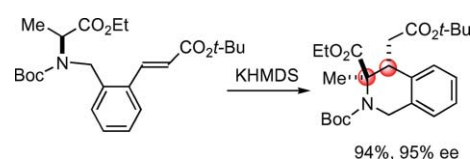
COMMUNICATIONS

1609

Memory of chirality in intramolecular conjugate addition of enolates: a novel access to nitrogen heterocycles with contiguous quaternary and tertiary stereocenters

Takeo Kawabata,* Swapan Majumdar, Kazunori Tsubaki and Daiki Monguchi

Nitrogen heterocycles with contiguous quaternary and tertiary stereocenters have been prepared by intramolecular conjugate addition of chiral enolates generated from α -amino acid derivatives *via* memory of chirality.

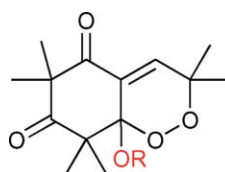


1612

Alkylation of natural endoperoxide G3-factor. Synthesis and antimalarial activity studies

Fadia Najjar, Liliane Gorrichon, Michel Baltas, Christiane André-Barrès* and Henri Vial

Alkylation of the peroxyhemiketal function is described and all synthesised endoperoxides show good antimalarial activity.



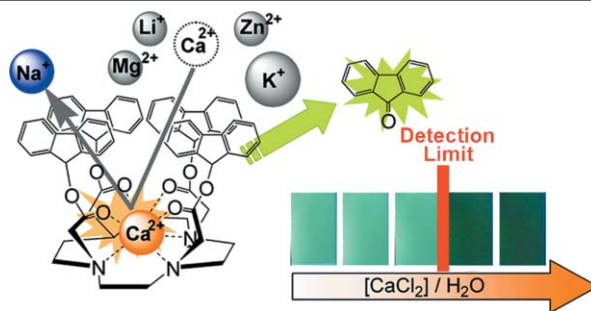
R = (CH₂)_nCH₃, Bn or CH₂C₅H₅N
n = 0, 2, 3, 7

1615

Visual sensing of Ca²⁺ ion *via* photoreaction of fluorenyl ester-armed cyclen

Tomoko N. Player, Satoshi Shinoda and Hiroshi Tsukube*

The photoreaction of fluorenyl ester-armed cyclen offered naked-eye detection of Ca²⁺ ion in aqueous samples.

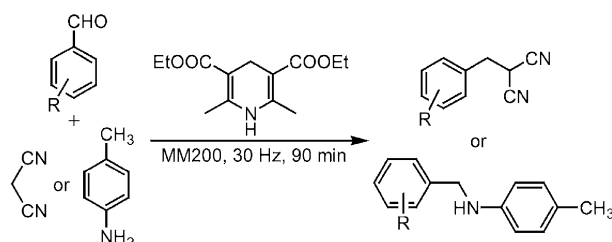


1617

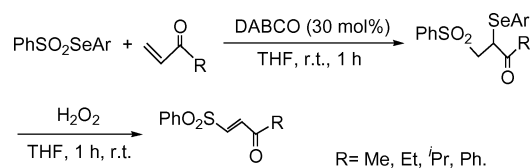
Solvent-free mechanochemical and one-pot reductive benzylizations of malononitrile and 4-methylaniline using Hantzsch 1,4-dihydropyridine as the reductant

Ze Zhang, Jie Gao, Jing-Jing Xia and Guan-Wu Wang*

Under mechanical milling conditions, direct reductive benzylizations of malononitrile and 4-methylaniline by aromatic aldehydes were achieved using a Hantzsch 1,4-dihydropyridine as the reductant.



1620

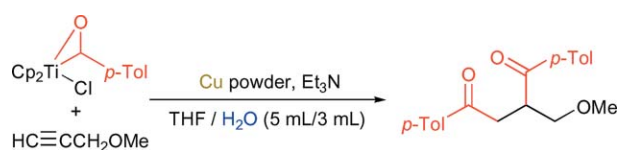


DABCO catalyzed addition of selenosulfonates to α,β -unsaturated ketones

Yong-Ling Shi and Min Shi*

In the presence of DABCO, the addition of various selenosulfonates to activated olefins proceeded smoothly to give the adducts in good yields under mild conditions.

