

Volume Contents 1997

NUMBER 1

Contents

Daniel P. Becker, Roger Nosal,
Daniel L. Zabrowski and
Daniel L. Flynn

Raymond C. Harden,
Timothy J. Hodgkinson,
Alexander McKillop, Will G. Prowse
and Michael W. J. Urquhart

Gary H. Posner, Lluís González,
Jared N. Cumming,
Donna Klinedinst and
Theresa A. Shapiro

Masatomo Iwao and
Fumito Ishibashi

Cheng-Bin Cui, Hideaki Kakeya and
Hiroyuki Osada

Sunggak Kim, Kwang Sub Yoon
and Yong Suk Kim

T. Troll, H. Beckel and
C. Lentner-Böhm

Hans-Joachim Knölker,
Achim Ecker, Petra Struwe,
Andreas Steinmeyer, Gunnar Müller
and Günter Neef

Walter Werner, Udo Gräfe,
Wolfgang Ihn, Dieter Tresselt,
Stefan Winter and Erich Paulus

Ingo Schlachter, Jochen Mattay,
Josef Suer, Udo Höweler,
Gudrun Würthwein and
Ernst-Ulrich Würthwein

- iii Tetrahedron Prize for Creativity in Organic Chemistry
- v Contributors to this Issue
- vii Graphical Abstracts
- 1 Synthetic strategies for the construction of enantiomeric azanoradamantanes
- 21 Lewis acid-catalysed rearrangement/reduction of 1-phenyloxiranemethanamines: synthesis of β -phenethylamines
- 37 Synthesis and antimalarial activity of heteroatom-containing bicyclic endoperoxides
- 51 A concise total synthesis of ($\pm$)-*cis*- and ($\pm$)-*trans*-clavicipitic acids by combinational use of directed lithiation and fluoride ion-induced elimination-addition reaction of 1-(trisopropylsilyl)gramine derivatives
- 59 Novel mammalian cell cycle inhibitors, cyclotryprostatins A–D, produced by *Aspergillus fumigatus*, which inhibit mammalian cell cycle at G2/M phase
- 73 Kinetic studies of intramolecular additions of alkyl radicals onto imines
- 81 Electrochemical synthesis of substituted indolizines; UV and fluorescence spectra
- 91 Enantioselective synthesis of calcitriol A-ring fragments
- 109 Synthesis of tolypocladin and isotolypocladin
- 119 Combined quantum chemical and MM-approach to the *endo/exo* selectivity of Diels–Alder reactions in polar media

Christoph Schneider and
Markus Rehfeuter

Jacques Lebreton,
Véronique Alphand and
Roland Furstoss

Ahmad M. Farag, Kamal M. Dawood
and Zaghloul E. Kandeel

Maria Antonietta Casadei,
Stefania Cesa, Marta Feroci,
Achille Inesi, Leucio Rossi and
Franco Micheletti Moracci

Tatyana I. Mukhanova,
Elena K. Panisheva,
Valeriya M. Lyubchanskaya,
Lyudmila M. Alekseeva,
Yuryi N. Sheinker and
Vladimir G. Granik

Hans-Jürgen Hamann, Eugen Höft,
Danuta Mostowicz,
Anatoly Mishnev,
Zofia Urbańczyk-Lipkowska and
Marek Chmielewski

Mieczysław Mąkosza,
Jacek Stalewski,
Krzysztof Wojciechowski and
Witold Danikiewicz

Gudmundur G. Haraldsson and
Jack E. Baldwin

Takatoshi Matsumoto,
Kiyo Takaoka, Toyohiko Aoyama
and Takayuki Shiomi

Mikael Jonassohn, Ralf Davidsson,
Pia Kahnberg and Olov Sterner

Richard H. Furneaux,
Graeme J. Gainsford,
Jennifer M. Mason, Peter C. Tyler,
Oliver Hartley and
Bryan G. Winchester

Ana M. Rosa, Ana M. Lobo,
Paula S. Branco,
Sundaresan Prabhakar and
António M. D. L. Pereira

Ana M. Rosa, Ana M. Lobo,
Paula S. Branco and
Sundaresan Prabhakar

Ana M. Rosa, Ana M. Lobo,
Paula S. Branco,
Sundaresan Prabhakar and
Margarida Sá-da-Costa

Elflon D. Phillips, E. Sarah Warren
and Gordon H. Whitham

Bhanudas P. Kavitate,
Suchita V. Patil and
Manikrao M. Salunkhe

María J. Ortega, Eva Zubía,
J. Luis Carballo and Javier Salvá

Wadi Ajana,
Francisco López-Calahorra,
John A. Joule and
Mercedes Alvarez

Marco C. Cleij, Fabrizio Mancin,
Paolo Scrimin, Paolo Tecilla and
Umberto Tonellato

- 133 Highly stereoselective Cope rearrangements of enantiomerically pure, silylated *syn*-aldols
- 145 Chemoenzymatic synthesis of marine brown algae pheromones
- 161 Facile synthesis of novel polysubstituted thiophene and 1,3,4-thiadiazole derivatives
- 167 The O₂⁺/CO₂ system as mild and safe carboxylating reagent synthesis of organic carbonates
- 177 β-(Benzofur-2-yl)- and (indol-2-yl)enamines in the Nenitzescu reaction
- 185 New optically pure sugar hydroperoxides. Synthesis and use for enantio-selective oxygen transfer
- 193 Synthesis of a 1,3,4,5-tetrahydrobenz[*cd*]indole via the vicarious nucleophilic substitution of hydrogen
- 215 A selective cleavage of aromatic benzyl ethers located *ortho* to a carbonyl group by magnesium bromide
- 225 Theoretical study of the reaction of silylketenes with acyl isocyanates
- 237 The reactivity of drimane unsaturated dialdehydes towards nucleophiles
- 245 The chemistry of castanospermine—V. Synthetic modifications at C-1 and C-7
- 269 Synthesis of phenanthridines by radical C_{aryl}–C_{aryl} coupling
- 285 The chemistry and reactivity of aryl radicals—the C–C bond formation from *o*-bromobenzylphenylethers with tin hydride and azobisisobutyronitrile
- 299 New syntheses of the Amaryllidaceae alkaloids vasconine, assoanine, oxoassoanine, pratosine and ismine by radical cyclisation
- 307 Alkene synthesis from allylic sulfones: preparation of isopropenyl and isopropylidene isomers from a common intermediate
- 321 Binding of oligonucleotides by use of nonnucleotide linkers
- 331 New cytotoxic metabolites from the sponge *Mycale micracanthoxea*
- 341 Synthesis of pyrido[2,3-*b*]acridine-5,11,12-triones
- 357 Chiral lipophilic ligands—V. Enantioselective ester cleavage of α-amino esters by Cu(II) complexes of chiral diamino alcohols in aqueous surfactants solutions

Mikael Elofsson,
Lourdes A. Salvador and
Jan Kihlberg

Miroslav Otmar,
Milena Masojdková and
Antonín Holý

369 Preparation of Tn and sialyl Tn building blocks used in Fmoc solid-phase synthesis of glycopeptide fragments from HIV gp120

391 Reductive cyclization of 6-cyanomethyl-5-nitropyrimidines—an efficient route to 7-alkyl-5*H*-pyrrolo[3,2-*d*]pyrimidines and 6-amino-7,7-dialkyl-7*H*-pyrrolo[3,2-*d*]pyrimidines. Utilization in the synthesis of 9-deaza analogues of DHPA

I Instructions to Contributors

NUMBER 2

Contents

iii Contributors to this Issue

v Graphical Abstracts

401 Corrigenda

TETRAHEDRON REPORT NUMBER 411

403 Optically active isoxazolidines via asymmetric cycloaddition reactions of nitrones with alkenes: applications in organic synthesis

ARTICLES

427 Total synthesis of rhizoferrin, an iron chelator

435 Oxyfunctionalization of (5 β)-bile acids by dimethyldioxirane: hydroxylation at C-5, C-14, and C-17

447 Nucleic acid related compounds—XCIV. Remarkably high stereoselective reductions of 2'- and 3'-ketonucleoside derivatives to give arabino, ribo, and xylofuranosyl nucleosides with hydrogen isotopes at C2' and C3'

457 The *para*-toluenesulfonic acid-promoted synthesis of 2-substituted benzoxazoles and benzimidazoles from diacylated precursors

465 Dynamic equilibration of diastereomeric salts of atropisomers. Proton NMR spectra of 1,8-di(3'-pyridyl)naphthalene in the presence of *R*-camphorsulfonic acid

469 Preparative electrochemical reductive methylation of *ortho*-hydroxy-*para*-benzoquinones

479 Pyrroloindole analogues of ellipticine. The synthesis and DNA intercalative properties of 5,10-dihydro-5,10-dimethyl-2,5,10-triazadibenzo[*a,e*]pentalene

487 The selective functionalization of saturated hydrocarbons—XXXVII. Utilization of a new oxidant: bis(trimethylsilyl) peroxide

511 The selective functionalization of saturated hydrocarbons—XXXVIII. Bis(trimethylsilyl) peroxide: an efficient oxidant for the functionalization of hydrocarbons involving the Fe^{II}–Fe^{IV} manifold

521 Two new chamigranes from an Hawaiian red alga, *Laurencia cartilaginea*

Martyn Frederickson

Raymond J. Bergeron, MeiGuo Xin,
Richard E. Smith,
Markus Wollenweber,
James S. McManis, Christian Ludin
and Khalil A. Abboud

Carolina Cerrè, Alan F. Hofmann,
Claudio D. Schteingart, Weiping Jia
and David Maltby

Morris J. Robins, Sanchita Sarker,
Vicente Samano and
Stanislaw F. Wnuk

Mark R. DeLuca and Sean M. Kerwin

Norbert M. Maier and
John A. Zoltewicz

Bernardo A. Frontana,
Jorge Cárdenas,
Lydia Rodríguez-Hahn and
Alejandro Baeza

R. Alan Jones, Joachim Pastor,
Jorge Siro and Tevita N. Voro

Derek H. R. Barton and
Béatrice M. Chabot

Derek H. R. Barton and
Béatrice M. Chabot

Elen G. Juagdan, Raju Kalidindi and
Paul Scheuer

Gloria L. Silva, Roberto R. Gil,
Baoliang Cul, Heebyung Chal,
Thawatchai Santisuk,
Ekarath Srisook, Vichai Reutrakul,
Patoomratana Tuchinda,
Smalsukh Sophasan,
Suparp Sujarit, Suchart Upatham,
Sean M. Lynn, John E. Farthing,
Shi-Lin Yang, Jane A. Lewis,
Melanie J. O'Neill,
Norman R. Farnsworth,
Geoffrey A. Cordell,
John M. Pezzuto and
A. Douglas Kinghorn

Yukitoshi Narukawa, Koichi Nishi
and Hiroshi Onoue

Takeshi Takeda, Rika Sasaki,
Satoshi Yamauchi and
Tooru Fujiwara

Kenichi Akaji, Yasunori Tamai and
Yoshiaki Kiso

Mitsuru Ohkubo,
Hiroshi Kawamoto,
Toshiyuki Ohno, Masato Nakano
and Hajime Morishima

Satoshi Obika,
Toshihiko Nishiyama,
Satoshi Tatematsu,
Kazuyuki Miyashita, Chuzo Iwata
and Takeshi Imanishi

Yoshiji Takemoto, Satoru Kuraoka,
Taichi Ohra, Yasuhiro Yonetoku
and Chuzo Iwata

Dean V. Johnson and
Herfried Griengl

Ahmed H. Moustafa,
Martin G. Hitzler, Martin Lutz and
Johannes C. Jochims

T. Masquelin and D. Obrecht

Didier F. Andr s, Ulrike Dietrich,
Eliane G. Laurent and
Bernard S. Marquet

Kassoum Nacro, Michel Baltas,
Jean-Marc Escudier and
Lillane Gorrichon

Denyse Herlem and
Fran oise Khuong-Huu

Julio Delgado, Amparo Espin s,
M. Consuelo Jim nez,
Miguel A. Miranda and
Rosa Tormos

Vladimir Vinkovi  and Vitomir  unji 

Anja Hansen, Tina M. Tagmose and
Mikael Bols

Evdoxia Coutouli-Argyropoulou,
Elizabeth Malamidou-Xenikaki,
Xenophon N. Stampelos and
Irlin N. Alexopoulou

Mercedes Amat, N ria Llor,
Joan Bosch and Xavier Solans

- 529 Novel cytotoxic ring-A *seco*-cycloartane triterpenes from *Gardenia coronaria* and *G. Sootepensis*
- 539 General and efficient synthesis of 2-alkylcarbapenems: synthesis of dethia-carba analogs of clinically useful carbapenems via palladium-catalyzed cross-coupling reaction
- 557 Transformation of ketones and aldehydes to *gem*-dihalides via hydrazones using copper(II) halides
- 567 Efficient synthesis of peptaibol using a chloroimidazolium coupling reagent, ClP
- 585 Synthesis of NB-506, a new anticancer agent
- 593 Studies on novel and chiral 1,4-dihydropyridines—III. Asymmetric reduction of some ketones with novel NADH model compounds, (*S*₈)-3-(*p*-tolylsulfinyl)-1,4-dihydropyridines
- 603 Diastereoselective total synthesis of (–)-solavetivone via a copper-catalyzed conjugate addition of Me₃Al to a cyclohexa-2,5-dienone intermediate
- 617 The chemoenzymatic synthesis of (*S*)-13-hydroxyoctadeca-(9*Z*,11*E*)-dienoic acid using the hydroxynitrile lyase from *Hevea brasiliensis*
- 625 3,4-Dihydroquinolinium salts: preparation by reaction of *N*-arylnitrilium salts with alkenes
- 641 A novel access to 2,4-substituted quinolines from acetylenic ketones
- 647 Anodic fluorination of vinyl sulfides—synthesis of α-fluoro-β-thio-α,β-unsaturated carbonyl compounds
- 659 Stereoselective synthesis of five and/or six membered ring hydroxylactones obtained by Lewis acid mediated reaction of γ,δ-epoxy-β-hydroxyesters; access to 5-methylated 2-deoxysugars
- 673 Chemistry of larixol—II. Hemisynthesis of (–)-borjatriol
- 681 2,4,6-Triphenylpyrylium tetrafluoroborate-photosensitized reactions of *o*-cinnamylphenols and *o*-hydroxystilbenes
- 689 A highly stereocontrolled synthesis of (*S*)-(–)-3-(4-*tert*-butyl)phenyl-1-*N*-(*cis*-2,6-dimethyl)morpholinyl-2-methylpropane via asymmetric Mannich reaction
- 697 Synthesis of the first 1-azaanalogues of L-sugars
- 707 Formation and reduction reactions of 3-indol-3-yl-isoxazolidines
- 719 Preparation of enantiopure 6-(3-indolyl)-2-piperidones and conjugate additions to a 3,4-didehydro derivative

Carlo Dell'Erba, Angelo Mugnoli,
Renato Noto, Marino Novi,
Giorgio Occhiucci,
Giovanni Petrillo,
Fernando Sancassan and
Domenico Spinelli

Dariusz Socha, Margarita Jurczak
and Marek Chmielewski

Elizabeth Malamidou-Xenikaki,
Xenophon N. Stampelos,
Theodore A. Charalambis and
Catherine C. Karapostolou

A. Rob P. M. Valentijn,
Gijls A. van der Marel,
Leo A. J. M. Sliedregt,
Theo J. C. van Berkel,
Erik A. L. Blesken and
Jacques H. van Boom

Anders Tsrk, Salo Gronowitz and
Anna-Britta Hörnfeldt

Giuseppe Bellucci, Cinzia Chiappe,
Roberto Bianchini, Peter Lemmen
and Dieter Lenoir

Steven Coulton,
Thomas L. Gilchrist and
Keith Graham

731 Substituent effects on the gas-phase basicities of 4-X-acetophenones and 4-X-2,6-dimethylacetophenones: a comparison with solution basicities

739 Synthesis of acosamine and daunosamine from sugar δ -enolactones

747 A study on the reactions of indol-3-yl-carbaldehyde oximes with electrophilic alkenes/alkynes. Generation of nitrones from the O-H oximes. 4 π -Participation of the O-Me oximes in Diels-Alder reactions

759 Solid-phase synthesis of lysine-based cluster galactosides with high affinity for the asialoglycoprotein receptor

771 Synthesis of substituted benzo[b]indolizidines and benzo[b]quinolizidines via ring-opening of 3-bromo-2,5-dimethylthiophene-1,1-dioxide

785 Concentration dependence of the steric course of bromine addition to acenaphthylene. A product and kinetic study

791 Catalytic hydrogenation of *N*-*t*-butoxycarbonylindoles

I Instructions to Contributors

NUMBER 3

Contents

iii Contributors to this Issue

v Graphical Abstracts

799 New acetylenic metabolites from the marine sponge *Pellina triangulata*

Xiong Fu, Syed A. Abbas,
Francis J. Schmitz, Ilan Vidavsky,
Michael L. Gross, Maureen Laney,
Randall C. Schatzman and
Ronnel D. Cabuslay

Tsutomu Yokomatsu,
Tetsuo Murano, Kenji Suemune and
Shiroshi Shibuya

Hiroyasu Tsuge, Kensuke Takumi,
Tomoyuki Nagai, Takashi Okano,
Shoji Eguchi and Hiroshi Kimoto