1622



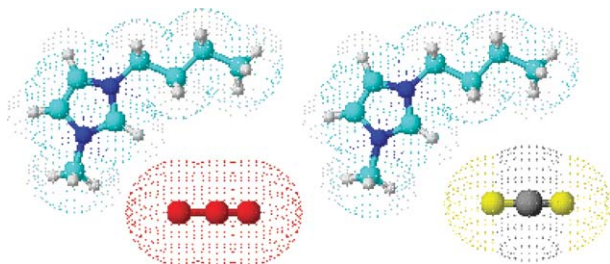
A new method for the synthesis of acyltitanium complexes and their application to copper-mediated acylmetallation of carbon–carbon multiple bonds in aqueous media

Zhenfu Han, Takuma Fujioka, Shin-ichi Usugi, Hideki Yorimitsu, Hiroshi Shinokubo and Koichiro Oshima*

Treatment of alkynes with an acyltitanium reagent in the presence of triethylamine and copper in aqueous THF yielded the corresponding 1,4-diketones.

ARTICLES

1624

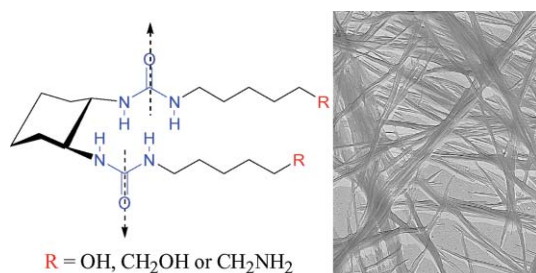


The effect of the anion on the physical properties of trihalide-based *N,N*-dialkylimidazolium ionic liquids

Alessandro Bagno,* Craig Butts, Cinzia Chiappe,* Fabio D'Amico, Jason C. D. Lord, Daniela Pieraccini and Federico Rastrelli

Trihalide-based ionic liquids have a lower melting point and viscosity and a higher density and hydrophobicity when compared to other common imidazolium ionic liquids, including chlorides, bromides or iodides.

1631

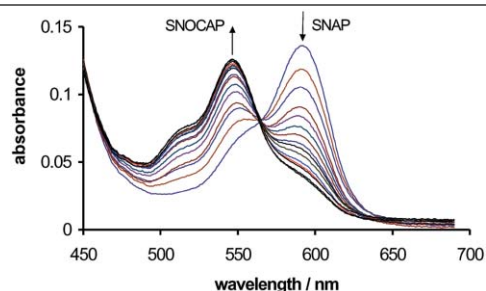


Cyclohexane bis-urea compounds for the gelation of water and aqueous solutions

Maaïke de Loos, Arianna Friggeri, Jan van Esch,* Richard M. Kellogg and Ben L. Feringa*

End-group modification of a well-known organogelator yields easily accessible and efficient gelators of organic solvents and water, displaying unusual stereochemical aspects.

1640



The reaction of *S*-nitroso-*N*-acetyl-D,L-penicillamine (SNAP) with the angiotensin converting enzyme inhibitor, captopril—mechanism of transnitrosation

Danielle V. Aquart and Tara P. Dasgupta*

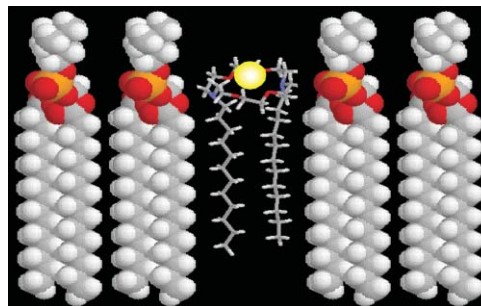
S-Nitroso-*N*-acetyl-D,L-penicillamine and captopril react to yield two distinct stages, one being transnitrosation, the other releasing the nitroxy ion in solution.

1647

Correlation of bilayer membrane cation transport and biological activity in alkyl-substituted lariat ethers

W. Matthew Leevy, Michelle E. Weber, Michael R. Gokel, George B. Hughes-Strange, David D. Daranciang, Riccardo Ferdani and George W. Gokel*

Alkyl-substituted lariat ethers have been prepared and their effects on liposome cation transport and bacterial toxicity examined.

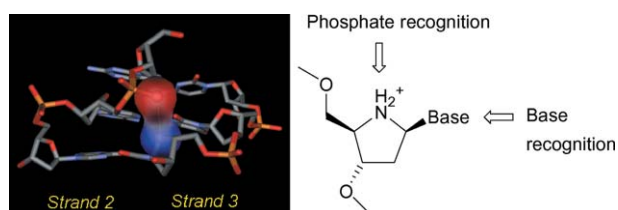


1653

Synthesis and triplex forming properties of pyrrolidino pseudoisocytidine containing oligodeoxynucleotides

Alain Mayer, Adrian Häberli and Christian J. Leumann*

Triplex forming oligodeoxynucleotides containing pyrrolidino pseudoisocytidine units were found to significantly increase the thermal stability of DNA triplexes.