Chiaki Kuroda, Hiroyuki Nogami,
Yuki Ohnishi, Yoshihiro Kimura and
James Y. Satoh

Adam S.-Y. Lee and Wen-Chin Dai

Yoshihide Matsuo, Ryochi Ishida,
Takeshi Matsumoto,
Masakazu Tatewaki and
Minoru Suzuki

Junko Yamada, Masuo Morisaki,
Keisuke Iwai, Hiroki Hamada,
Naoko Sato and Yoshinori Fujimoto

Shuntaro Mataka, Jiang Ma,
Thies Thiemann,
Jerzy M. Rudziński,
Hirohisa Tsuzuki, Tsuyoshi Sawada
and Masashi Tashiro

815 Facile synthesis of aryl(difluoromethyl)phosphonates through CuBr-mediated cross coupling reactions of [(diethoxyphosphinyl)difluoromethyl]zinc bromide with aryl iodides

823 Highly diastereoselective Michael addition to optically active tri-fluoromethylated α,β -unsaturated sulfonamides based on their hinge-like conformation

839 Stereochemistry of Lewis acid and fluoride promoted intramolecular cyclization of β -(alkoxycarbonyl)allylsilane with enones. Synthesis of bicyclo[4.3.0]nonanes

859 A facile and highly efficient sonochemical synthesis of organostannane via Barbier reaction

869 Yendolipin, a novel lipobetaine with an inhibitory activity toward morphogenesis in a foliaceous green alga *Monostroma oxyspermum*

877 24-Methyl- and 24-ethyl- $\Delta^{24(25)}$ -cholesterols as immediate biosynthetic precursors of 24-alkylsterols in higher plants

885 Diels-Alder reaction of anthraceno[3.3]ortho-benzophane and -naphthophane. Control of π -facial diastereoselectivity by underlying π -systems

- Yutaka Watanabe, Takashi Yamamoto and Tadashi Okazaki**
- Laurant Lemee, Evelyne Peuchant, Michel Clerc, Martin Brunner and Hanspeter Pfander**
- Cornelia Schroeder, Jürgen Sommer, Eberhard Humpfer and Joachim Stöckigt**
- Olaf Rotthaus, Doris Krüger, Martin Demuth and Kurt Schaffner**
- Rolf Huisgen and Jochen Rapp**
- Jochen Rapp and Rolf Huisgen**
- Gerhard Kretzschmar, Manfred Krause and Lajos Radics**
- Jean-Yves Mèrour, Ahmed Mamal, Béatrice Malapel and Philippe Gadonneix**
- Siméon Arseniyadis, Rosemeire Brondi-Alves, Dmitry V. Yashunsky, Pierre Potier and Loïc Toupet**
- István E. Markó, Paul R. Giles and Nigel J. Hindley**
- Renzo Rossi, Fabio Bellina and Luisa Mannina**
- Mohammad M. Al-Arab, Mohammad A. Atfeh and Fowzia S. Al-Saleh**
- Michał Fedoryński, Magdalena Kubicka-Prusik, Małgorzata Kursa and Andrzej Jończyk**
- Philip C. Bulman Page, Mark Purdie and David Lathbury**
- László Lázár, Attila G. Lakatos, Ferenc Fülöp, Gábor Bernáth and Frank G. Riddell**
- Francesco Risitano, Giovanni Grassi, Francesco Foti and Fabrizio Filocamo**
- Juma'a R. Al Dulayymi, Mark S. Baird, Cynthia M. Dale, Brendan J. Grehan and M. Fiona Shortt**
- Raymond C. F. Jones, John S. Sneath, Michael W. Anderson and Mark J. Smallridge**
- Manoor V. Anuradha and Bhagavathula Ravindranath**
- Jesuraja Bosco Bharathy, Tharumeya Kuppusamy Ganesan, Ambalam Ibrahim Ali Mohammed Sherif and Seenivasan Rajagopal**
- Tahir M. Kasumov, Valery K. Brel, Yuri K. Grishin, Nikolai S. Zefirov and Peter J. Stang**
- Christopher J. Easton and Martin C. Merrett**
- 903 Synthesis of 2,6-di-*O*- α -D-mannopyranosylphosphatidyl-D-*myo*-inositol. Utilization of glycosylation and phosphorylation based on phosphite chemistry
- 919 Deinoxanthin: a new carotenoid isolated from *Deinococcus radiodurans*
- 927 Inverse correlated ^1H - ^{13}C *in vivo* NMR as a probe to follow the metabolism of unlabeled vanillin by plant cell cultures
- 935 Reductions of keto esters with baker's yeast in organic solvents—a comparison with the results in water
- 939 1,3-Dipolar cycloadditions—XCVIII. The chemistry of thiocarbonyl *S*-sulfides
- 961 Diels–Alder reactions of diaryl thioketones with dienophiles
- 971 Chemistry and biological activity of oasomycin macrolactones
- 987 Heterodiene cycloadditions: synthesis and oxidation of pyrano[3,2-*b*]indoles into spiro derivatives
- 1003 Formal total synthesis of an *A-seco* mevinic acid
- 1015 Catalytic enantioselective Baylis–Hillman reactions. Correlation between pressure and enantiomeric excess
- 1025 Selective palladium-mediated carbon–oxygen bond and carbon–sulfur bond forming reactions which involve functionalized C_{sp^2} -hybridized halides or triflates and C_{sp} -hybridized halides
- 1045 The Michael reaction of acetophenones with *trans*-dibenzoylethylene
- 1053 Phase transfer catalyzed (PTC) reactions of chloroform with alkenyl carboxylates. Effect of catalyst structure on reaction course
- 1061 Regioselective and stereoselective 1,3-dipolar addition of nitrile oxides to 2-crotyl-1,3-dithiane 1-oxides
- 1081 Five-component equilibria of ring-chain tautomeric mixtures derived from 3-amino-1,2-propanediol and aromatic aldehydes
- 1089 5-*exo*-Trigonal cyclization and [3,5] rearrangement of *N*-aryl benzamidoximes by reaction with nitrile oxides
- 1099 Synthesis of putative Δ^6 -, Δ^{12} - and Δ^{15} -desaturase inhibitors
- 1111 Condensation reactions of 4,5-dihydroimidazoles: preparation and conjugate additions of 2-alkenyl-4,5-dihydroimidazoles
- 1123 Acylation of unprotected amino acids using ultrasound
- 1131 Homogeneous catalysis in the Cr(V) oxidation of organic sulfides
- 1145 Oxidative properties of xenon (II) compounds. A new, convenient synthesis of [bis(trifluoroacetoxy)iodo]arenes, [bis(trifluoroacetoxy)iodo]perfluoroalkanes and μ -oxo-bridged ariiodoso-derivatives
- 1151 Stereoselective synthesis of (2*S*,3*S*)- γ -hydroxyvaline utilising an asymmetric radical hydrogen bromide addition

**Maurizio D'Auria, Ellana De Luca,
Vittorio Esposito,
Giacomo Mauriello and
Rocco Racioppi**

**Paola Ciapetti, Francesco Soccolini
and Maurizio Taddei**

1157 Photochemical synthesis of dipyrromethane derivatives

1167 Synthesis of N-Fmoc- α -amino acids carrying the four DNA nucleobases in the side chain

I Instructions to Contributors

NUMBER 4

Contents

iii Contributors to this Issue

v Graphical Abstracts

1177 Corrigendum

TETRAHEDRON REPORT NUMBER 412

1179 Chemical transformations induced by hypervalent iodine reagents

ARTICLES

1257 Oxidative functionalization of unactivated carbon-hydrogen bonds in heptacyclo[6.6.0.0^{2,6}.0^{3,13}.0^{4,11}.0^{5,9}.0^{10,14}]tetradecane (HCTD)

1265 Charge-transfer complex formation and photo-induced electron-transfer reaction of dibenzo-7-silabicyclo[2.2.1]hepta-2,5-dienes

1275 Chiral electrophilic 'glycinal' equivalents. New synthons for optically active α -amino acids and 4-substituted 2-oxazolidinones

1295 Charge-cumulated hetarenes—I. (Pyrimidin-2,4,6-triyl)-tris-hetarenium salts

1301 An improved synthesis of a polymer-supported distannane and its application to radical formation

1311 Easy access to C-glycosides from aldonolactones by a Claisen-type chain-extension reaction

1323 Thiophilic addition of organolithiums to trithiocarbonate oxides (sulfines). Synthesis of β -oxoketene dithioacetals, 1,4-dicarbonyl compounds, and allyl sulfoxides

1343 Polymeric and immobilized crown compounds, material for ion separation

1361 Lipase-assisted preparation of enantiopure ferrocenyl sulfides possessing planar chirality and their use in the synthesis of chiral sulfoxides

1369 Enantiomerically pure cage-shaped (1*S*,4*S*,5*R*)-4-hydroxy-2,6-diazabicyclo[3.3.0]octane and (1*S*,4*R*,5*R*)-4-hydroxy-2-oxa-6-azabicyclo[3.3.0]octane: synthesis and test for enantioselective catalysis

1383 Selective and efficient transformation of 5,6,7,8-tetrahydro-2*H*-1-benzopyran-2,5-diones with hydrazines to 5-hydrazono-2*H*-1-benzopyran-2-ones and quinoline-2,5-diones. Extension to related systems

1391 Synthesis of 2-azabicyclo[3.3.1]nonanes by means of (carbamoyl)dichloromethyl radical cyclization

1403 The Mills–Nixon effect on enol–enol tautomerism in β -dicarbonyl compounds and on annular tautomerism in *NH*-pyrazoles: a semi-empirical study

Anastasios Varvoglis

**Alan P. Marchand, Yanjun Wang,
Sulejman Alihodzic and
Derek H. R. Barton**

**Masahiro Kako, Masahiro Mori,
Kaname Hatakenaka, Seiji Kakuma,
Yasuhiro Nakadaira,
Masanori Yasui and Fujiko Iwasaki**

**Hirofumi Matsunaga,
Tadao Ishizuka and
Takehisa Kunieda**

**Andreas Schmidt and
Annemarie Hetzheim**

**Jörg Junggebauer and
Wilhelm P. Neumann**

**René Csuk, Martin Kühn and
Dieter Ströhl**

**Catherine Leriverend,
Patrick Metzner,
Antonella Capperucci and
Alessandro Degl'Innocenti**

**Alain Favre-Régouillon,
Nathalie Dumont, Branko Dunjic
and Marc Lemaire**

**Angela Patti, Daniela Lambusta,
Mario Piattelli, Giovanni Nicolosi,
Patrick McArdle,
Desmond Cunningham and
Martin Walsh**

Guo-qiang Lin and Zhi-cal Shi

**Polonca Trebše, Slovenko Polanc,
Marijan Kočevar, Tomaž Solmajer
and Simona Golič Grdadolnik**

**Josefina Quirante,
Carmen Escolano, Mireia Massot
and Josep Bonjoch**

**Mar Ramos, Ibon Alkorta and
José Elguero**

Ramón Badorrey, Carlos Cativiela,
María D. Díaz-de-Villegas and
José A. Gálvez

Paolo Crotti, Valeria Di Bussolo,
Lucilla Favero and Mauro Pineschi

A. Srikrishna, D. Vijaykumar and
T. Jagadeeswar Reddy

Fabiana D'Aniello, André Mann,
Angèle Schoenfelder and
Maurizio Taddei

Elison Santiago de Alvarenga,
Christine J. Cardin and John Mann

Orazio A. Attanasi,
Paolino Filippone and
Chiara Fiorucci

Manuela Ballabio,
Daniela Barlocco,
Giorgio Cignarella, Diego Colombo
and Lucio Toma

Margherita Gavagnin, Nicon Ungur,
Francesco Castelluccio and
Guido Cimino

Geoffrey T. Crisp and Jeffrey Gore

Geoffrey T. Crisp and Jeffrey Gore

- 1411 Reversal of the stereochemical course of the addition of phenylmagnesium bromide to *N*-benzylimines derived from *D*-glyceraldehyde depending on the *O*-protecting group and its application to the synthesis of both enantiomers of phenylglycine
- 1417 Regiochemical control of the ring opening of aziridines by means of chelating processes—II. Synthesis and ring-opening reactions of aziridines derived from 5,6-dihydro-2*H*-pyran and of the diastereoisomeric *cis*- and *trans*-aziridines derived from 3-(benzyloxy)cyclohexene, 2-(benzyloxy)-3,6-dihydro-, and 2-(benzyloxy)-6-methyl-3,6-dihydro-2*H*-pyran
- 1439 Enantiospecific synthesis of (+)-dihydroerythrodien, (+)-dihydrospirojatamol and (+)-dihydroepispirojatamol
- 1447 Stereocovergent synthesis of (2*S*,3*S*,8*S*,9*S*,4*E*,6*E*)-*N*-Boc-ADDA starting from (*S*)-serine and (*S*)-phenyllactic acid
- 1457 An unexpected photoadduct of *N*-carbomethoxymethylpyrrolidine with a chiral butenolide and benzophenone: X-ray structure and synthetic utility
- 1467 Synthesis and reactions of some nitron derivatives
- 1481 2,2,6- and 2,3,5-Trimethylpiperazines as monocyclic analogues of the μ -opioid agonist 3,8-diazabicyclo[3.2.1]octanes: synthesis, modeling, and activity
- 1491 Novel verrucosins from the skin of the mediterranean nudibranch *Doris verrucosa*
- 1505 Preparation of biological labels with acetylenic linker arms
- 1523 Palladium-catalysed attachment of labels with acetylenic linker arms to biological molecules

I Tetrahedron Reports on Organic Chemistry

XXIII Instructions to Contributors

NUMBER 5

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 1545 Corrigenda
- 1547 Addition reactions of cyclic *s-trans*-enaminones with Grignard reagents
- 1557 Side chain methyl analogues of Δ^8 -THC
- 1577 Kailuins A–D, new cyclic acyldepsipeptides from cultures of a marine-derived bacterium

Thomas T. Shawe,
Darren B. Hansen, Kelly Ann Peet,
Anthony S. Prokopowicz,
Patrice M. Robinson,
Annalina Cannon,
Kathleen E. Dougherty,
Andrew A. Ross and
Linda M. Landino

John W. Huffman,
Julia A. H. Lainton,
W. Kenneth Banner,
Sammy G. Duncan, Jr,
Robert D. Jordan, Shu Yu,
Dong Dai, Billy R. Martin,
Jenny L. Wiley and
David R. Compton

George G. Harrigan,
Beth L. Harrigan and
Bradley S. Davidson

- Ashok D. Patil, Alan J. Freyer, R. Lee Webb, Gary Zuber, Rex Reichwein, Mark F. Bean, Leo Faucette and Randall K. Johnson
- Hideharu Suzuki, Chiemi Iwata, Katsumi Sakurai, Kazuhiko Tokumoto, Hiroko Takahashi, Masako Hanada, Yuusaku Yokoyama and Yasuoki Murakami
- Hiroshi Morita, Takashi Kayashita, Koichi Takeya, Hideji Itokawa and Motoo Shiro
- Hiroshi Morita, Akira Gonda, Koichi Takeya, Hideji Itokawa and Yoichi Iitaka
- Yuichi Kobayashi, Eisuke Takahisa, Miwa Nakano and Kengo Watatani
- Masaharu Kume, Hiroaki Ooka and Hiroyuki Ishitobi
- Philippe Bühlmann, Seilchi Nishizawa, Kang Ping Xiao and Yoshio Umezawa
- Gerhard Bringmann, Stefan Busemann, Karsten Krohn and Karsten Beckmann
- Olaf Ritzeler, Lothar Hennig, Matthias Findeisen, Peter Welzel and Dietrich Müller
- Olaf Ritzeler, Lothar Hennig, Matthias Findeisen, Peter Welzel, Dietrich Müller, Astrid Markus, Guy Lemolne, Maxime Lampilas and Jean van Heijenoort
- Gerhard Range, Ralf Krähmer, Peter Welzel, Dietrich Müller, Guido F. Herrmann, Udo Kragl, Christian Wandrey, Astrid Markus, Yveline van Heijenoort and Jean van Heijenoort
- Frank Rübsam, Antje M. Evers, Christoph Michel and Athanassios Giannis
- Edwin C. Constable and Diane R. Smith
- Rachid Barhdadi, Blandine Simsen, Michel Troupel and Jean-Yves Nédélec
- Thomas Ryckmans, Heinz-Gunter Viehe, Janine Feneau-Dupont, Bernard Tinant and Jean-Paul Declercq
- Manfred Schlosser and Heng-xu Wei
- Nataly Bontemps, Evelyne Delfourne, Jean Bastide, Christian Francisco and Franz Bracher
- Vania Armani, Carlo Dell'Erba, Marino Novi, Giovanni Petrillo and Cinzia Tavani
- 1583 Pulcherrimins A–D, novel diterpene dibenzoates from *Caesalpinia pulcherrima* with selective activity against DNA repair-deficient yeast mutants
- 1593 A general synthetic route for 1-substituted 4-oxygenated β -carboline (synthetic studies on indoles and related compounds—XLI)
- 1607 Conformation of cyclic heptapeptides: solid and solution state conformation of yunnanin A
- 1617 Cycloleonoripeptide D, a new proline-rich cyclic decapeptide from *Leonurus heterophyllus*
- 1627 Reduction of carbonyl compounds by using polymethylhydrosiloxane: reactivity and selectivity
- 1635 Efficient and practical synthesis of 1 β -methylcarbapenems
- 1647 Strong hydrogen bond-mediated complexation of H_2PO_4^- by neutral bis-thiourea hosts
- 1655 Quantum chemical calculation of CD spectra: the absolute configuration of palmarumycins CP_3 and C_2
- 1665 Search for new moenomycin structure–activity relationships. Synthesis of a trisaccharide precursor of a moenomycin analogue
- 1675 Synthesis of a trisaccharide analogue of moenomycin A_{12} . Implications of new moenomycin structure–activity relationships
- 1695 A chemoenzymatic approach towards moenomycin structural analogues
- 1707 Z-Selective olefination of base-sensitive chiral β -hydroxy- α -aminoaldehydes using a modified Horner–Wadsworth–Emmons reaction
- 1715 A convergent approach to a solubilised septipyridine
- 1721 Direct electroreduction or use of an electrogenerated base: two ways for the coupling of polyhalogenated compounds with aldehydes or ketones
- 1729 5-Aminopyrazoles from enolisable ketones and 1-cyano-1-alkylhydrazines
- 1735 2-Ethoxyvinylolithiums and diethoxyvinylolithiums: What makes them stable or fragile?
- 1743 Total synthesis of the marine pentacyclic alkaloid meridine
- 1751 Synthetic exploitation of the ring-opening of 3,4-dinitrothiophene—VII. Access to disubstituted 1,2,5-oxadiazole-2-oxides and 2-phenyl-2*H*-1,2,3-triazole-1-oxides

Giovanni Poli, Elisa Maccagni,
Leonardo Manzoni, Tullio Pilati and
Carlo Scolastico

Anniken T. Øverås,
Lise-Lotte Gundersen and
Frode Rise

Paolo Quadrelli,
Anna Gamba Invernizzi,
Mario Falzoni and
Pierluigi Caramella

Vyacheslav I. Krasnov,
Vyacheslav E. Platonov,
Irina V. Beregovaya and
Lyudmila N. Shchegoleva

Hisham A. Abd El-Nabi

Pablo Asenjo, Francisco Fariña,
M. Victoria Martín,
M. Carmen Paredes and
J. Javier Soto

Maria Luisa Gelmi,
Francesca Clerici and
Alessandra Melis

Parthasarathy Saravanan,
Arpita DattaGupta,
Debnath Bhuniya and
Vinod K. Singh

Johanna Wachtmelster,
Björn Classon, Bertil Samuelsson
and Ingemar Kvarnström

Mircea Darabantu, Gerard Pié,
Sorin Mager, Eleonora Cotoră,
Luiza Gaița, Loredana Costas and
Adrian Mates

Mircea Darabantu, Gerard Pié,
Sorin Mager, Luiza Gaița,
Eleonora Cotoră, Adrian Mates and
Loredana Costas

Mircea Darabantu, Gerard Pié,
Sorin Mager, Camelia Puscas and
Eleonora Cotoră

- 1759 Diastereoselective addition of metal-coordinated and 'naked' nucleophilic reagents to norephedrine derived 2-acyl-*N*-tosyl-oxazolidines
- 1777 Lewis acid mediated Diels–Alder reactions of 6-vinylpurines
- 1787 Cycloadditions of nitrile oxides to amidoximes. A general synthesis of 3,5-disubstituted 1,2,4-oxadiazole-4-oxides
- 1797 Transformations of perfluoroxylanes and perfluoro-*p*-cymene under the action of Zn(Cu)–DMF–H₂O
- 1813 Novel heterocycles: a convenient synthesis of pyrrolo[2,3-*d*]pyrazole; cyclo-addition reaction of *N*-aryl(methyl)pyrrol-2,3-diones to diazomethane and olefins
- 1823 Polycyclic hydroxyquinones—XXIX. Regioselective reactions of 5-sulphur-substituted furan-2(5*H*)-one anions with naphthoquinone monoketals. Application to the synthesis of anthracyclinone precursors
- 1843 5(4*H*)-Oxazolones—X. Acid and base effects on the transactonization reaction of 4-(2-oxa-alkylidene)-5(4*H*)-oxazolones: new synthesis of 5-alkylidene-3-benzoylamino-2(5*H*)-furanones
- 1855 Studies in the rearrangement of epoxides with lithium dialkylamide–lithium *tert*-butoxide
- 1861 Synthesis of carbocyclic 2',3'-dideoxy-2'-fluoro-3'-*C*-hydroxymethyl nucleoside analogues as potential inhibitors of HIV and HSV
- 1873 Synthesis and stereochemistry of some heterocyclic saturated compounds based on *l*-*p*-nitrophenylserinol skeleton—I. Ring-chain tautomerism of some Schiff bases of *l*-*p*-nitrophenylserinol
- 1891 Synthesis and stereochemistry of some heterocyclic saturated compounds based on *l*-*p*-nitrophenylserinol skeleton—II. 1-Aza-3,7-dioxabicyclo[3.3.0]-octanes
- 1909 Synthesis and stereochemistry of some heterocyclic saturated compounds based on *l*-*p*-nitrophenylserinol skeleton—III. 1,3-Dioxanic Schiff bases

I Instructions to Contributors

NUMBER 6

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 1923 Corrigendum
- TETRAHEDRON REPORT NUMBER 413**
- 1925 New organometallic reagents using highly reactive metals
- ARTICLES**
- 1957 Synthesis of bicarbocyclic dideoxynucleosides as potential antiviral agents
- 1971 Can an aromatic ring alter the reactions of a nearby unsaturated imide? A study of the rate and selectivity of nitrile oxide cycloaddition reactions of acryloyl derivatives of the Rebek imide benzoxazole

Reuben D. Rieke and
Mark V. Hanson

Qi Chao and Vasu Nair

Dennis P. Curran and
Moon-Hwan Yoon

- Timothy T. Curran, David A. Hay, Christopher P. Koegel and Jonathan C. Evans
- Angelo C. Pinto, Moacir G. Pizzolatti, Rosângela de A. Epifanio, Walter Frankmölle and William Fenical
- Yoshiki Morimoto and Haruhisa Shirahama
- Chun-Nan Lin, Pao-Lin Huang, Chai-Ming Lu, Ru-Rong Wu, Wan-Ping Hu and Jeh-Jeng Wang
- Ken-ichi Fujita, Kazuhisa Murata, Michio Iwaoaka and Shuji Tomoda
- Gy. M. Keserü, M. Nógrádi, J. Rétey and J. Robinson
- Tanja Bergmann, Dirk Schories and Bert Steffan
- Valérie Thiéry, Gérard Coudert and Gérard Guillaumet
- Jean-François Brière, Patricia Charpentier, Georges Dupas, Guy Quéguiner and Jean Bourguignon
- Evelyne Robert-Banchereau, Sylvie Lacombe and Jean Ollivier
- Michel Miesch, Laurence Miesch-Gross and Michel Franck-Neumann
- Michel Miesch, Laurence Miesch-Gross and Michel Franck-Neumann
- B. Aribat et Y. Le Bigot
- Carlo Dell'Erba, Marino Novi, Giovanni Petrillo and Cinzia Tavani
- Lewis N. Mander and David J. Owen
- Virinder S. Parmar, Ajay Kumar, Kirpal S. Bisht, Shubhasish Mukherjee, Ashok K. Prasad, Sunil K. Sharma, Jesper Wengel and Carl E. Olsen
- Dipakranjan Mal, Harendra N. Roy, Nirmal K. Hazra and Susanta Adhikari
- Mayelvaganan T., Shreeshaikumar B. Hadimani and Sujata V. Bhat
- Carlos Alvarez-Ibarra, Aurelio G. Csáky, M. Luz Quiroga and Dolores Ramirez
- Piotr Balczewski
- Saumitra Sengupta, Subir Kumar Sathukhan and Sanchita Bhattacharyya
- 1983 The preparation of optically active 2-cyclopenten-1,4-diol derivatives from furfuryl alcohol
- 2005 The isolation of novel diterpenoids, including a C₄₀ bis-diterpenoid, from the Brazilian plant *Vellozia magdalenae* (Velloziaceae)
- 2013 Unexpected stability of δ -lactones with axial substituents rather than equatorial ones. Conformational evaluation by molecular mechanics and molecular orbital calculations
- 2025 Polygonapholine, an alkaloid with a novel skeleton, isolated from *Polygonatum alpe-lotatum*
- 2029 Design of optically active selenium reagents having a chiral tertiary amino group and their application to asymmetric inter- and intramolecular oxy-selenenylations
- 2049 Enantioselective synthesis of enantiomeric 1,3-dideuteroallenes
- 2055 Alboinon, an oxadiazinone alkaloid from the ascidian *Dendrodoa grossularia*
- 2061 Convenient synthesis of 2,2-disubstituted-2,3-dihydro-1,4-benzodioxins from 2-substituted-2-hydroxy-2,3-dihydro-1,4-benzodioxins
- 2075 Regioselective reductions of various 3-aminosuccinimides; application to the synthesis of two heterocyclic systems
- 2087 Unsensitized photooxidation of sulfur compounds with molecular oxygen in solution
- 2103 Total synthesis of ($\pm$)-silphinene: non photochemical cyclobutenic route to a crucial intermediate
- 2111 Total synthesis of ($\pm$)-pentalenene via small ring intermediates
- 2119 Éthérification sélective et sans solvant de fonctions hydroxyles—II. Rôle catalytique des polyéthylèneglycols
- 2125 Reactions of arylazosulfones with the conjugate bases of (*tert*-butoxycarbonyl)methyl and tosylmethyl isocyanide. Synthesis of substituted 1-arylimidazoles
- 2137 Synthesis of 12-hydroxy C₂₀-gibberellins
- 2163 Novel chemoselective de-esterification of esters of polyacetoxyl aromatic acids by lipases
- 2177 A rapid access to hydroxylated benz[a]anthraquinones: hypervalent iodine oxidation of β -naphthols
- 2185 Synthesis of decalin synthons of bioactive terpenoids: Lewis acid catalyzed Diels–Alder reactions
- 2189 Diastereoselective reduction of α -acyl-N-[bis(methylthio)methylene]alaninates and phenylalaninates: synthesis of α,α -disubstituted β -hydroxy α -amino esters
- 2199 Novel 1-phosphonyl radicals derived from 1-mono and 1,1-dihetero-substituted 2-oxoalkylphosphonates as useful phosphoroorganic intermediates in organic synthesis
- 2213 Probing the effect of gegenions in Heck reactions of arenediazonium salts: arenediazonium perchlorates and fluorides as new Heck-substrates

**Elsa Fasani, Mauro Freccero,
Mariella Mella and Angelo Albini**

**José Cudero, Carmen Pardo,
Mar Ramos,
Enrique Gutierrez-Puebla,
Angeles Monge and José Elguero**

Cornelis M. Moorthoff

**Enrique Díez-Barra,
Antonio de la Hoz,
René I. Rodríguez-Curiel and
Juan Tejeda**

**R. Alan Aitken, Katriona Carcas,
Lawrence Hill, Tracy Massil and
Swati V. Raut**

**Jack E. Baldwin, Laurent Bischoff,
Tim D. W. Claridge,
Florian A. Heupel, David R. Spring
and Roger C. Whitehead**

**Michal Hocek, Milena Masojídková
and Antonín Holý**

**M. Carmen Paul, Eva Zubía,
María J. Ortega and Javier Salvá**

Kristin Hammer and Kjell Undheim

2219 The role of SET in the deprotection of (thio)ketals under photosensitization by π -acceptors

2233 Synthesis and molecular structure of heterocyclic Tröger's bases derived from *C*-amino heterocycles

2241 Novel Michael–Wittig reactions of methyl 3-oxo-4-(triphenylarsoranylidene)-butanoate and substituted 2*H*-pyran-5-carboxylates; the synthesis of highly functionalised 2-cyclohexenonedicarboxylates

2253 A methylene bridge as protecting group—I. Selective preparation of 4-alkyl-1,2,4-triazoles

2261 Cycloaddition of $\text{Bu}^n_3\text{P}=\text{CS}_2$: direct one-pot conversion of strained double bonds to 2-alkylidene-1,3-dithiolanes

2271 An approach to the manzamine alkaloids modelled on a biogenetic theory

2291 Synthesis of acyclic nucleotide analogues derived from *N*-substituted 6-(1-aminoethyl)purines via 6-acetylurine derivatives

2303 New polypropionates from *Siphonaria pectinata*

2309 Ruthenium(II) in ring closing metathesis for the stereoselective preparation of cyclic 1-amino-1-carboxylic acids

I Instructions to Contributors

NUMBER 7

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON PERSPECTIVE NUMBER 5

2325 The 'chemistry' of research collaboration

ARTICLES

2357 *Ab initio* calculations on 1,3,2-diazaphospholes: new heteroaromatic systems

2365 Regiospecific alkylation of histidine and histamine at C-2

2371 Metal substituted diazo esters as substrates for cross coupling reactions

2387 An expeditious route to *N*-glycolylneuraminic acid based on enzyme-catalyzed reaction

2401 Ozonolysis of 2-*endo*-7-*anti*-diacylnorbornenes. A new entry for the synthesis of 2,4,6,13-tetraoxapentacyclo[5.5.1.0^{3,11}.0^{6,9}.0^{8,12}]tridecanes

2415 Facile preparation of thiocarbonylimidazolid by organic solid state reaction

2421 Asymmetric construction of two contiguous stereocenters by diastereoface differentiating addition reaction of thiols to chiral imides: formal synthesis of (+)-diltiazem

2439 Stereocontrolled synthesis of dehydrodendrolasin: unstable polyene furanosesquiterpenoids

2449 Asymmetric synthesis of both enantiomers of novel tetracyclic heterocycle, furo[3',2':2,3]pyrrolo[2,1-*a*]isoquinoline derivative via a diastereoselective *N*-acyliminium ion cyclization

Nelson J. Leonard

Ronald R. Sauers

**Rahul Jain, Louis A. Cohen,
Nahla Ahmed El-Kadi and
Michael M. King**

**Albert Padwa, Marcus M. Sá and
M. David Weingarten**

**Atsuhito Kuboki, Hanako Okazaki,
Takeshi Sugai and Hiromichi Ohta**

**Hsien-Jen Wu, Jyh-Haur Chern and
Chung-Yi Wu**

**Hisahiro Hagiwara, Satoru Ohtsubo
and Michiharu Kato**

**Okiko Miyata, Tetsuro Shinada,
Ichika Ninomiya and Takeaki Naito**

**Jun'ichi Uenishi, Reiko Kawahama,
Arifumi Tania, Shoji Wakabayashi
and Osamu Yonemitsu**

**Jae Yeol Lee, Yong Sup Lee,
Bong Young Chung and
Hokoon Park**

- Jörg-Stephan Brunck, Barbara Delcke and Jürgen Voss
Bernd Kayser, Janina Altman and Wolfgang Beck
Gerhard Kretzschmar, Alexander Toepfer, Christoph Hüls and Manfred Krause
Mohamed Othman, Pascal Pigeon and Bernard Decroix
Claude Boullais, Jacques Breton, Eliane Nabadryk and Charles Mioskowski
Daniel Colombani
Pavel A. Petukhov, Alexey Yu. Denisov and Alexey V. Tkachev
Pavel A. Petukhov and Alexey V. Tkachev
Ali Kakanejadifard and S. Morteza F. Farnia
S. Morteza F. Farnia, Ali Kakanejadifard and Dawood Soudbar
X. L. Armesto, M. Canle L., P. Carretero, M. V. García and J. A. Santaballa
Rosangela Torriani, Mariella Mella, Elisa Fasani and Angelo Albini
Chockalingam Venkatachalapathy and Kasi Pitchumani
Renato Dalpozzo, Antonio De Nino, Emma Iantorno, Giuseppe Bartoli, Marcella Bosco and Letizia Sambri
Petrus J. Steynberg, Annemarie Cronjé, Jan P. Steynberg, Barend C. B. Bezuidenhout, E. Vincent Brandt and Daneel Ferreira
Pilar de la Cruz, Antonio de la Hoz, Fernando Langa, Beatriz Illescas and Nazario Martín
Jarosław Kamiński, Maria Pachulska, Ryszard Stolarski and Zygmunt Kazimierczuk
Claudio Fuganti, Piero Grasselli, Monica Mendoza, Stefano Servi and Gioia Zucchi
Ines Mancini, Graziano Guella, Francesco Pietra and Philippe Amade
Belén Altava, M. Isabel Burguete, Beatriz Escuder, Santiago V. Luis, Enrique García-España and M. Carmen Muñoz
Emma Alonso, Diego J. Ramón and Miguel Yus
- 2459 C,C-Coupling with sulfur-stabilized carbanions—VII. Diastereoselectivity in the addition of electrophiles to the carbanions of 2-(alkylthio)thiolane 1-oxides
2475 Alkyne bridged α -amino acids by palladium mediated coupling of alkynes with *N*-t-Boc-4-iodophenylalanine methyl ester
2485 Pitfalls in the synthesis and biological evaluation of sialyl-Lewis^x mimetics as potential selectin antagonists
2495 Acyliminium ion cyclizations: synthesis of thieno[2',3':3,4]pyrrolo[2,1-a]isoin-dolone and benzo[a]thieno[2,3(3,2 or 3,4)-g]indolizines
2505 Synthesis of ubiquinones-3 specifically labelled with ¹³C at C(5)- or C(6)-positions
2513 Synthesis of methacrylic-type peroxidic compounds and study of their homolytic induced decomposition in solution
2527 Rearrangement of α -hydroxylamino oximes to cyclic amidoximes by the action of sodium borohydride
2535 Sodium borohydride in an acetonitrile medium: an efficient reagent for reductive Beckmann type fragmentation of α -amino oximes
2551 Synthesis and X-ray structural determination of new aniline derivatives of 2,4,6,8-tetraazabicyclo[3.3.0]octanes; anomeric effect in N—C—N moiety and implications of solvent polarity on ¹H NMR patterns
2557 Novel reaction of aminopyridines with glyoxal and formaldehyde; synthesis of 4,8-di(*N*-aminopyridyl) 2,6-dioxo 4,8-diazabicyclo[3.3.0]octane, 6,8-di(*N*-aminopyridyl) 2,4-dioxo 6,8-diazabicyclo[3.3.0]octane and X-ray structural study of related 1,3-di(*N*-aminopyridyl) 4,5-dihydroxy imidazolidine
2565 Evidence for an intramolecular elimination mechanism in the aqueous decomposition of (*N*-Cl)-alcoholamines
2573 On the mechanism of the photochemical reaction between 1,4-dicyano-benzene and 2,3-dimethylbutene in the presence of nucleophiles
2581 Selectivity in bromination of alkylbenzenes in the presence of montmorillonite clay
2585 A new protocol for the synthesis of α' , β' -unsaturated 1,3-diketones
2591 Oligomeric flavanoids—XXV. Cleavage of the acetal functionality in A-type proanthocyanidins
2599 Cycloadditions to [60]fullerene using microwave irradiation: a convenient and expeditious procedure
2609 Anodic decarboxylative oxidation of carboxymethyluracil and -thymine isomers
2617 Microbially-aided preparation of (*S*)-2-methoxycyclohexanone key intermediate in the synthesis of sanfetrinem
2625 Hanishenols A–B, novel linear or methyl-branched glycerol enol ethers of the axinellid sponge *Acanthella carteri* (= *Acanthella aurantiaca*) from the Hanish Islands, southern Red Sea
2629 Pertosylated polyaza[n](9,10)anthracenophanes
2641 Direct generation of lithium homoenolates from 3-aryl α,β -unsaturated ketones or esters by an arene-catalysed lithiation: synthesis of substituted tetrahydrofurans and γ -butyrolactones