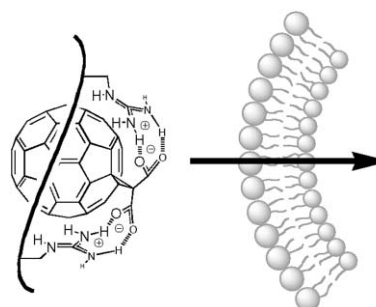


1659

Arginine magic with new counterions up the sleeve

Masamichi Nishihara, Florent Perret, Toshihide Takeuchi, Shiroh Futaki, Adina N. Lazar, Anthony W. Coleman, Naomi Sakai* and Stefan Matile*

The synergistic anion carrier activity of polyarginine-counteranion complexes is investigated with emphasis on counteranion recognition by polyarginine on the one hand and lipid bilayer membranes on the other.

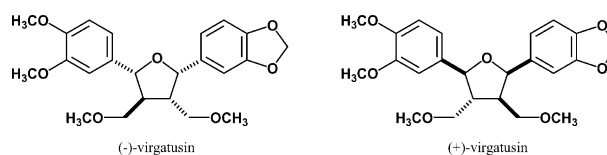


1670

First enantioselective synthesis of (–)- and (+)-virgatusin, tetra-substituted tetrahydrofuran lignan

Satoshi Yamauchi,* Momotoshi Okazaki, Koichi Akiyama, Takuya Sugahara, Taro Kishida and Takehiro Kashiwagi

First highly enantioselective synthesis of (–)- and (+)-virgatusin, 2,5-diaryl-3,4-bis(methoxymethyl)tetrahydrofuran lignan, was accomplished.



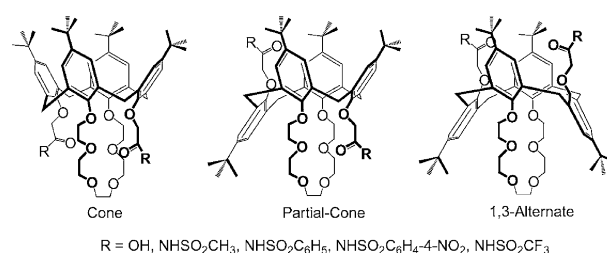
1676



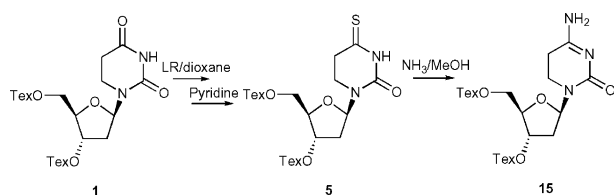
Proton di-ionizable *p*-*tert*-butylcalix[4]arene-crown-6 compounds in cone, partial-cone and 1,3-alternate conformations: synthesis and alkaline earth metal cation extraction

Hui Zhou, Kazimierz Surowiec, David W. Purkiss and Richard A. Bartsch*

To probe the influence of the positioning of ionizable groups relative to the crown cavity, di-ionizable calix[4]arene-crown-6 ligands with carboxylic acid and *N*-(*X*)sulfonyl carboxamide groups were prepared and evaluated.



1685

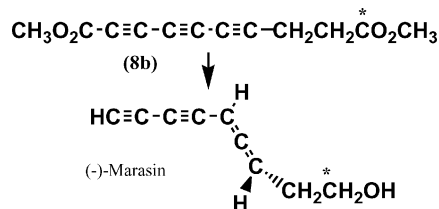


β -Selective synthesis of 2'-deoxy-5,6-dihydro-4-thiouridine, a precursor of the unstable nucleoside product of ionising radiation damage 2'-deoxy-5,6-dihydrocytidine

Frédéric Peyrane and Pascale Clivio*

The diastereoselective synthesis of the disilyl derivative of 2'-deoxy-5,6-dihydro-4-thiouridine (5) from its 5,6-dihydrouracil counterpart (1), and its subsequent amination, is reported.

1690

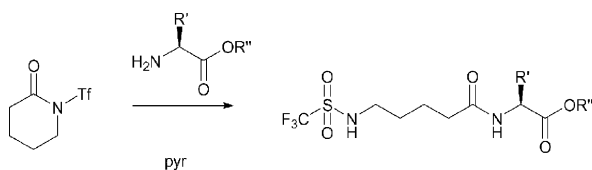


Biosynthesis of the allene (–)-marasin in *Marasmius ramealis*

David G. Davies and Philip Hodge*

Incorporation of [¹⁴C]-labelled 8b into (–)-marasin indicates that the diyne-allene moiety is formed by rearrangement of an alkyltriyne moiety.