Zbigniew Pakulski and
Aleksander Zamojski

- 2653 Diastereoselective propargylation of sugar aldehydes. New synthesis of 6-deoxyheptoses

I Instructions to Contributors

NUMBER 8

Contents

- iii Contributors to this Issue
v Graphical Abstracts
2667 Corrigendum
- TETRAHEDRON REPORT NUMBER 414**
2669 High pressure and selectivity in organic reactions
- ARTICLES**
2697 Heteronuclear NOE analysis of bilirubin solution conformation and intramolecular hydrogen bonding
2717 A convenient synthetic entry into aldehydes with extended conjugation
2731 *N*-Pent-4-enoyl (*PNT*) group as a universal nucleobase protector: applications in the rapid and facile synthesis of oligonucleotides, analogs, and conjugates
2751 Photochemical reactions of mercapto/amino substituted alkyl phenylglyoxylates induced by intramolecular electron transfer
2767 MM3 Parameters for carbocations
2775 The synthesis of imidazoline analogs of the kainoid family
2785 Herboxidiene: determination of absolute configuration by degradation and synthetic studies
2803 Conformational analysis of 4-aryl-dihydropyrimidine calcium channel modulators. A comparison of *ab initio*, semiempirical and X-ray crystallographic studies
2817 Circular dichroism of naphthylidihydroisoquinoline alkaloids: determination of the axial configuration of yaoundamine A
2823 Barbier-type allylation of chiral α -aminoaldehydes: dependence of the stereochemical outcome on metal and allylic halide
2835 1,3-Asymmetric induction in electrophilic addition onto homoallylsilanes. An approach towards the total synthesis of (+/-)-kumausyne
2855 Preparation of optically active α -silylcarbonyl compounds using asymmetric alkylation of α -silylacetic esters and asymmetric metal-carbene insertion into the Si-H bond
2871 First functionalization by metallation of the benzene moiety of quinazolines. Diazines—XIX
2891 Reaction of 3-amino-acridine with formaldehyde in acidic medium: influence of the stoichiometry on the reaction products
2899 Addition of Reformatsky reagents to 1,1-dicyanoalkenes
2907 Intermediates in the synthesis of dipyrazolic podands and ester crowns via regioselective lipase catalyzed hydrolysis of a tetraester
2915 Synthesis of transition state inhibitors for *N*-riboside hydrolases and transferases

G rard Jenner

Thomas D rner, Bernd Knipp and
David A. Lightner

Andrienne C. Friedl, Edward Yang
and Seth R. Marder

Radhakrishnan P. Iyer, Dong Yu,
Ivan Habus, Nan-Hui Ho,
Suzanne Johnson, Theresa Devlin,
Zhiwei Jiang, Wen Zhou, Jin Xie
and Sudhir Agrawal

Shengkui Hu and
Douglas C. Neckers

David Strobl, J rg Weiser and
Lutz Fitjer

Hansruedi Baumgartner and
Anthony C. O'Sullivan

A. J. F. Edmunds, W. Trueb,
W. Oppolzer and P. Cowley

C. Oliver Kappe,
Walter M. F. Fabian and
Marcus A. Semones

Gerhard Bringmann, Martin Stahl
and Klaus-Peter Gulden

Frank R bsam, Stephan Seck and
Athanasios Giannis

Olivier Andrey, C cile Glanzmann,
Yannick Landais and
Liliana Parra-Rapado

Yannick Landais and
Denis Planchenault

Nelly Pl , Alain Turck,
Val rie Chapoulaud and
Guy Qu gu ner

Arnaud Tatibou t, No mie Fixler,
Martine Demeunynck and
Jean Lhomme

Yu Ding, Zongbao Zhao and
Chengming Zhou

Santiago Conde, Isabel Dorronsoro,
Marta Fierros and
Mar a Isabel Rodr guez-Franco

Richard H. Furneaux,
Gerrit Limberg, Peter C. Tyler and
Vern L. Schramm

Francisco Palacios,
Domitila Aparicio and Jesús García

Harry Heaney,
George Papageorgiou and
Robert F. Wilkins

Marian Mikołajczyk,
Wanda H. Midura,
Blanka Władysław,
Francisco C. Biaggio,
Liliana Marzorati,
Michał W. Wieczorek and
Jarosław Błaszczak

K. S. Ravikumar and
Srinivasan Chandrasekaran

Pedro de March, Marta Figueredo,
Josep Font, Sergio Milán,
Angel Alvarez-Larena,
Juan F. Piniella and Elies Molins

Arindam Chakraborty,
Gandhi K. Kar and Jayanta K. Ray

Derek H. R. Barton and
Warinthorn Chavasiri

Gianluigi Broggini, Luisa Garanti,
Giorgio Molteni and Gaetano Zecchi

- 2931 An efficient and general method for the synthesis of 3-phosphorylated 4-aminoquinolines from β -phosphine oxide and phosphonate enamines
- 2941 The generation of iminium ions using chlorosilanes and their reactions with electron rich aromatic heterocycles
- 2959 α -Phosphoryl sulfoxides—XI. Sulfenylation of α -phosphoryl sulfoxides and a general synthesis of optically active ketene dithioacetal mono-S-oxides
- 2973 An unusual reaction of cyclic enol ethers with titanium(III) tetrahydroborate
- 2979 First example of a third generation nitron cycloaddition
- 2989 Synthetic studies towards furosesquiterpenes: construction of linearly-fused A/B *trans*- and A/B *cis*-furo[3,2-*b*]- and furo[2,3-*b*] decalins
- 2997 The selective functionalization of saturated hydrocarbons—XXXVI. Stereoselectivity studies of Gif-type reactions
- 3005 Synthesis of pyrazole-containing azacrown ethers by intramolecular nitrilimine cycloadditions

I Instructions to Contributors

NUMBER 9

Contents

Shuntaro Mataka,
Yoshiharu Mitoma,
Thies Thiemann, Tsuyoshi Sawada,
Masahiko Taniguchi,
Masaru Kobuchi and
Masashi Tashiro

Suk-Ku Kang, Tokutaro Yamaguchi,
Ryung-Kee Hong, Tae-Hyun Kim
and Sung-Jae Pyun

Fumi Nagatsugi, Kengo Uemura,
Shouji Nakashima, Minoru Maeda
and Shigeki Sasaki

Yong Sup Lee, Soo Sung Kang,
Jung Hoon Choi and Hokoon Park

Hiroki Oguri, Shojiro Hishiyama,
Ohki Sato, Tohru Oishi,
Masahiro Hirama, Michio Murata,
Takeshi Yasumoto and
Nobuyuki Harada

Satoshi Obika,
Toshihiko Nishiyama,
Satoshi Tatematsu,
Kazuyuki Miyashita and
Takeshi Imanishi

Edda Gössinger, Michael Graupe,
Christoph Kratky and
Kurt Zimmermann

- iii Contributors to this Issue
- v Graphical abstracts
- 3015 Bisacetals of aromatic ring-annelated benzo[*a,d*]bis[bicyclo[4.4.1]undeca-3,8-diene-11-one]. [3.3][3.3]Orthocyclophanes with triple-layered benzo/benzo/benzo- and naphtho/benzo/naphtho-system
- 3027 Cross-coupling and carbonylative cross-coupling of organofluorosilanes with hypervalent iodonium tetrafluoroborates
- 3035 2-Aminopurine derivatives with C6-substituted olefin as novel cross-linking agents and the synthesis of the corresponding β -phosphoramidite precursors
- 3045 Asymmetric synthesis of functionalized benzo[*a*]quinolizine derivatives via a diastereoselective *N*-acyliminium ion cyclization
- 3057 Synthetic study of ciguatera toxin. Absolute configuration of the C2 hydroxy group
- 3073 Studies on novel and chiral 1,4-dihydropyridines—IV. Mechanistic aspects of the asymmetric reduction with chiral NADH model compounds, (*S*)-3-(*p*-tolylsulfinyl)-1,4-dihydropyridines
- 3083 Approach towards an EPC synthesis of nodusmicin—III. Preparation of the oxygen bridged decalin part of nodusmicin

Karsten Krohn, Karsten Beckmann,
Ulrich Flörke, Hans-Jürgen Aust,
Siegfried Draeger, Barbara Schulz,
Stefan Busemann and
Gerhard Bringmann

Christoph Boss and
Reinhart Keesee

Matthias Goebel,
Helnz-Georg Nothofer, Günther Roß
and Ivar Ugi

Luisa Mannina, Anna Laura Segre,
Alberto Rittieni, Vincenzo Fogliano,
Francesco Vinale,
Giacomino Randazzo,
Lucia Maddau and
Antonio Bottalico

Apichart Suksamrarn and
Boon-ek Yingyongnarongkul

Paul D. Beer, Michael G. B. Drew,
Arthur Ibbotson and
Stephen M. Lacy

Mukund G. Kulkarni and
Dhananjay S. Pendharkar

Manuel Norte, José J. Fernández,
María L. Souto, José A. Gavín and
María D. García-Grávalos

Ernesto Nicolás, Javier Clemente,
Tina Ferrer, Fernando Albericio and
Ernest Giralt

Philip J. Perry, Vasilios H. Pavlidis
and John A. Hadfield

Loris Grossi

Sevil Öksüz, Falha Gürek,
Shu-Wei Yang, Long-Ze Lin,
Geoffrey A. Cordell,
John M. Pezzuto, Hildebert Wagner
and Hermann Lotter

Ahmed Kamal, Phillip W. Howard,
B. S. Narayan Reddy,
B. S. Praveen Reddy and
David E. Thurston

Pedro Ferrer, Carmen Avendaño
and Mónica Söllhuber

Angela Zampella,
M. Valeria D'Auria, Luigi Minale and
Cécile Débitus

Luca Banfi, Andrea Basso and
Giuseppe Quantl

Miklós Nyerges, Mónika Rudas,
István Blitter, László Tóke and
Csaba Szántay, Jr

Pedro Molina, Julián Alcántara and
Carmen López-Leonardo

Giovanni Sartori, Cecilia Porta,
Franca Bigli, Raimondo Maggi,
Francesco Peri, Elena Marzi,
Maurizio Lanfranchi and
Maria Angela Pellingheili

- 3101 Biologically active metabolites from fungi—IX. New palmarumycins CP_{4a} and CP₅ from *Coniothyrium palmarum*: structure elucidation, crystal structure analysis and determination of the absolute configuration by CD calculations
- 3111 Synthesis of cycloalkadiynes of various ring size
- 3123 A facile synthesis of per-*O*-alkylated glycono- δ -lactones from per-*O*-alkylated glycopyranosides and a novel ring contraction for pyranoses
- 3135 A new fungal growth inhibitor from *Trichoderma viride*
- 3145 Synthesis and moulting hormone activity of 3-*epi*-2-deoxy-20-hydroxyecdysone and analogues
- 3155 Acid-catalysed condensation of 1,3-benzenedithiol with aldehydes: a low dilution preparation of 1,3,10,12-tetrathia[3.3]metacyclophanes
- 3167 A short and efficient total synthesis of ($\pm$) α -cuparenone
- 3173 Thyrsenols A and B, two unusual polyether squalene derivatives
- 3179 The use of the Nbb-resin for the solid-phase synthesis of peptide alkylesters and alkylamides. Synthesis of leuprolide
- 3195 Synthesis of cytotoxic furonaphthoquinones: regiospecific synthesis of diodantunezone and 2-ethylfuronaphthoquinones
- 3205 The photoinduced ring expansion of five membered ring nitrites: a 1,6-*exo* ring closure process of the intermediate 5-nitrosopentanoyl-type radical
- 3215 Parallinones A and B, novel diterpene esters from *Euphorbia paralias*
- 3223 Synthesis of pyrrolo[2,1-*c*][1,4]benzodiazepine antibiotics: oxidation of cyclic secondary amine with TPAP
- 3231 Synthesis and reactivity of Michael adducts of lithiated 2,5-dimethoxy-*N*-pivaloylanilines and arylidenemalonates
- 3243 Callipeltosides B and C, two novel cytotoxic glycoside macrolides from a marine lithistida sponge *Callipelta* sp.
- 3249 Rational design, synthesis, and reactivity of lactendiynes, a new class of cyclic enediynes *ortho*-fused with the β -lactam ring
- 3269 1,3-Dipolar cycloaddition approach to indolic aza-analogues of cephalotaxine
- 3281 A new entry to the preparation of pyrrolo[2,3-*b*]quinolines by an aza Wittig/electrocyclic ring-closure/nitrene insertion process
- 3287 Calixarenes with *exo*-hydroxy groups: synthesis, crystal and molecular structure of *ortho-tert*-butylphenol-based calix[4]-, calix[6]- and calix[8]arenes

**Tomas Tejero,
Alessandro Dononi, Isabel Rojo,
Francisco L. Merchán and
Pedro Merino**

Clive W. Bird

**Fidel J. López-Herrera and
Francisco Sarabia-García**

**Subramania Ranganathan and
K. Shaji George**

**Diego Armesto,
Salomé Rodríguez-Morgade,
María J. Ortiz, Purificación Vázquez
and Tomás Torres**

**Paul Lloyd-Williams,
Agustí Sánchez, Natàlia Carulla,
Teresa Ochoa and Ernest Giralt**

**Duncan M. Gill, Neil A. Pegg and
Christopher M. Rayner**

**Patrick A. Plé, Annie Hamon and
Gerald Jones**

**Alfonso Carotenuto,
Ernesto Fattorusso,
Virginia Lanzotti, Silvana Magno,
Rosa Carnuccio and
Fulvio D'Acquisto**

**Pier Luigi Barili, Giancarlo Berti,
Giorgio Catelani, Felicia D'Andrea,
Francesco De Rensis and
Leonardo Puccioni**

**Giuseppe Bellucci, Cinzia Chiappe,
Felicia D'Andrea and
Giacomo Lo Moro**

Florencio Zaragoza

**Xian Liang, David G. I. Kingston,
Byron H. Long, Craig A. Fairchild
and Kathy A. Johnston**

**M. Venkata Rami Reddy,
D. John Faulkner, Y. Venkateswarlu
and M. Rama Rao**

**Alan P. Marchand,
Kalpenchery A. Kumar,
Artle S. McKim,
Kata Milnarić-Majerski and
Goran Kragol**

**Michele A. Weldner-Wells,
Kazuaki Oda and Paul H. Mazzocchi**

- 3301 1,3-Dipolar cycloaddition of *C*-(2-thiazolyl)nitrones to chiral acrylates. Synthesis of enantiopure α -amino-2-alkylthiazoles and 5-formylpyrrolidin-2-ones
- 3319 Absolute hardness as a convenient criterion of heteroaromaticity
- 3325 Condensation of D-mannosaldehyde derivatives with ethyl diazoacetate. An easy and stereoselective chain elongation methodology for carbohydrates: application to new syntheses for KDO and 2-deoxy- β -KDO
- 3347 2-Aza-3-oxabicyclo[2.2.1]heptene hydrochloride: an exceptionally versatile synthon for carbocyclic sugars and nucleosides
- 3363 Stereoselective synthesis of functionalized butenolides by the photochemical rearrangement of [2,1]benzisoxazolequinone derivatives
- 3369 Synthetic studies on threonines. The preparation of protected derivatives of D-*allo*- and L-*allo*-threonine for peptide synthesis
- 3383 Reaction of α -amino esters and α -amino ester imines with thiliranium ion intermediates. Application to the synthesis of new potential aminopeptidase inhibitors and mechanistic implications
- 3395 A convergent synthesis of mycophenolic acid
- 3401 12-Keto-porrigenin and the unique 2,3-*seco*-porrigenin, new antiproliferative sapogenins from *Allium porrum*
- 3407 Double reductive amination of L-*arabino*-hexos-5-uloses: a diastereoselective approach to 1-deoxy-D-galactostatin derivatives
- 3417 Stereoelectronic control in two-step additions to tri-*O*-benzyl-D-glucal initiated by electrophilic halogens

I Instructions to Contributors

NUMBER 10

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- TETRAHEDRON REPORT NUMBER 415**
- 3425 Reactions of electrophilic carbenes with α -amino acid derivatives
- ARTICLES**
- 3441 Paclitaxel analogs modified in ring C: synthesis and biological evaluation
- 3457 New lamellarin alkaloids from an unidentified ascidian from the Arabian sea
- 3467 Synthesis and alkali metal picrate extraction capabilities of novel cage-functionalized 17-crown-5 and 17-crown-6 ethers
- 3475 The intramolecular electron transfer reactions of *N*-alkylcyclopropyl phthalimides

- Hiroshi Tsukube, Satoshi Shinoda, Yoshihisa Mizutani, Masateru Okano, Kentaro Takagi and Kenzi Hori
- Ming Keung Wong, Chun Yip Leung and Henry N. C. Wong
- Katsuhiko Iseki, Yoshichika Kuroki, Mie Takahashi, Satoshi Kishimoto and Yoshiro Kobayashi
- Hisahide Tanimoto and Takayuki Oritani
- Akira Chiba, Tadashi Eguchi, Tairo Oshima and Katsumi Kakinuma
- Takaaki Suishu, Tetsuro Shimo and Kenichi Somekawa
- Takashi Katoh, Keizo Ogawa, Yoshio Inagaki and Renji Okazaki
- T. Rosenau, M. Gruner and W. D. Habicher
- Wolfgang Oppolzer and Blanda Stammen
- Christina Siedschlag, Heinrich Luftmann, Christian Wolff and Jochen Mattay
- Tanja Niepel, Holger Meyer, Victor Wray and Wolf-Rainer Abraham
- Galina V. Nizova, Georg Süß-Fink and Georgiy B. Shul'pin
- Peter Stanetty, Barbara Krumpak, Thomas Emerschitz and Kurt Mereiter
- Catherine Maury, Qian Wang, Tawfik Gharbaoui, Mohamed Chladmi, Alain Tomas, Jacques Royer and Henri-Philippe Husson
- Eric Desarbre, Sandrine Coudret, Cécile Meheust and Jean-Yves Mérour
- Lella Sadek Boulos and Mona Hizkial Nasr Arsanious
- Enrique Díez-Barra, Antonio de la Hoz, André Loupy, Alfonso Martínez-González, Víctor Martínez-Merino, Sonia Merino, Renée Paugam, Prado Sánchez-Verdú, Jean Sansoulet and José Torres
- Michael J. Karpa, Peter J. Duggan, Gregory J. Griffin and Stacy J. Freudigmann
- Carlos Alvarez-Ibarra, Aurelio G. Csáky, Elena Martínez-Santos and María L. Quiroga
- Norbert De Kimpe, Kourosh Abbaspour Tehrani, Christian Stevens and Paul De Cooman
- 3487 Enhanced Li^+ ion-selective ionophoric properties of double armed diaza-12-crown-4 derivatives
- 3497 Regiospecific synthesis of polysubstituted furans from silylated furans: expedient syntheses of rosefuran
- 3513 Asymmetric allylation of aromatic aldehydes catalyzed by chiral phosphoramides prepared from (S)-proline
- 3527 Synthesis of (+)-ambrein
- 3537 Synthesis of conformationally restricted substrate analogs and their interaction with 3-isopropylmalate dehydrogenase derived from *Thermus thermophilus*
- 3545 Substituent effects on the regiochemistry of enone-alkene 2+2-photo-cycloadditions. Experimental results and FMO analysis
- 3557 Syntheses and properties of (1,8-naphthylene)bispyridines and related pyridinium compounds
- 3571 Novel tocopherol compounds—VIII. Reaction mechanism of the formation of α -tocored
- 3577 On the faciality of intramolecular palladium(0)-catalysed 'metallo-ene-type' cyclisations
- 3587 Functionalization of [60]fullerene by photoinduced electron transfer (PET): syntheses of 1-substituted 1,2-dihydro[60]fullerenes
- 3593 A new type of glycolipid, 1-[α -mannopyranosyl-(1 α -3)-(6-O-acyl- α -mannopyranosyl)]-3-O-acylglycerol, from *Arthrobacter atrocyaneus*
- 3603 Oxidations by the reagent ' O_2 - H_2O_2 -vanadium complex-pyrazine-2-carboxylic acid'—VIII. Efficient oxygenation of methane and other lower alkanes in acetonitrile
- 3615 Synthesis of benzo[d]-1,2-thiazole-1,1-dioxide derivatives via directed lithiation of 2,2-dimethyl-N-(phenylsulfonyl)-propanamides
- 3627 Asymmetric synthesis of (R)- and (S)-piperidin-2-yl-phosphonic acid by diastereoselective addition of trialkyl phosphite onto potential iminium salt
- 3637 Synthesis of 2-substituted-1H-pyrrolo[2,3-b]pyridines: preparation of 7-azaolivacine analogue and 7-azaindolopyridopyrimidine derivatives
- 3649 Studies on phosphonium ylides—XXI. Reactions of Wittig reagents with substituted 2-amino-1,4-naphthoquinones
- 3659 Unexpected double benzylation of acetophenone under phase transfer catalysis conditions. Acidity or π - π interaction effect?
- 3669 Competitive transport of reducing sugars through a lipophilic membrane facilitated by aryl boron acids
- 3679 On the acylation reactions of aza-allyl carbanions derived from N-[bis(methylthio)methylene]glycine ethyl ester and N-[bis(methylthio)methylene]benzylamine
- 3693 Synthesis of 3-halopyrroles

Giancarlo Verardo,
Nicoletta Toniutti and
Angelo G. Glumanini

Zbigniew Pakulski and
Aleksander Zamojski

Guido Sello and Manuela Termini

Josef Pola, Yoshinori Koga and
Akihiko Ouchi

Arturo Arduini, Laura Domiano,
Andrea Pochini, Andrea Secchi,
Rocco Ungaro, Franco Ugozzoli,
Oliver Struck, Willem Verboom and
David N. Reinhoudt

José M. Jiménez,
José L. Bourdelande and
Rosa M. Ortuño

José M. Andrés, Yolanda Martín,
Rafael Pedrosa and
Alfonso Pérez-Encabo

Attilio Arienti, Franca Bigli,
Raimondo Maggi, Elena Marzi,
Pietro Moggi, Massimo Rastelli,
Giovanni Sartori and
Fabio Tarantola

Pakawan Nongkunsarn and
Christopher A. Ramsden

Ratnakar R. Talekar and
Richard H. Wightman

Giorgio Chelucci, Daniela Berta and
Antonio Saba

- 3707 1-Substituted 1,4,5,6-tetrahydropyridazines and 1-(N-substituted)-amino-pyrrolidines from hydrazines and 2,5-dimethoxytetrahydrofuran
- 3723 A route to 3-deoxy-4-*O*-methyl-D-*manno*-oct-2-ulosonic acid (4-*O*-methyl-KDO) and its D-*gluco* isomer derivatives
- 3729 Organic synthesis planning: some hints from similarity
- 3757 Laser photolysis of 2-propanone, 2-butanone, 3-pentanone and 3-buten-2-one in the gas phase
- 3767 Synthesis of 1,2-bridged calix[4]arene-biscrowns in the 1,2-alternate conformation
- 3777 Synthesis and photochemical decomposition of pyrazolines from homochiral amino pentenoates. A laser flash-photolysis study
- 3787 Enantioselective Reformatsky reaction induced by chiral β -amino alcohols
- 3795 Regioselective electrophilic alkylation of anilines with phenylacetylene in the presence of montmorillonite KSF
- 3805 Oxidative rearrangement of imines to formamides using sodium perborate
- 3831 Synthesis of some pyrrolo[2,3-*d*]pyrimidine and 1,2,3-triazole isonucleosides
- 3843 Chiral sulfoxides and sulfides tethered to pyridines as ligands for enantioselective catalysis: palladium catalyzed allylic substitution and addition of diethylzinc to benzaldehyde

I Instructions to Contributors

NUMBER 11

DEDICATED TO PROFESSOR ARTHUR J. BIRCH, 1915–1995

Contents

Anthony J. Pearson,
Alexander V. Gontcharov and
Ping Y. Zhu

David G. Bourke and
David J. Collins

Andrew Pelter, Amjad Hussain,
Garth Smith and Robert S. Ward

George Papageorgiou and
John E. T. Corrie

Peta J. Harvey, Mark von Itzstein
and Ian D. Jenkins

Josie C. Briggs, Philip Hodge and
Zhang Zhengpu

Cedric W. Holzapfel,
Gerhard J. Engelbrecht,
Lizel Marais and Francois Toerien

- iii Contributors to this Issue
- v Graphical Abstracts
- ix Preface
- 3849 Chiral auxiliary-promoted asymmetric nucleophile additions to arene-manganese tricarbonyl complexes
- 3863 Conversion of 7-methoxy-3,4-dihydro-2*H*-1-benzopyran-2-one into the corresponding dimethyl *ortho* ester
- 3879 The synthesis of 8a-methoxy-2*H*,6*H*-chromen-6-ones and corresponding 2*H*-chromenes by a unique process utilising phenolic oxidation
- 3917 Synthesis and properties of carbamoyl derivatives of photolabile benzoin
- 3933 The formation of anhydrides in the Mitsunobu reaction
- 3943 Potassium borohydride reductions of immobilised ketosteroids
- 3957 Stereocontrolled palladium(0) catalysed cyclisation and cyclisation/carbonylation of pseudoglycal derivatives

Ronald N. Warrener,
Shudong Wang and
Richard A. Russell

Ronald N. Warrener,
Austin C. Schultz,
Mark A. Houghton and
Douglas N. Butler

Thomas J. Simpson,
Salman A. Ahmed,
C. Rupert McIntyre, Fiona E. Scott
and Ian H. Sadler

Timothy D. W. Claridge,
James M. Long, John M. Brown,
David Hibbs and
Michael B. Hursthouse

Leslie D. Field, Sever Sternhell and
Howard V. Wilton

Bernard T. Golding,
Christine Bleasdale,
Joseph McGinnis, Susanna Müller,
Hue Thu Rees, Nicholas H. Rees,
Peter B. Farmer and
William P. Watson

David C. R. Hockless,
Paul A. Gugger, Pak-Hing Leung,
Renuka C. Mayadunne,
Michael Pabel and S. Bruce Wild

Richard D. A. Hudson,
Simon A. Osborne and
G. Richard Stephenson

- 3975 The synthesis of U-shaped cavity molecules with 'inner-surface' functionality
- 3991 Rigid molecular racks featuring the 1,10-phenanthroline ligand especially those co-functionalised with redox-active groups or other bidentate ligands
- 4013 Biosynthesis of polyketide-terpenoid (meroterpenoid) metabolites andibenin B and andllesin A in *Aspergillus variegator*
- 4035 Synthesis of 1-methyl-2-diphenylphosphino-3-(1'-isoquinolyl)indole; an easily racemised ligand giving insights into catalytic asymmetric allylation
- 4051 Mechanochemistry of some hydrocarbons
- 4063 The mechanism of decomposition of *N*-methyl-*N*-nitrosourea (MNU) in water and a study of its reactions with 2'-deoxyguanosine, 2'-deoxyguanosine 5'-monophosphate and d(GTGAC)
- 4083 Facile interconversions between diastereomers of chloro-bridged palladium (II) dimers of orthometallated ($\pm$)-dimethyl[1-(1-naphthyl)ethyl]amine
- 4095 Ester functionalised alkene-extended cyclohexadienyliron complexes

I Instructions to Contributors

NUMBER 12

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 416

- 4105 Chromium carbene complex photochemistry in organic synthesis

ARTICLES

- 4129 Approaches to stable cyclopropenyl anions: tris-1,2,3-*p*-nitrophenyl-cyclopropene
- 4137 The chemistry of pentavalent organobismuth reagents—XIV. Recent advances in the copper-catalyzed phenylation of amines
- 4145 Enantioselective addition of diethylzinc to benzaldehyde catalyzed by chiral titanate complexes with helical ligands
- 4159 Synthesis of the monosaccharide units of the O-specific polysaccharide of *Shigella sonnei*
- 4179 Unusual monosubstitution—monodechlorination product in the reaction of 1,8-dichloroanthraquinone with (*S*)-(-)-2-(tetrahydropyranyloxy)-1-propanol
- 4185 Alkylation of tricarbonyl(diene)iron complexes: model studies for the preparation of protomycinolide IV
- 4199 (1*Z*,3*Z*)-Buta-1,3-dienyl-1-lithium species and substituted tellurophenes by Te/Li exchange on (1*Z*,3*Z*)-butyltelluro-1,3-butadienes and (1*Z*,3*Z*)-1,4-bis(butyltelluro)-1,3-butadienes

Louis S. Hegedus

Jasna Klicic, Yves Rublin and
Ronald Breslow

Thomas Arnauld,
Derek H. R. Barton and Eric Doris

Cheng Guo, Jun Qiu, Xumu Zhang,
Dawn Verdugo, Martin L. Larter,
Ray Christie, Patrick Kenney and
Patrick J. Walsh

Adél Medgyes, Erzsébet Farkas,
András Lipták and Vince Pozsgay

Yoichi Habata, Jerald S. Bradshaw,
Ryan W. Nelson and Reed M. Izatt

James T. Wasicak,
Richard A. Craig, Rodger Henry,
Bireswar Dasgupta, Huameng Li
and William A. Donaldson

Miguel J. Dabdoub,
Vanía B. Dabdoub,
Palmeo G. Guerrero, Jr and
Claudio C. Silveira

- He Zhao and Terrence R. Burke, Jr 4219 Pentafluorophenyl ester activation for the preparation of *N,N'*-diaroyl-hydrazines
- Yvan Boulanger, Alain Larocque, Abdesslem Khat, François Deschamps and Gilles Sauvé 4231 NMR and molecular modeling characterization of HIV-1 protease inhibitors: difunctional enols of N-protected phenylalanine
- Diane B. Hauze, Madeleine M. Joullé, Robert Ramotowski and Antonio Cantu 4239 Novel synthesis of thianinhydrin
- Ahmad Hasan, Klaus-Peter Stengele, Heiner Glegrich, Paul Cornwell, Kenneth R. Isham, Richard A. Sachleben, Wolfgang Pfeleiderer and Robert S. Foote 4247 Photolabile protecting groups for nucleosides: synthesis and photode-protection rates
- Kazushige Yamana, Yoshihito Ohashi, Kenji Nunota and Hidehiko Nakano 4265 Synthesis, binding and fluorescence properties of oligonucleotide derivatives having a dansyl fluorescence label attached to the 2'-position of a ribonucleoside
- Minoru Suzuki, Yoshinori Takahashi, Yoshihide Matsuo, Michael D. Guiry and Michio Masuda 4271 Scanlonenyne, a novel halogenated C₁₅ acetogenin from the red alga *Laurencia obtusa* in Irish waters
- Kazuyuki Miyashita, Masahiro Nishimoto, Tetsuya Ishino, Hidenobu Murafuji, Satoshi Obika, Osamu Muraoka and Takeshi Imanishi 4279 Studies on novel and chiral 1,4-dihydropyridines—V. Hantzsch-type 1,4-dihydropyridines having a chiral sulfinyl group: syntheses, structures, and biological activity as a calcium channel antagonist
- Yeun-Min Tsai, Fu-Chang Chang, Jimin Huang, Chi-Lung Shiu, Chai-Lin Kao and Jyh-Shiunn Liu 4291 Generation and intramolecular cyclization of α -phenylsulfonyl and α -alkyl-sulfonyl radicals
- Won-Gon Kim, Jong-Pyung Kim, Hiroyuki Koshino, Kazuo Shin-Ya, Haruo Seto and Ick-Dong Yoo 4309 Benzastatins E, F, and G: new indoline alkaloids with neuronal cell protecting activity from *Streptomyces nitrosporeus*
- Kenzi Hori, Akio Kamimura, Kaori Ando, Miyuki Mizumura and Yasuji Ihara 4317 *Ab initio* molecular orbital study on the mechanism of amide hydrolysis dependent on leaving groups
- M. Nowakowski and H. M. R. Hoffmann 4331 Synthesis of bridged nine-membered ring ethers: studies directed towards the synthesis of eunicellin-based marine diterpenes
- Olivier Andrey, Laurent Ducry, Yannick Landais, Denis Planchenault and Valéry Weber 4339 Electrophilic 5-*endo-trig* cyclisations of 2-silyl-3-alkenols. A stereoselective route to polysubstituted tetrahydrofurans
- Christelle Fournier-Nguefack, Paul Lhoste and Denis Sinou 4353 Palladium(0)-catalysed synthesis of *cis*- and *trans*-linalyl oxides
- Angela Marinetti, François-Xavier Buzin and Louis Ricard 4363 Synthesis and α -alkylation of 1-menthylphosphetane sulfide
- Ross W. Millar and Simon P. Philbin 4371 Clean nitrations: novel syntheses of nitramines and nitrate esters by nitrodesilylation reactions using dinitrogen pentoxide (N₂O₅)
- Anthony S. Mitchell and Richard A. Russell 4387 Oxidation with hypervalent iodine reagents—II. Novel cyclohexadienones as precursors for the synthesis of anthraquinones
- Ionel I. Mangalagiu and Magda Ghe. Petrovanu 4411 Pyridazinium ylides—II. New carbanion disubstituted ylides
- Luca Forti, Franco Gheffi and Ugo M. Pagnoni 4419 Ferrocene promoted addition of methyl 2,2-dichloro-carboxylates to 1-alkenes
- Fructuoso Barba, Michail N. Ellinson, José Escudero and Sergey K. Feducovich 4427 Indirect electrochemical oxidation of cyclic ketones: influence of ring size, mediator and supporting electrolyte on the result of the reaction