1694

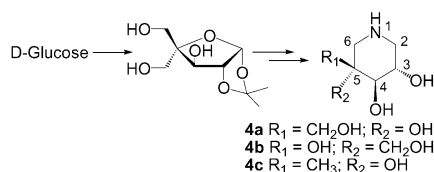


On the activation of valerolactam with triflic anhydride: the synthesis of ω -trifluorosulfonamido dipeptides using a transpeptidation reaction under mild conditions

Nikolai Kuhnert,* Ian Clemens and Rodney Walsh

Valerolactam was activated with triflic anhydride to give an *N*-triflated derivative, which reacts with a series of nucleophiles to produce esters and amides under mild conditions.

1702

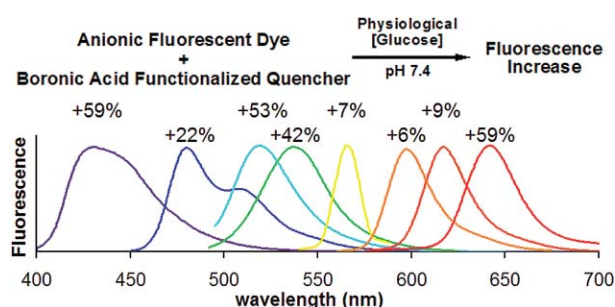


Synthesis and evaluation of the glycosidase inhibitory activity of 5-hydroxy substituted isofagomine analogues

Mohammed M. Matin, Tarun Sharma, Sushma G. Sabharwal and Dilip D. Dhavale*

An efficient synthesis of 5-hydroxy substituted isofagomine analogues starting from D-glucose and their glycosidase inhibitory activity is presented.

1708



Optical glucose detection across the visible spectrum using anionic fluorescent dyes and a viologen quencher in a two-component saccharide sensing system

David B. Cordes, Aaron Miller, Soya Gamsey, Zach Sharrett, Praveen Thoniyot, Ritchie Wessling and Bakthan Singaram*

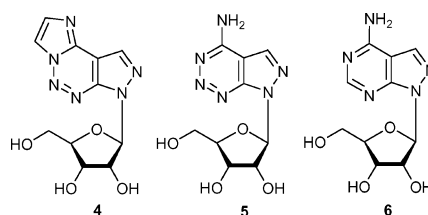
Fluorescent anionic dyes are used in combination with a boronic acid-modified viologen quencher to sense glucose at pH 7.4 in buffered aqueous solution.

1714

1, N⁶-Etheno-7-deaza-2,8-diazaadenosine: syntheses, properties and conversion to 7-deaza-2,8-diazaadenosine

Wenqing Lin, Hong Li, Xin Ming and Frank Seela*

The synthesis of the fluorescent etheno ribonucleoside **4** is described using compound **6** as educt. Nucleoside **4** was converted into 2,8-diaza-7-deazapurine nucleoside **5**.

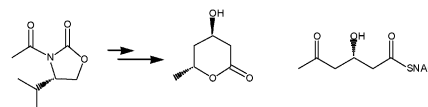


1719

Assembly intermediates in polyketide biosynthesis: enantioselective syntheses of β -hydroxycarbonyl compounds

Christine Le Sann, Dulce M. Muñoz, Natalie Saunders, Thomas J. Simpson, David I. Smith, Florilène Soulas, Paul Watts and Christine L. Willis*

Functionalised β -hydroxycarbonyl compounds were prepared *via* aldol reactions with acylated oxazolidinone; reversal of stereoselectivity occurred using either (*R*)- or (*S*)-3-*tert*-butyldimethylsilyloxybutanal.

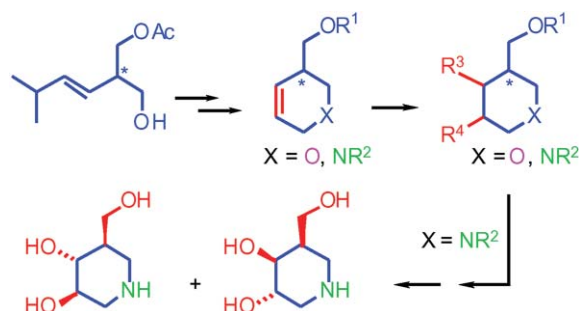


1729

Asymmetrized tris(hydroxymethyl)methane as a precursor of N- and O-containing 6-membered heterocycles through ring-closing metathesis

Luca Banfi, Giuseppe Guanti, Monica Paravidino and Renata Riva*

Enantiodivergent elaboration of a chemoenzymatically obtained acyclic chiral building block: an approach to iminosugars through ring-closing metathesis.