Wojciech Dmowski,
Albert Biernacki,
Tomasz Kozłowski,
Przemysław Gluźniński and
Zofia Urbańczyk-Lipkowska

Marcello Tiecco, Lorenzo Testaferri,
Francesca Marini, Luana Bagnoli,
Claudio Santi and
Andrea Temperini

Thomas L. Gilchrist,
Paul D. Kemmitt and
Andrew L. Germain

Gury Zvilichovsky and
Vadim Gurvich

Enrico Baciocchi,
Cristina Crescenzi and
Osvaldo Lanzalunga

Carlos Cativiela,
María D. Díaz-de-Villegas,
José I. García and Ana I. Jiménez

Jordi Teixidó, José I. Borrell,
Blanca Serra, Carles Colomina,
Xavier Batllori, Joan F. Piniella and
Angel Alvarez-Larena

Enrico Baciocchi, Tristano Boschi,
Carlo Galli, Andrea Lapi and
Pietro Tagliatesta

Vladimír Křen, Petr Olšovský,
Vladimír Havlíček, Petr Sedmera,
Myriam Witvrouw and
Erik De Clercq

Lidia Feliu, Wadi Ajana,
Mercedes Alvarez and
John A. Joule

José Barluenga, Miguel Ferrero and
Francisco Palacios

Jorma Matikainen, Seppo Kaltia,
Markku Hämäläinen and
Tapio Hase

- 4437 Electrochemical trifluoromethylation of acrylonitrile and crotonitrile. Preparation of 2,3-bis(2,2,2-trifluoroethyl)succinonitrile and 3,4-dicyano-2,5-bis(trifluoromethyl)-*n*-hexane
- 4441 Phenylselenenyl sulfate induced cyclization of allylhydrazines. Synthesis of pyrazole derivatives
- 4447 1-Azatriene cyclisation as a route to annelated pyrido[4,3-*b*]indoles
- 4457 Products of ozonolysis of L-1,4-cyclohexadienylalanine. Intramolecular cyclization and cyclization with hydroxylamine. The synthesis of two isomers of L-isoxazolyalanine
- 4469 Photoinduced electron transfer reactions of benzyl phenyl sulfides promoted by 9,10-dicyanoanthracene
- 4479 1,3-Dipolar cycloaddition of diazomethane to chiral azlactones. Experimental and theoretical studies
- 4487 Cyclization of 1,5-dinitrile systems with hydrogen halides: a search for the undetected key tautomer
- 4497 Epoxidation and hydroxylation reactions catalyzed by the manganese and iron complexes of 5,10,15,20-tetrakis(2,6-dimethoxyphenyl)porphyrin
- 4503 *N*-Deoxyribosides of ergot alkaloids: synthesis and biological activity
- 4511 Conversion of a 4-quinolone into a 1,6-diazaphenalene
- 4521 Synthesis of pentasubstituted pyridines. Cycloadditions of *N*-vinylc heterocumulenes with 1-(*N,N*-diethylamine)prop-1-yne
- 4531 1,5-Hydrogen shift and other isomerization reactions of certain ethyl octadecatrienoates

I Instructions to Contributors

NUMBER 13

Contents

Rahul Jain, Louis A. Cohen and
Michael M. King

Eric D. Edstrom and Tao Yu

Steven J. Gould, Chris R. Melville
and Jiong Chen

Koji Yamada, Tami Ujile,
Katsumi Yoshida,
Tomofumi Miyamoto and
Ryulchi Higuchi

Yoshihiro Matsumura,
Takahiro Ohishi, Chihiro Sonoda,
Toshihide Maki and
Mitsuaki Watanabe

- iii Contributors to this Issue
- v Graphical Abstracts
- 4539 Synthesis of novel ring-substituted histidines and histamines
- 4549 An efficient synthesis of a fully functionalized 7-aminoaziridinomitosene
- 4561 The biosynthesis of murayaquinone, a rearranged polyketide
- 4569 Sinulobatin A–D, new amphilectane-type diterpenoids from the Japanese soft coral *Sinularia nanolobata*
- 4579 A convenient method for synthesis of optically active β -hydroxyamines from primary amines through enecarbamates as key intermediates

- Yosuke Nakamura, Yoshitou Hayashida, Yasuhiro Wada and Jun Nishimura**
4593 Synthesis of paddlanes possessing cyclophane shaft and cyclobutane blades
- Atsuyoshi Ohno, Jun Kunitomo and Yasushi Kawai**
4601 Physical properties of atropisomeric 5-deazaflavin derivatives
- Hiroshi Shimizu, Shojiro Miyazaki and Tadashi Kataoka**
4611 Polar cycloaddition of 9-thiaphenanthrenium salt with 1,3-dienes
- Hiroshi Morita, Lan Wei, Akira Gonda, Koichi Takeya, Hideji Itokawa, Haruhiko Fukaya, Hideyuki Shigemori and Jun'ichi Kobayashi**
4621 Crystal and solution state conformations of two taxoids, taxinine and taxinine B
- Martina Drescher and Friedrich Hammerschmidt**
4627 Enzymes in organic chemistry—V. First and chemo-enzymatic synthesis of α -aminoxyphosphonic acids of high enantiomeric excess
- Gérard Jenner and Ridha Ben Salem**
4637 The cause of the rate acceleration by diethyl ether solutions of lithium perchlorate (LPDE) in organic reactions. Application to high pressure synthesis
- Manuel Norte, José J. Fernández and María L. Souto**
4649 New polyether squalene derivatives from *Laurencia*
- Kerry M^cPhail and Michael T. Davies-Coleman**
4655 New spongiane diterpenes from the East African nudibranch *Chromodoris hamiltoni*
- Gordon M. Elsey, Marisa D. Ciampini and Dennis K. Taylor**
4661 Theoretical barrier to rotation in substituted triptycenes: a semi-empirical and *ab initio* study
- Teerapat Rojsajakul, Sudarath Veravong, Gamolwan Tumcharern, Ratana Seangprasertkij-Magee and Thawatchai Tuntulani**
4669 Synthesis and characterisation of polyaza crown ether derivatives of calix[4]arene and their role as anion receptors
- Giovanni Appendino, Jasmin Jakupovic, Giancarlo Cravotto and Maique Biavatti-Weber**
4681 The reaction of 6,8-disubstituted *E,E*-germacra-1(10),4-diene 4-epoxides with oxyphilic reagents
- Annunziata Soriente, Anna Della Rocca, Guido Sodano and Antonio Trincone**
4693 Chemo-enzymatic synthesis of rengyoside-A, -B, isorengyoside and synthesis of their aglycones
- Yagamare Fall, Mercedes Torneiro, Luis Castedo and Antonio Mourinho**
4703 An efficient stereoselective synthesis of 1 α ,24(*R*)-dihydroxyvitamin D₃ by the diyne route
- Vicente Fornés, Hermenegildo García, Slobodan Jovanovic and Vicente Martí**
4715 1,1-Diphenylethylene adsorbed onto acid zeolites: nature of the blue (605 nm) species
- Narayan C. Bar, Ranjan Patra, Basudeb Achari and Sukhendu B. Mandal**
4727 An entry to unusual classes of nucleoside analogues
- Mieczysław Makosza, Tadeusz Ziobrowski, Mikhail Serebriakov and Andrzej Kwast**
4739 Vicarious nucleophilic substitution of hydrogen in nitrophenyl toluene-sulfonates
- Belen Altava, M. Isabel Burguete, Santiago V. Luis, Juan F. Miravet, Enrique García-España, Victor Marcelino and Conxa Soriano**
4751 Polyaza[*n*]paracyclophanes as synthetic models of Zn containing enzymes. The role of a non coordinated nitrogen atom in the proximity of the metal
- Tomasz Bauer**
4763 Syntheses of deoxyhexoses from diastereoisomerically pure hetero-Diels–Alder adduct
- Mukund K. Gurjar, Shashwati Pal, A. V. Rama Rao, Richard J. Pariza and Mukund S. Chorghade**
4769 Synthesis of novel *C*₂-symmetric and pseudo *C*₂-symmetric based diols, epoxides and dideoxy derivatives of HIV protease inhibitors
- Stefania Fioravanti, Giuseppe Luna, Lucio Pellacani and Paolo A. Tardella**
4779 Stereoselectivity in the amination of chiral cyclohex-3-en-1-one ketals

Domenico Albanese, Darío Landini and Michele Penso

Diego A. Alonso, Ana Costa, Balbino Mancheño and Carmen Nájera

Cristiano Cagnolini, Marina Ferri, Peter R. Jones, Patrick J. Murphy, Barry Ayres and Brian Cox

Harald Jatzke, Klaus Frische, Moshe Greenwald, Larisa Golender and Benzion Fuchs

Diego A. Alonso, Emma Alonso, Carmen Nájera, Diego J. Ramón and Miguel Yus

David Tanner, Lars Tedenborg, Antonio Almarío, Ingrid Pettersson, Ingeborg Csöreg, Nicholas M. Kelly, Pher G. Andersson and Thomas Högberg

Mauro Freccero, Anna Gamba, Remo Gandolfi and Mirko Sarzi Amade'

Ferenc Falgi, Katalin Fogassy, Angelika Thurner and László Tóke

Omar Parve, Imre Vallikivi, Andrus Metsala, Ülo Lille, Vello Tõugu, Peeter Sikk, Tuuli Käämbre, Heiki Viia and Tõnis Pehk

Ralf Arnecke, Volker Böhmer, Roberta Cacciapaglia, Antonella Dalla Cort and Luigi Mandolini

Braja G. Hazra, Sourav Basu, Bharat B. Bahule, Vandana S. Pore, Brahmanand N. Vyas and Velaswamy M. Ramraj

Abderrazak Bachki, Francisco Foubelo and Miguel Yus

Tadeusz Gajda, Anna Napieraj, Krystyna Osowska-Pacawicka, Stefan Zawadzki and Andrzej Zwierzak

José-Vicente Folgado, Hermenegildo García, Vicente Martí and Mercedes Esplá

- 4787 Regioselective opening of epoxides to β -amido alcohols under solid-liquid PTC conditions
- 4791 Lithiated β -aminoalkyl sulfones as mono and dinucleophiles in the preparation of nitrogen heterocycles: application to the synthesis of capsazepine
- 4815 Synthesis and epimerisation studies on carbohydrate derived bicyclic tetronate esters: the synthesis of furanofurans related to the cytotoxic metabolite goniofufurone
- 4821 New supramolecular host systems—V. Diacetals and macro-*m*-cyclophanes of aldaric esters: synthesis, stereochemistry and conformational analysis
- 4835 α -Nitrogenated organolithium compounds from α -amidomethyl and α -aminomethyl sulfones
- 4857 Total synthesis of balanol—II. Completion of the synthesis and investigation of the structure and reactivity of two key heterocyclic intermediates
- 4869 Highly diastereoselective electrophilic additions to the vinylcyclopropane moiety of a homotropyliene system
- 4883 Competition and co-operation between *ortho* directing groups and activating agents: regioselective metallation of 1-(methoxyphenyl)pyrroles
- 4889 Lipase-catalysed enantioselective hydrolysis: interpretation of the kinetic results in terms of frontier orbital localisation
- 4901 Cation- π interactions between neutral calix[5]arene hosts and cationic organic guests
- 4909 Stereoselective synthesis of a new hexanor(C₂₃-C₂₈)castasterone-20,22-ethyl diether from 16-dehydropregnenolone acetate and its plant growth promoting activity
- 4921 Ketallised α - and β -lithiated α,β -unsaturated ketones: new masked acylvinyl anion equivalents
- 4935 Synthesis of primary *sec*-alkylamines via nucleophilic ring-opening of *N*-phosphorylated aziridines
- 4947 ESR study of thianthrenium radical cation within acid zeolites

I Instructions to Contributors

NUMBER 14

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 417

4957 Hydroborations catalysed by transition metal complexes

ARTICLES

5027 Mechanistic and synthetic aspects of amine oxidations promoted by 3-methyl-5-ethylumiflavinium perchlorate

Irina Beletskaya and Andrew Pelter

Susan E. Hoegy and Patrick S. Mariano

- Ashok D. Patil, Alan J. Freyer,
Lew Killmer, Priscilla Offen,
Brad Carte, Anthony J. Jurewicz
and Randall K. Johnson
- Jun Tang, Kenji Okada,
Hirosaki Shinokubo and
Koichiro Oshima
- Ik-Hwan Um, Yeon-Ju Hong and
Dong-Sook Kwon
- Katsunori Tsuboi,
Yoshiyasu Ichikawa,
Atsushi Naganawa, Minoru Isobe,
Makoto Ubukata and Kiyoshi Isono
- Yimin Jiang, Yoshiyasu Ichikawa
and Minoru Isobe
- Katsunori Tsuboi,
Yoshiyasu Ichikawa, Yimin Jiang,
Atsushi Naganawa and
Minoru Isobe
- Richard Ehlenz, Oliver Neuß,
Marcus Teckenbrock and
Karl Heinz Dötz
- Marie-Claude Viaud,
Patricia Jamoneau,
Marie-Laure Baudin,
Laurence Savelon and
Gérald Guillaumet
- Hélène Poujol, Alain Ahond,
Ali Al Mourabit, Angèle Chlaroni,
Christiane Poupat, Claude Riche et
Pierre Potier
- Thierry Maugard,
Magali Remaud-Simeon,
Dominique Petre and
Pierre Monsan
- Jean-François Morelli,
Annie Pouilhès and Yves Langlois
- Yung-Son Hon and Jiann-Long Yan
- Jack E. Baldwin,
Samantha J. Bamford,
Andrew M. Fryer,
Martin P. W. Rudolph and
Mark E. Wood
- Jack E. Baldwin,
Samantha J. Bamford,
Andrew M. Fryer,
Martin P. W. Rudolph and
Mark E. Wood
- Jack E. Baldwin, Andrew M. Fryer,
Mark R. Spyvee,
Roger C. Whitehead and
Mark E. Wood
- Catherine Levallet,
Joanne Lerpiniere and Soo Y. Ko
- Antonio Guirado, Andrés Zapata,
M. Carmen Ramirez de Arellano
- Amnon Albeck and
Gary I. Estreicher
- Ulf Berg, Eugenius Butkus,
Torbjörn Frejd and Sara Bromander
- 5047 Frondosins, five new sesquiterpene hydroquinone derivatives with novel skeletons from the sponge *Dysidea frondosa*: inhibitors of interleukin-8 receptors
- 5061 Allylmanganation and diallylation of acetylenic compounds
- 5073 Acid dissociation constants of phenols and reaction mechanism for the reactions of substituted phenyl benzoates with phenoxide anions in absolute ethanol
- 5083 Synthetic studies on tautomycin; synthesis of segment B
- 5103 Synthetic studies on tautomycin; synthesis of segment C
- 5123 Total synthesis of (+)-tautomycin
- 5143 Carbohydrate functionalized oxacyclopentylidene complexes
- 5159 Acylation of oxazolo[4,5-*b*]pyridin-2(3*H*)-ones, 2-phenyloxazolo[4,5-*b*]pyridines and pyrrolo[2,3-*b*]pyridin-2(2*H*)-ones
- 5169 Taxoïdes: nouveaux analogues du 7-déshydroxydocétaxel préparés à partir des alcaloïdes de l'if
- 5185 Enzymatic synthesis of glycamide surfactants by amidification reaction
- 5195 New synthetic approaches to the oxahydrindane subunit of avermectins
- 5217 Syntheses of bifunctional compounds from cycloalkenes via ozonide intermediates
- 5233 Towards a versatile synthesis of kainoids—I. Introduction of the C-3 and C-4 substituents
- 5255 Towards a versatile synthesis of kainoids—II. Two methods for establishment of C-4 stereochemistry
- 5273 Towards a versatile synthesis of kainoids—III. Efficient methods for control of C-4 stereochemistry
- 5291 The HgCl₂-promoted guanylation reaction: the scope and limitations
- 5305 The reaction of phthalidylidene dichloride with primary amines. Synthesis and X-ray molecular structure of N-substituted phthalisoimides
- 5325 Functionalized *erythro* N-protected α -amino epoxides. Stereocontrolled synthesis and biological activity
- 5339 Stereochemical studies of bicyclo[5.3.1]undecane-8,11-dione. Conformational analysis, enantiomer separation, CD-spectroscopy and enolization

**Mauri Lounasmaa, Lars Mäkilä and
Arto Tolvanen**

**Hui-Yin Li, Indawati DeLucca,
Spencer Drummond and
George A. Boswell**

**Elmar L. Müller and
D. John Faulkner**

**John A. Zoltewicz,
Norbert M. Maler, Sophie Lavieri,
Ion Ghiviriga, Khalil A. Abboud and
Walter M. F. Fabian**

Ze-Qi Xu and Jiri Zemlicka

**Donald B. Denney,
Dorothy Z. Denney and
Steven P. Fenell**

**Hiroaki Miyaoka,
Masakazu Shinohara,
Masako Shimomura,
Hidemichi Mitome, Akiko Yano,
Kazuo Iguchi and Yasuji Yamada**

**Yang Yu, Masatomi Ohno,
Shoji Eguchi, Takashi Kawai and
Yukimasa Terada**

**Kaori Ishimaru,
Yohsuke Yamamoto and
Kin-ya Akiba**

**Hiroki Yoshizaki, Kumiko Yoshioka,
Yoshihiro Sato and Miwako Mori**

**Thomas Billert, Rainer Beckert,
Peer Fehling, Manfred Döring and
Helmar Görts**

**Karl Griesbaum, Xuejun Liu and
Yuxiang Dong**

**Armand Gellis, Patrice Vanelle,
Mustapha Kaafarani, Kamel Benakli
et Michel P. Crozet**

**Didier Boturyn, Ali Boudali,
Jean-François Constant,
Eric Defrancq and Jean Lhomme**

**Pierre Sarda, Alain Olesker and
Gabor Lukacs**

**Zbigniew Wróbel and
Mieczysław Mąkosza**

**Paolo Crotti, Valeria Di Bussolo,
Lucilla Favero, Mauro Pineschi,
Daniela Sergiampietri,
Gabriele Renzi, Massimo Ricciutielli
and Graziella Roselli**

5349 Acid-catalysed epimerization of indolo[2,3-*a*]quinolizidines. 1-, 2- and 3-monosubstituted alkyl derivatives

I Tetrahedron Reports on Organic Chemistry

XXIII Instructions to Contributors

NUMBER 15

Contents

iii Contributors to this Issue

v Graphical Abstracts

5357 Corrigenda

5359 Asymmetric synthesis and absolute stereochemistry of 4,4-bis(trifluoromethyl)imidazoline based ACAT inhibitors

5373 Absolute configuration of halisulfate 3 from the sponge *Ircinia* sp.

5379 Diastereomers of a cofacial ternaphthalene and two azaternaphthalenes. Syntheses and barriers to isomerization

5389 Unsaturated fluoro analogues of adenine nucleotides. Unusual eliminations of hydrogen halides in α,α -difluorophosphonates containing a heterocyclic base

5397 Concerning the mechanism of the reductive cleavage of α -nitrocumene and cumyl chloride

5403 Aragusterols E–H, new 26,27-cyclosterols from the Okinawan marine sponge of the genus *Xestospongia* and absolute configurations of xestosterols A and B

5413 Synthesis of 2-aza-3-oxatetracyclo[7.3.1.1^{7,11}.0^{2,6}]tetradecane derivatives by the 1,3-dipolar cycloaddition reaction of homoadamantane-incorporated nitrones with alkenes

5423 Lewis acid-catalyzed [4+2]type cycloadditions of aldimines bearing α -hydrogens with 2-silyloxy-1,3-butadienes

5433 Palladium-mediated asymmetric synthesis of 3 β ,5 β ,7 β -trihydroxycycloheptene derivatives

5455 A new synthetic entry to fused azaquinones by a cycloaddition/ring transformation sequence starting from pyrido[1,2-*a*]pyrazines

5463 Diozonides from cozonolyses of suitable *O*-methyl oximes and ketones

5471 Synthèse et réactions S_{RN}1 en série 5-nitrothiazole

5485 Synthesis of fluorescent probes for the detection of abasic sites in DNA

5493 Synthesis of α -azido aldehydes. Stereoselective access to a protected lincosamine analogue

5501 Synthesis of 1-hydroxyindoles and indoles from *ortho*-nitroarylethanes

5515 Aromatic substituent effect on the stereoselectivity of the condensed- and gas-phase acid-induced methanolysis in 2-aryloxiranes derived from 3,4-dihydronaphthalene and *trans*-1,2,3,4,4a,10a-hexahydrophenanthrene bearing a tertiary benzylic oxirane nucleophilic centre

Richard Weaver and Ian H. Gilbert

Juan Almena, Francisco Foubelo and Miguel Yus

Simon Feldbæk Nielsen, Carl Erik Olsen and Søren Brøgger Christensen

Said S. Al-Jaroudi, Herman P. Perzanowski, Mohammed I. M. Wazeer and Sk. Asrof Ali

Cesare Gennari, Daniela Moresca, Anna Vulpetti and Gilles Pain

Christopher J. Easton, Sharon K. Eichinger and Michael J. Pitt

Orazio A. Attanasi, Lucia De Crescentini, Paolino Filippone, Elisabetta Foresti, Roberta Galeazzi, Ion Ghiviriga and Alan R. Katritzky

- 5537 The design and synthesis of nucleoside triphosphate isosteres as potential inhibitors of HIV reverse transcriptase
- 5563 Reductive opening of phenyl substituted thiacycloalkanes: new way for sulphur-containing organolithium compounds
- 5573 Lewis or Brønsted acid provoked rearrangements in *ortho*-(1,1-dimethylpropenyl)phenols
- 5581 1,3-Dipolar cycloaddition reactions of 1-aza-1-cyclooctene 1-oxide
- 5593 Reagent control in the aldol addition reaction of chiral boron enolates with chiral aldehydes. Total synthesis of (3*S*,4*S*)-statine
- 5609 Glycine-selective α -carbon–nitrogen bond cleavage of dipeptides by nickel peroxide
- 5617 Synthesis, reaction, theoretical calculation, NMR study and X-ray crystal structure of 1-substituted and 1-unsubstituted 1*H*-pyrazol-5(2*H*)-ones

I Instructions to Contributors

NUMBER 16

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 5641 Corrigendum
- TETRAHEDRON REPORT NUMBER 418**
- 5643 Solid-phase organic reactions—II. A review of the literature November 1995–November 1996
- ARTICLES**
- 5679 Stereoselective hydrogen transfer reactions of vinyl radicals: cyclization of alkynyl iodides by unimolecular chain transfer from silicon hydrides
- 5699 Synthesis and biological evaluation of amide-linked A-norpaclitaxels
- 5711 C-6 Allylated pyranosides for the synthesis of complex oxygenated tetrahydrofurans
- 5725 Synthesis of chiral spiro 3-oxazolin-5-one 3-oxides (chiral nitrones) via a nitrosoketene intermediate and their asymmetric 1,3-dipolar cycloaddition reactions leading to the EPC synthesis of modified amino acids
- 5747 Circinamide, a novel papain inhibitor from the cyanobacterium *Anabaena circinalis* (NIES-41)
- 5755 On the reaction of 1,3-diaza-2-azoniaallene salts with 1,3-butadienes and cumulenes
- 5767 Novel hopanoid derivatives released by oxidation of Messel shale kerogen
- 5775 Thermolysis of N-unsaturated alkyl- β -ketoamides. An easy access to spiro-lactams
- 5785 No-carrier-added asymmetric synthesis of α -methyl- α -amino acids labelled with fluorine-18

Pedro H. H. Hermkens, Harry C. J. Ottenheijm and David C. Rees

Angeles Martinez-Grau and Dennis P. Curran

Mahendra D. Chordia and David G. I. Kingston

Mohindra Seepersaud, Michael Blumenstein and David R. Mootoo

Nobuya Katagiri, Makoto Okada, Yoshihiro Morishita and Chikara Kaneko

Hee Jae Shin, Hisashi Matsuda, Masahiro Murakami and Katsumi Yamaguchi

Wolfgang Wirsching, Gerd-Michael Maier and Johannes C. Jochims

Christine Reiss, Philippe Blanc, Jean M. Trendel and Pierre Albrecht

Janine Cossy and Abderrahim Bouzide

Philippe Damhaut, Christian Lemaire, Alain Plenevaux, Claude Brihaye, Léon Christiaens and Dominique Comar

Laurence Mévellec and
François Huét

Erzsébet Ósz, Erzsébet Sós,
László Somsák, László Szilágyi and
Zoltán Dinya

Cornelis A. van Walree and
Leonardus W. Jenneskens

Fructuoso Barba,
José Luis de la Fuente and
Mikhail Galakhov

Saverio Florio, Vito Capriati and
Gennara Coilli

A. Chandra Sheker Reddy,
P. Shanthan Rao and
R. V. Venkataratnam

Bruno Danielli, Giordano Lesma,
Monica Luisetti and Sergio Riva

Begoña Aguilera,
Alfonso Fernández-Mayoralas and
Carlos Jaramillo

Anna Alelio, Ernesto Fattorusso,
Marialuisa Menna, Rosa Carnuccio
and Fulvio D'Acquisto

Bartłomiej Furman, Sergiej Molotov,
René Thürmer, Zbigniew Kałuża,
Wolfgang Voelter and
Marek Chmielewski

Carlos Cativiela,
Maria D. Díaz-de-Villegas,
José A. Gálvez and Yolanda Lapeña

Arjan E. Sollewijn Gelpke,
Jan Fraanje, Kees Goubitz,
Henk Schenk and Henk Hiemstra

Cesare Gennari, Anna Vulpetti and
Gilles Pain

Kristin Hammer and Kjell Undheim

- 5797 Synthesis of a novel trisubstituted cyclobutane nucleoside analogue. Unexpected C₄–C₃ ring contractions in related reactions
- 5813 A straightforward route to hydantocidin analogues with pyranose ring structure
- 5825 Mediation of substituent effects via monoatomic SiMe₂, CMe₂ and CH₂ σ -spacers. An NMR investigation
- 5831 Electrohydrodimerization of *trans*-cinnamaldehyde
- 5839 On the reaction of chloroalkylbenzothiazoles with alkoxides
- 5847 Fluoro organics: facile syntheses of novel 2- or 4-trifluoromethyl-1*H*-aryl-1,5-diazepines, oxazepines, thiazepines, 2-(1,1,1-trifluoroacetyl)imidazoles, oxazoles and thiazoles
- 5855 *Candida antarctica* lipase B catalyzes the regioselective esterification of ecdysteroids at the C-2 OH
- 5863 Use of cyclic sulfamidates derived from D-allosamine in nucleophilic displacements: scope and limitations
- 5877 Novel antiproliferative alkyl sulfates from the Mediterranean tunicate *Ascidia mentula*
- 5883 Synthesis of a 1-oxacephem structurally related to clavulanic acid from D-glucuronolactone
- 5891 On the synthesis of (S)- α -methylaspartic acid by diastereoselective alkylation of a chiral 2-cyanopropanoate
- 5899 Resolution and some properties of (1,1')-bi(dibenzofuranyl)-2,2'-diol (BIFOL)
- 5909 Highly enantio- and diastereoselective boron aldol reactions of α -heterosubstituted thioacetates with aldehydes and silyl imines
- 5925 Synthesis of conformationally restricted serine derivatives through ruthenium(II)-catalyzed ring closing metathesis
- I Instructions to Contributors

NUMBER 17

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 5937 Synthesis of dissymmetric indolocarbazole glycosides using the Mitsunobu reaction at the glycosylation step
- 5951 Total syntheses of lamellarin D and H. The first synthesis of lamellarin-class marine alkaloids
- 5963 Stereoselective reactions—XXV. Enantioselective deprotonation of prochiral 4-substituted cyclohexanones by chiral chelated lithium amides
- 5973 The fucofuranoside method, a new ¹H and ¹³C nuclear magnetic resonance method to determine the absolute configuration of secondary alcohols
- 5995 Regioselective oxyfunctionalization of bridgehead adamantane derivatives

Mitsuru Ohkubo,
Teruyuki Nishimura, Hideki Jona,
Teruki Honma, Satoru Ito and
Hajime Morishima

Fumito Ishibashi, Yuka Miyazaki
and Masatomo Iwao

Ryuichi Shirai, Daisaku Sato,
Kazumasa Aoki, Masahide Tanaka,
Hisashi Kawasaki and Kenji Koga

Masaru Kobayashi

Alexander E. Sorochinsky,
Alexander A. Petrenko,
Vadim A. Soloshonok and
Giuseppe Resnati

- Yoshiyasu Kitahara, Hajime Onikura, Yoshikazu Shibano, Satoshi Watanabe, Yuzuru Mikami and Akinori Kubo**
- Karin Wulf, Ulrich Klages, Beate Rissom and Lutz Fitjer**
- Hans-Josef Altenbach, David J. Brauer and Gerd F. Merhof**
- C. Gosmini, Y. Rollin, J. Périchon, C. Wakselman, M. Tordeux and L. Marival**
- Osman Achmatowicz, Barbara Szechner and Jan K. Maurin**
- Pieter S. van Heerden, Barend C. B. Bezuidenhout and Daneel Ferreira**
- José I. García, José A. Mayoral and Luis Salvatella**
- Dario Pini, Gloria Uccello-Barretta, Alberto Mastantuono and Plero Salvadori**
- Sergio Cossu, Ottorino De Lucchi, Davide Fabbri, Giovanni Valle, Gavin F. Painter and Robin A. J. Smith**
- Ponnusamy Shanmugam, Rajagopal Srinivasan and Krishnamoorthy Rajagopalan**
- Ioannis Papoutsis, Spyros Spyroudis, Anastasios Varvoglis and Catherine P. Raptopoulou**
- Jacek Gawroński, Krystyna Gawrońska, Paweł Skowronek, Urszula Rychlewska, Beata Warżajtis, Jacek Rychlewski, Marcin Hoffmann and Agnieszka Szarecka**
- Gianluca Pozzi, Ida Colombani, Massimo Miglioni, Fernando Montanari and Silvio Quici**
- Laura Cipolla, Francesco Nicotra, Elena Vismara and Marco Guerrini**
- Donald C. Craig, Gavin L. Edwards and Craig A. Muldoon**
- Antonio Guirado, Alfredo Cerezo and M. Carmen Ramírez de Arellano**
- Yu Zhao, Simon Parsons, Bruce A. Smart, Renxiang Tan, Zhongjian Jia, Handong Sun and David W. H. Rankin**
- Rudong Shan, Marc Stadler, Heidrun Anke and Olov Sterner**
- 6001 Synthesis of eupomatidines 1, 2 and 3 and related compounds including iminoquinolinequinone structure
- 6011 Sterically crowded cyclohexanes—IX. Synthesis, conformation and dynamics of hexaspiro[2.0.4.0.2.0.4.0.2.0.4.0]tetracosane
- 6019 Synthesis of 1-deoxy-4-thio-D-ribose starting from thiophene-2-carboxylic acid
- 6027 Allylation of carbonyl compounds in the presence of catalytic electrogenerated zinc. Unusual regioselectivity with a trifluorinated analog of prenyl bromide
- 6035 Addition of organolithium reagents to some carbohydrate enones
- 6045 Efficient asymmetric synthesis of the four diastereomers of diphenacoum and brodifacoum
- 6057 An *ab initio* study on the conformational and *endo/exo* preferences of acrylates in Diels–Alder reactions
- 6065 The asymmetric Reformatsky reaction: an NMR investigation about the nature of some organozinc reaction species
- 6073 Synthesis of structurally modified atropisomeric biaryl dithiols. Observations on the Newman–Kwart rearrangement
- 6085 Synthesis of functionalised optically active bicyclic and angularly fused tricyclic compounds from (*h*)-menthone by tin-mediated vinyl radical cyclization
- 6097 Aryliodonium derivatives of 2-amino-1,4-quinones: preparation and reactivity
- 6113 Factors affecting conformation of (*R,R*)-tartaric acid ester, amide and nitrile derivatives. X-Ray diffraction, circular dichroism, nuclear magnetic resonance and *ab initio* studies
- 6145 Epoxidation of alkenes under liquid–liquid biphasic conditions: synthesis and catalytic activity of Mn(III)-tetraarylporphyrins bearing perfluoroalkyl tails
- 6163 Synthesis of stable analogues of glyceroglycolipids
- 6171 Diastereoselective synthesis of α,α' -disubstituted oxygen heterocycles
- 6183 One-pot synthesis of 1,4-dichlorophenazines
- 6195 Eremophilane derivatives with a novel carbon skeleton from *Ligularia veitchiana*
- 6209 The reactivity of the fungal toxin papyracillic acid

Ion Grosu, Gerard Plé, Sorin Mager,
Roberto Martinez,
Clementina Mesaros and
Brigida del Carmen Camacho

6215 Synthesis and stereochemistry of some new chiral spiro-1,3-dioxanes

I Instructions to Contributors

NUMBER 18

Contents

iii Contributors to this Issue

v Graphical Abstracts

6233 Corrigendum

TETRAHEDRON REPORT NUMBER 419

6235 Intramolecular cycloaddition reactions of allylic cations

ARTICLES

6281 Synthesis of (4*S*)-hydroxymethyl-(2*F*)-(2-propyl)-butyrolactone: a quest for a practical route to an important hydroxyethylene isostere chiron