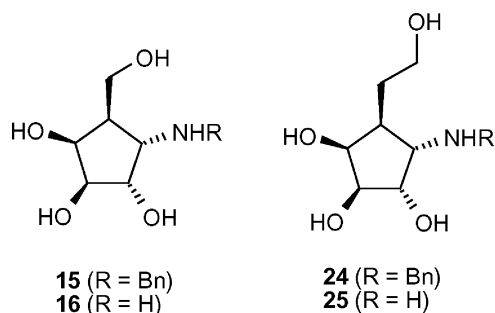


1738

Synthesis of aminocyclopentanols: α -D-galacto configured sugar mimics

Marie Bøjstrup and Inge Lundt*

Four aminocyclopentanols mimicking α -D-galactose were synthesised from carbohydrate starting materials and their inhibitory activity towards a range of glycosidases measured.

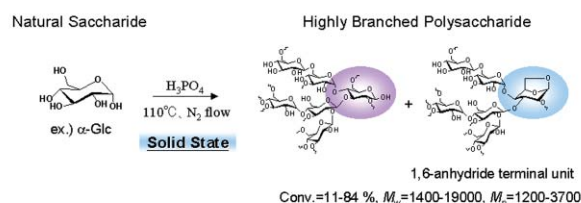


1746

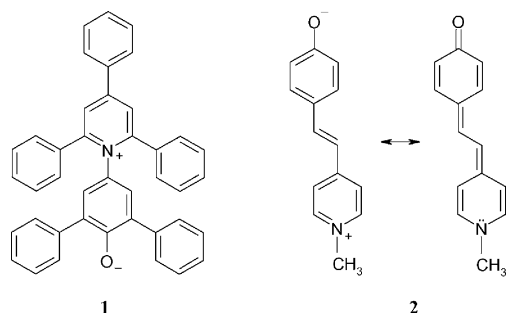
Powder-to-powder polycondensation of natural saccharides. Facile preparation of highly branched polysaccharides

Atsushi Kanazawa, Shohei Okumura and Masato Suzuki*

Natural saccharides were polymerized with a H_3PO_4 catalyst in the solid state at 110 °C, giving highly branched polysaccharides.



1751

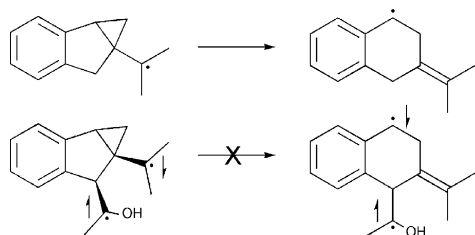


Solvent effects in the interaction of methyl- β -cyclodextrin with solvatochromic merocyanine dyes

Cristina de Garcia Venturini, Jürgen Andreas, Vanderlei Gageiro Machado* and Clodoaldo Machado*

The spectroscopic behavior of dyes **1** and **2** was investigated in solutions of methyl- β -cyclodextrin in hydroxylic and dipolar non-protic solvents.

1757

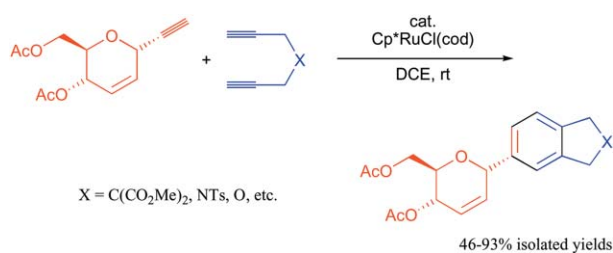


Factors affecting the selection of products from a photochemically generated singlet biradical

David A. Broyles and Barry K. Carpenter*

The chemistries of a monoradical of the ultrafast “radical-clock” type and a structurally related singlet biradical, generated by Norrish type II photochemistry, are compared. The monoradical is found to undergo the characteristic ring-opening reaction of its class while the singlet biradical shows no evidence of the analogous ring-opening reaction.

1768

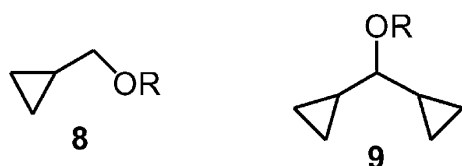


Selective synthesis of C-arylglycosides via Cp^{*}RuCl-catalyzed partially intramolecular cyclotrimerizations of C-alkynylglycosides

Yoshihiko Yamamoto,* Tomoaki Saigoku, Hisao Nishiyama, Takashige Ohgai and Kenji Itoh

In the presence of catalytic amounts of Cp^{*}RuCl(cod), the partially intramolecular cyclotrimerizations of various C-alkynylglycosides and C-diynylglycosides proceeded at ambient temperature to afford C-arylglycosides.

1776

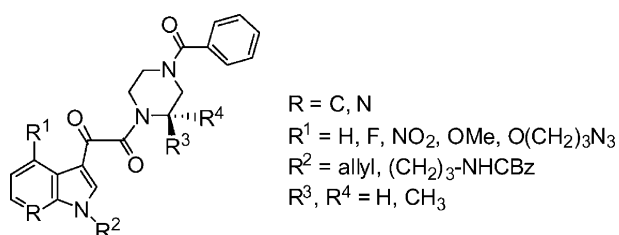


Determining the σ -donor ability of the cyclopropane C–C bond

Nathan L. Fifer and Jonathan M. White*

The strong σ -donor ability of the cyclopropane ring is demonstrated by X-ray structural analysis of derivatives of cyclopropylmethanol and dicyclopropylmethanol.

1781



Modification and structure–activity relationship of a small molecule HIV-1 inhibitor targeting the viral envelope glycoprotein gp120

Jingsong Wang, Nhut Le, Alonso Heredia, Haijing Song, Robert Redfield and Lai-Xi Wang*

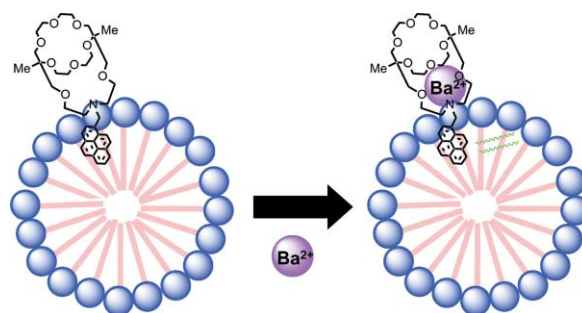
This paper describes selected modification and structure–activity relationship of the small molecule HIV-1 inhibitor, 4-benzoyl-1-[(4-methoxy-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)oxoacetyl]-2-(*R*)-methylpiperazine (BMS-378806).

1787

Fluorometric sensing of alkali metal and alkaline earth metal cations by novel photosensitive monoazacryptand derivatives in aqueous micellar solutions

Yoshio Nakahara, Toshiyuki Kida, Yohji Nakatsuji* and Mitsuru Akashi*

Novel monoazacryptand-type fluorescent chemosensors were found to detect alkali metal and alkaline earth metal cations with high selectivity in water in the presence of nonionic or anionic surfactant micelles.



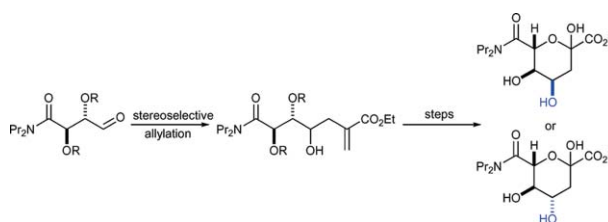
1795



Synthesis of screening substrates for the directed evolution of sialic acid aldolase: towards tailored enzymes for the preparation of influenza A sialidase inhibitor analogues

Thomas Woodhall, Gavin Williams, Alan Berry and Adam Nelson*

Stereoselective methods for the synthesis of two diastereomeric sialic acid analogues are described. The compounds may be exploited in the directed evolution of sialic acid aldolase.



RSC Journals Grants for International Authors

www.rsc.org/jgrant

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.

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

For 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, UK W1V 0BN; e-mail langers@rsc.org; www.rsc.org/lap/funding/fundpostdoc.htm

- Akashi, Mitsuru, 1787
 Akiyama, Koichi, 1670
 Ambrosi, Moira, 1593
 André-Barrès, Christiane, 1612
 Andraeus, Jürgen, 1751
 Aquart, Danielle V., 1640
 Bagno, Alessandro, 1624
 Baltas, Michel, 1612
 Banfi, Luca, 1729
 Bartsch, Richard A., 1676
 Berry, Alan, 1795
 Bøjstrup, Marie, 1738
 Broyles, David A., 1757
 Butts, Craig, 1624
 Cameron, Neil R., 1593
 Carpenter, Barry K., 1757
 Chiappe, Cinzia, 1624
 Clemens, Ian, 1694
 Clivio, Pascale, 1685
 Coleman, Anthony W., 1659
 Cordes, David B., 1708
 D'Amico, Fabio, 1624
 Daranciang, David D., 1647
 Dasgupta, Tara P., 1640
 Davies, David G., 1690
 Davis, Benjamin G., 1593
 de Garcia Venturini, Cristina, 1751
 de Loos, Maaïke, 1631
 Dhavale, Dilip D., 1702
 Ferdani, Riccardo, 1647
 Feringa, Ben L., 1631
 Fifer, Nathan L., 1776
 Friggeri, Arianna, 1631
 Fujioka, Takuma, 1622
 Futaki, Shiroh, 1659
 Gageiro Machado, Vanderlei, 1751
 Gamsey, Soya, 1708
 Gao, Jie, 1617
 Gokel, George W., 1647
 Gokel, Michael R., 1647
 Gorrichon, Liliane, 1612
 Guanti, Giuseppe, 1729
 Häberli, Adrian, 1653
 Han, Zhenfu, 1622
 Heredia, Alonso, 1781
 Hodge, Philip, 1690
 Hughes-Strange, George B., 1647
 Itoh, Kenji, 1768
 Kanazawa, Atsushi, 1746
 Kashiwagi, Takehiro, 1670
 Kawabata, Takeo, 1609
 Kellogg, Richard M., 1631
 Kida, Toshiyuki, 1787
 Kishida, Taro, 1670
 Kuhnert, Nikolai, 1694
 Lazar, Adina N., 1659
 Le Sann, Christine, 1719
 Le, Nhut, 1781
 Leevy, W. Matthew, 1647
 Leumann, Christian J., 1653
 Li, Hong, 1714
 Lin, Wenqing, 1714
 Lord, Jason C. D., 1624
 Lundt, Inge, 1738
 Machado, Clodoaldo, 1751
 Majumdar, Swapan, 1609
 Matile, Stefan, 1659
 Matin, Mohammed M., 1702
 Mayer, Alain, 1653
 Miller, Aaron, 1708
 Ming, Xin, 1714
 Monguchi, Daiki, 1609
 Muñoz, Dulce M., 1719
 Najjar, Fadia, 1612
 Nakahara, Yoshio, 1787
 Nakatsuji, Yohji, 1787
 Nelson, Adam, 1795
 Nishihara, Masamichi, 1659
 Nishiyama, Hisao, 1768
 Ohgai, Takashige, 1768
 Okazaki, Momotoshi, 1670
 Okumura, Shohei, 1746
 Oshima, Koichiro, 1622
 Paravidino, Monica, 1729
 Perret, Florent, 1659
 Peyrane, Frédéric, 1685
 Pieraccini, Daniela, 1624
 Player, Tomoko N., 1615
 Purkiss, David W., 1676
 Rastrelli, Federico, 1624
 Redfield, Robert, 1781
 Riva, Renata, 1729
 Sabharwal, Sushma G., 1702
 Saigoku, Tomoaki, 1768
 Sakai, Naomi, 1659
 Saunders, Natalie, 1719
 Seela, Frank, 1714
 Sharma, Tarun, 1702
 Sharrett, Zach, 1708
 Shi, Min, 1620
 Shi, Yong-Ling, 1620
 Shinoda, Satoshi, 1615
 Shinokubo, Hiroshi, 1622
 Siegel, Jay S., 1591
 Simpson, Thomas J., 1719
 Singaram, Bakthan, 1708
 Smith, David I., 1719
 Song, Haijing, 1781
 Soulas, Florilène, 1719
 Sugahara, Takuya, 1670
 Surowiec, Kazimierz, 1676
 Suzuki, Masato, 1746
 Takeuchi, Toshihide, 1659
 Thoniyot, Praveen, 1708
 Tor, Yitzhak, 1591
 Tsubaki, Kazunori, 1609
 Tsukube, Hiroshi, 1615
 Usugi, Shin-ichi, 1622
 van Esch, Jan, 1631
 Vial, Henri, 1612
 Walsh, Rodney, 1694
 Wang, Guan-Wu, 1617
 Wang, Jingsong, 1781
 Wang, Lai-Xi, 1781
 Watts, Paul, 1719
 Weber, Michelle E., 1647
 Wessling, Ritchie, 1708
 White, Jonathan M., 1776
 Williams, Gavin, 1795
 Willis, Christine L., 1719
 Woodhall, Thomas, 1795
 Xia, Jing-Jing, 1617
 Yamamoto, Yoshihiko, 1768
 Yamauchi, Satoshi, 1670
 Yorimitsu, Hideki, 1622
 Zhang, Ze, 1617
 Zhou, Hui, 1676

FREE E-MAIL ALERTS

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.

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

 Electronic supplementary information (ESI) is available *via* the online article (see <http://www.rsc.org/esi> for general information about ESI).

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.

Catalytic asymmetric hydroamination of non-activated olefins

Kai C. Hultzsch (DOI: 10.1039/b418521h)

Facile synthesis of multisubstituted buta-1,3-dienes via Suzuki–Miyaura and Kumada cross-coupling strategy of 2,4-diiodo-buta-1-enes with arylboronic acids and Grignard reagents

Li-Xiong Shao and Min Shi (DOI: 10.1039/b504071j)

Model compounds for (6–4) photolyases: a comparative flavin induced cleavage study of oxetanes and thietanes

Marcus G. Friedel, Michaela K. Cichon and Thomas Carell (DOI: 10.1039/b503205a)

Radical properties governing the hypoxia-selective cytotoxicity of antitumor 3-amino-1,2,4-benzotriazine 1,4-dioxides

Robert F. Anderson, Sujata S. Shinde, Michael P. Hay, Swarna A. Gamage and William A. Denny (DOI: 10.1039/b502586a)

Deprotonation – electrophile trapping of terminal epoxides

David M. Hodgson, Eirene H. M. Kirton, Steven M. Miles, Stéphanie L. M. Norsikian, Nigel J. Reynolds and Steven J. Coote (DOI: 10.1039/b502888d)

Prebiotic carbohydrate synthesis: zinc–proline catalyzes direct aqueous aldol reactions of α -hydroxy aldehydes and ketones

Jacob Kofoed, Jean-Louis Reymond and Tamis Darbre (DOI: 10.1039/b501512j)


Design and synthesis of new bicyclic diketopiperazines as scaffolds for receptor probes of structurally diverse functionality

Pedro Besada, Liaman Mamedova, Craig J. Thomas, Stefano Costanzi and Kenneth A. Jacobson (DOI: 10.1039/b416349d)

Syntheses and copper(II)-dependent DNA photocleavage by acridine and anthracene 1,10-phenanthroline conjugate systems

Lourdes Gude, María-José Fernández, Kathryn B. Grant and Antonio Lorente (DOI: 10.1039/b502485d)

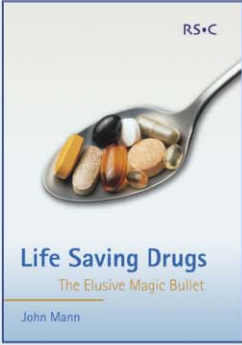
Citations reported with a DOI instead of page numbers (e.g. A. N. Author, *Org. Biomol. Chem.*, 2005, DOI: 10.1039/b417644h) can be easily located from the article finder at the bottom of each journal homepage (e.g. www.rsc.org/obc) or from <http://xlink.rsc.org/?DOI=xxxxxxx> where xxxxxxxx is replaced by the last eight characters of the DOI (e.g. <http://xlink.rsc.org/?DOI=b417644h>).



Life Saving Drugs

The Elusive Magic Bullet

By John Mann



RSC Paperbacks
An introduction to the discovery and development of antibacterial, anti-viral and anti-cancer drugs.

- describes the colourful characters behind the inventions
- highlights the huge improvements in quality of life and life-expectancy that these drugs have produced
- describes new drugs that have emerged as a result of knowledge of the human genome
- demonstrates ways in which the newer drugs are being designed to tackle disease at the genetic level
- well illustrated with chemical structures for all of the key drugs


Accessible to anyone interested in the history of drug development during the past 100 years.

Softcover | 2004 | viii + 248 | 0 85404 634 8 | £24.95 | Members' price £16.00

www.rsc.org/books/6348

Orders & further details **Sales & Customer Care**
Royal Society of Chemistry · Thomas Graham House
Science Park · Milton Road · Cambridge · CB4 0WF · UK

T +44(0)1223 432360 · F +44(0)1223 426017 · E sales@rsc.org
Or visit our websites: www.rsc.org and www.chemsoc.org
Registered Charity No. 207890





New for 2005

A high-impact chemical biology journal with a particular focus at the interface between chemistry and the -omic sciences and systems biology.

First issue: May 2005

Read the first articles online now!

www.molecularbiosystems.org

The first issue will include:

Review

The advantages of functional gene-discovery systems based on libraries of hammerhead and hairpin ribozymes and short hairpin RNAs

Masayuki Sano, Yoshio Kato and Kazunari Taira

Highlight

Genomics and the second golden era of cancer drug development

Paul Workman

Opinion

Feedback dynamics and cell function: why systems biology is called systems biology

Olaf Wolkenhauer and Mihajlo Mesarovic

Method

Electrophoretic and mass spectrometric strategies for profiling bacterial lipopolysaccharides

Jianjun Li, Andrew D. Cox, Derek W. Hood, Elke K. H. Schweda, E. Richard Moxon and James C. Richards

Papers

Identification of the F1F0 mitochondrial ATPase as a target for modulating skin pigmentation by screening a tagged triazine library in zebrafish

Da-Woon Jung, Darren Williams, Sonya M. Khersonsky, Tae-Wook Kang, Noushin Heidary, Young-Tae Chang and Seth J. Orlow

Protease profiling using a fluorescent domino peptide cocktail

Yang Yongzheng and Jean-Louis Reymond

Protein immunosensor using single-wall carbon nanotube forests with electrochemical detection of enzyme labels

Xin Yu, Sang Nyon Kim, Fotios Papadimitrakopoulos and James F. Rusling