6295 Efficient removal of sugar *O*-tosyl groups and heterocycle halogens from purine nucleosides with sodium naphthalenide

6303 Preparation of *N*-aryl-2-hydroxypropionamides from hydroxy aromatic compounds using a one-pot Smiles rearrangement procedure

6313 Enantiodivergent synthesis of a decalin type of chiral building blocks and their application to terpenoid synthesis

6327 Addition of molecular fluorine to 7-oxabicyclo[2.2.1]hept-5-ene derivative and conversion to fluorine substituted deoxyhexofuranosides

6337 Enantioselective allylic oxidation of cycloalkenes by using Cu(II)-tris(oxazoline) complex as a catalyst

6351 A new route to 2-oxazolines, bis-oxazolines, and 2-imidazoline-5-ones from imidates using solvent-free cycloadditions: synthesis, chemical properties, and PM3 MO calculations

6365 Allylation and benzylation of enolates derived from β -phenylselenanyl silyl enol ethers

6377 Different synthetic routes towards efficient organogelators: 2,3-substituted anthracenes

6391 New routes to diethyl 1-fluoromethylphosphonocarboxylates and diethyl 1-fluoromethylphosphonocarboxylic acid

6401 The photolysis of cycloalkyl nitrites esters: the radical intermediates as studied by E.P.R.

6411 Synthesis and structure of complexes of acyl *N*-aminides with zinc(II) salts

6421 Fungal and bacterial regioselective hydroxylation of pyrimidine heterocycles

6433 The tunable transmission of the aromatic character of the aglycone through the anomeric effect in C-nucleosides drives its own sugar conformation: a thermodynamic study

Michael Harmata

Stephen Hanessian,
Teresa Abad-Grillo and
Grant McNaughton-Smith

Elzbieta Lewandowska,
Vladimir Neschadimenko,
Stanislaw F. Wnuk and
Morris J. Robins

John J. Weidner,
Philip M. Weintraub,
Richard A. Schnettler and
Norton P. Peet

Naoki Toyooka, Akira Nishino and
Takefumi Momose

Akemi Toyota, Minaho Uchiyama
and Chikara Kaneko

Ken-ichi Kawasaki and
Tsutomu Katsuki

Jean Michel Lerestif, Loïc Toupet,
Sourisak Sinbandhlt,
François Tonnard,
Jean Pierre Bazureau and
Jack Hamelin

Sylvain Ponthieux,
Francis Outurquin and
Claude Paulmier

Jean-Luc Pozzo, Gilles M. Clavier,
Michel Colomes and
Henri Bouas-Laurent

Rachel Waschbüsch, John Carran
and Philippe Savignac

Loris Grossi

Andrés Molina,
María A. de las Heras,
Yolanda Martínez, Juan J. Vaquero,
José L. García Navio,
Julio Alvarez-Bullia,
Pilar Gomez-Sal and Rosario Torres

Vicente Gotor, Margarita Quirós,
Ramón Liz, Jordi Frigola and
Rosa Fernández

Ingrid Luyten,
Christophe Thibaudau,
Anders Sandström and
Jyoti Chattopadhyaya

Haydee Chávez,
Ana Estévez-Braun,
Ángel G. Ravelo and
Antonio G. González

Ari M. P. Koskinen and
Leena A. Otsomaa

A. Espada, A. Rivera-Sagredo,
J. M. de la Fuente,
J. A. Hueso-Rodríguez and
S. W. Elson

Iain W. Harvey, Eifion D. Phillips
and Gordon H. Whitham

Nicole C. R. van Straten,
Gijsbert A. van der Marel and
Jacques H. van Boom

Nicole C. R. van Straten,
Gijsbert A. van der Marel and
Jacques H. van Boom

Nicole C. R. van Straten,
Nicole M. A. J. Kriek,
Zsolt A. C. Czirla,
Gijsbert A. van der Marel and
Jacques H. van Boom

José M^a Miguel del Corral,
Marina Gordaliza,
M^a Angeles Castro,
M^a Luisa López-Vázquez,
M^a Dolores García-Grávalos,
Howard B. Broughton and
Arturo San Feliciano

Patrizia Ciminiello,
Ernesto Fattorusso, Martino Forino,
Silvana Magno and
Maurizio Pansini

- 6465 First examples of dammarane triterpenes isolated from Celastraceae
- 6473 A new access to enantiomerically pure deoxy aminohexoses: methyl 4-amino-4,6-dideoxygulopyranoside and *epi*-tolyposamine
- 6485 New cytochalasins from the fungus *Xylaria hypoxylon*
- 6493 Free radical addition reactions of allylic sulfones to alkenes
- 6509 An expeditious route to the synthesis of adenophostin A
- 6523 Synthesis of 2',3'',4''-trisphosphate-containing analogs of adenophostin A
- 6539 Synthesis of 3'',4''-bisphosphate-containing analogs of adenophostin A
- 6555 Bioactive isoxazoline and oxime derivatives from 7-ketolignans
- 6565 Chemistry of Verongida sponges—VIII. Bromocompounds from the Mediterranean sponges *Aplysina aerophoba* and *Aplysina cavernicola*

I Instructions to Contributors

NUMBER 19

Contents

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 63

APPLICATIONS OF SOLID-SUPPORTED ORGANIC SYNTHESIS IN COMBINATORIAL CHEMISTRY

Guest Editor: JAMES A. BRISTOL

Parke–Davis Pharmaceutical Research, Ann Arbor, Michigan, USA

- iii Contributors to this Issue
- vii Announcement: Tetrahedron Symposia-in-Print
- xiii Preface
- xv Graphical Abstracts
- 6573 A simple procedure for the solid phase synthesis of diketopiperazine and diketomorpholine derivatives

Anna Katrin Szardenings,
Timothy S. Burkoth, Henry H. Lu,
David W. Tien and
David A. Campbell

Chixu Chen,
Lisa A. Ahlberg Randall,
R. Bryan Miller, A. Daniel Jones and
Mark J. Kurth

Gary L. Bolton, John C. Hodges and
J. Ronald Rubin

Alex A. Virgilio, Andrew A. Bray,
Wei Zhang, Lon Trinh,
Michael Snyder,
Michael M. Morrissey and
Jonathan A. Ellman

Kyung Woon Jung, Xu-yang Zhao
and Kim D. Janda

Kevin M. Short, Brett W. Ching and
Adnan M. M. Mjalli

Armido Studer and
Dennis P. Curran

Shaughnessy Robinson and
Eric J. Roskamp

6595 The solid-phase combinatorial synthesis of β -thioketones

6611 Solid phase synthesis of fused bicyclic amino acid derivatives via intra-molecular Pauson–Khand cyclization: versatile scaffolds for combinatorial chemistry

6635 Synthesis and evaluation of a library of peptidomimetics based upon the β -turn

6645 Development of new linkers for the formation of aliphatic C–H bonds on polymeric supports

6653 Exploitation of the Ugi 4CC reaction: preparation of small molecule combinatorial libraries via solid phase

6681 A strategic alternative to solid phase synthesis: preparation of a small isoxazoline library by 'fluorous synthesis'

6697 Solid phase synthesis of guanidines

I Instructions to Contributors

NUMBER 20

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 420

6707 Regio- and stereoselective synthesis of γ -alkylidenebutenolides and related compounds

ARTICLES

6739 Stereoselective synthesis of 2-aryloxy esters: an asymmetric approach to fluoxetine, tomoxetine and nisoxetine

6747 Synthesis of complex ethynyladenosines using organic triflic enolates in palladium-catalyzed reactions: potential agonists for the adenosine A_2 receptor

6755 Investigation of the one-flask synthesis of porphyrins bearing *meso*-linked straps of variable length, rigidity, and redox activity

6791 Polymer-supported synthesis as a tool for improving chemoselectivity: Pauson–Khand reaction

6809 New di- and tricyclic diterpenes possessing a bicyclic [4.3.1] ring system isolated from the soft coral, *Xenia florida*

6817 Substituent effect on the selectivity of [3.3]orthoanthracenophanes in the Diels–Alder reaction with *N*-(*p*-substituted phenyl)maleimides

6825 Diastereoselective α -iodination reaction of 4-alkenylamide having a β -chiral center

6835 Synthesis of nanometer-sized homo- and heteroorganometallic tripodaphyrins

6847 Benzoylperylene dicarboximides: functional dyes with attractive optical and electronic properties

6861 2-Phenylthio-3,3,3-trifluoropropene, its sulfoxide or sulfone in Diels–Alder cycloadditions

Ei-ichi Negishi and Martin Kotora

Paul N. Devine, Richard M. Held, Jr
and David M. Tschaen

Steven A. Adah and Vasu Nair

Richard W. Wagner,
Thomas E. Johnson and
Jonathan S. Lindsey

Jason L. Spitzer, Mark J. Kurth,
Neil E. Schore and Samir D. Najdi

Tetsuo Iwagawa,
Jun-ichi Kawasaki, Tsunao Hase
and Jeffrey L. C. Wright

Shuntaro Mataka, Jiang Ma,
Thies Thiemann, Takao Mimura,
Tsuyoshi Sawada and
Masashi Tashiro

Midori Okada, Osamu Kitagawa,
Tokushi Hanano and
Takeo Taguchi

Olivier Mongin and Albert Gossauer

Frank O. Holtrup, Gert R. J. Müller,
Jochen Uebe and Klaus Müllen

Martine Redon, Zdenek Janousek
and Heinz G. Viehe

**Lucio Minuti, Aldo Taticchi,
Assunta Marrocchi and
Eszter Gacs-Baitz**

**Anne Marie Horneman and
Inge Lundt**

**Cristina Cimarelli, Gianni Palmieri
and Mercedes Camalli**

**Ingrid Luyten,
Christophe Thibaudeau and
Jyoti Chattopadhyaya**

**Roberto Blanchini, Claudia Forte,
Giuseppe Musumarra,
Calogero Pinzino and
Caterina Sergi**

Anders Lohse and Mikael Bols

**Peter Kremminger and
Kjell Undhelm**

**M. Rezaul Haque and
Malcolm Rasmussen**

Belew Mekonnen and George Crank

**M. N. Preobrazhenskaya,
I. I. Rozhkov, E. I. Lazhko,
L. N. Yudina and A. M. Korolev**

**Derradji Boumrah,
Malcolm M. Campbell,
Simon Fenner and
Richard G. Kinsman**

**Nicholas P. Crouch,
Robert M. Adlington,
Jack E. Baldwin, Meng-Huee Lee
and Colin H. MacKinnon**

**Jack E. Baldwin,
Robert M. Adlington,
Justin S. Bryans, Matthew D. Lloyd,
Timothy J. Sewell,
Christopher J. Schofield,
Keith H. Baggailey and
Robert Cassels**

**András Szabó, Antal Csámpai,
Károly Köröndy and
Zsolt Böcskei**

**Simon F. R. Hinkley, Nigel B. Perry
and Rex T. Weavers**

**Raffaele Saladino, Luigi Stasi,
Claudia Crestini, Rosario Nicoletti
and Maurizio Botta**

**S. Baskaran, C. Baskaran,
Pradeep J. Nadkarni,
Girish K. Trivedi and
J. Chandrasekhar**

- 6873 Diels–Alder reaction of 3,3',4,4'-tetrahydro-1,1'-binaphthalene. One-pot synthesis of a pentahelicenebenzoquinone
- 6879 Highly functionalised cyclopentanes by radical cyclisation of unsaturated bromolactones—I. Preparation of 5-deoxycarbahehexofuranoses
- 6893 Stereoselective preparation of enamionone lithium dianions: synthesis of *N,N*-dimethylcarbamoylenaminones
- 6903 The determination of the ionization constants of C-nucleosides
- 6907 Spectroscopic evidence of a free-radical mechanism in the reduction of Schiff bases by formic acid
- 6917 Synthesis of 6-deoxy-6-phenylisofagomine derivatives
- 6925 Asymmetric synthesis of unsaturated and bis-hydroxylated (*S,S*)-2,7-diaminosuberic acid derivatives
- 6937 Ambident heterocyclic reactivity: intramolecular alkylations of 2,4-disubstituted benzimidazoles
- 6959 Electrophilic substitution of imidazo[2,1-*b*]oxazoles
- 6971 Reaction of vanilmandelic acid and 4-hydroxybenzyl alcohol derivatives with L-ascorbic acid
- 6977 Spacer molecules in peptide sequences: incorporation into analogues of atrial natriuretic factor
- 6993 A mechanistic rationalisation for the substrate specificity of recombinant mammalian 4-hydroxyphenylpyruvate dioxygenase (4-HPPD)
- 7011 Chemo-enzymatic synthesis of bicyclic γ -lactams using clavaminic acid synthase
- 7021 Substituent-dependent asymmetric induction in the ring transformation of 2,3-dihydroimidazo[2,1-*a*]phthalazin-4-ium-6-olates effected by acetic and propionic anhydrides
- 7035 Base treatment of kobusone revisited
- 7045 Reactivity of lithium trimethylsilyldiazomethane and diazomethane toward the 5,6-double bond of uracil and uridine derivatives
- 7057 Studies on cycloaddition reactions of 2,2-dimethyl-3,4-dihydro-2*H*-pyrrole *N*-oxide and *N*-(benzylidene)methylamine *N*-oxide with α,β -unsaturated lactones and esters

I Instructions to Contributors

NUMBER 21

Contents

iii Contributors to this Issue

v Graphical Abstracts

- 7077 Synthesis of (+)-(1*S*)-1-pyrophosphoryl-(2*R*,3*R*)-2,3-dihydroxy-(4*S*)-4-(phosphoryloxymethyl)cyclopentane, a stable, optically-active carbocyclic analog of 5-phosphoribosyl-1-pyrophosphate (PRPP)

**Ronald J. Parry, Mark R. Burns,
Sao Jiralerspong and
Lawrence Alemany**

- Albert Kascheres, José Nunes, Jr and Fernando Brandão**
Bogdan K. Wilk
 7089 Reaction of a 1-azirine-3-methylacrylate and derivatives with diphenylketene. A convenient route to 5-pyrrolin-2-ones
- Ronald G. Harvey and Cecilia Cortez**
 7097 The Knoevenagel condensation of *O,S*- and *S,S*-diethyl malonates and ethyl pyruvate
- Robert V. Hoffman and Junhua Tao**
 7101 Fluorine-substituted derivatives of the carcinogenic dihydrodiol and diol epoxide metabolites of 7-methyl-, 12-methyl- and 7,12-dimethylbenz[a]-anthracene
- David Crich, Xian-Yun Jiao and Milan Bruncko**
 7119 A simple, stereoselective synthesis of ketomethylene dipeptide isosteres
- David Crich, Swaminathan Natarajan and Joyce Z. Crich**
 7127 Asymmetric synthesis of a taxol C-ring by aldol condensation and radical cyclization
- Zhenjun Diwu, Yixin Lu, Rosalyn H. Upson, Mingjie Zhou, Dieter H. Klaubert and Richard P. Haugland**
 7139 Synthesis of the taxol AB-system by olefination of an A-ring C1 ketone and direct B-ring closure
- Shengkui Hu and Douglas C. Neckers**
 7159 Fluorescent molecular probes—I. The synthesis and biological properties of an ELF[®] β -glucuronidase substrate that yields fluorescent precipitates at the enzymatic activity sites
- Robert Barbuch, Timothy T. Curran, David A. Hay and Roy J. Vaz**
 7165 Photochemical reactions of sulfide-containing alkyl phenylglyoxylates
- Daisaku Sato, Hisashi Kawasaki, Ichio Shimada, Yoji Arata, Kimio Okamura, Tadamasa Date and Kenji Koga**
 7181 Purification of 9*N*-[(1'*R*,3'*R*)-*trans*-3'-hydroxycyclopentanyl]adenine HCl: a combination of theory and experiment
- Tsutomu Fukuda and Tsutomu Katsuki**
 7191 Stereoselective reactions—XXVI. Solution structures of a chiral bidentate lithium amide in relation to the solvent-dependent enantioselectivities in deprotonation reaction
- Yoshinori Nishii, Kelsuke Watanabe, Taichi Yoshida, Tatsutoshi Okayama, Shozo Takahashi and Yoo Tanabe**
 7201 Highly enantioselective cyclopropanation of styrene derivatives using Co(III)-salen complex as a catalyst
- Marcell Woltersdorf, Remo Kranich and Hans-Günther Schmalz**
 7209 Total synthesis of (–)-periplanones C and D. Their pheromonal activities against three *Periplaneta* species
- Stéphane Peluso, Pascal Dumy, Ian M. Eggleston, Patrick Garrouste and Manfred Mutter**
 7219 Enantioselective synthesis of new *C*₂-symmetric ferrocenylalkylamines via sonochemical amination of 1-ferrocenylalkyl acetates
- A. S. Bhanu Prasad, Thomas M. Stevenson, Janakiram Rao Citineni, Valérie Nyzam and Paul Knochel**
 7231 Protein mimetics (TASP) by sequential condensation of peptide loops to an immobilised topological template
- Axel Pahl, Jörg Oetting, Jens Holzkamp and Hartmut H. Meyer**
 7237 Preparation and reactions of new zincated nitrogen-containing heterocycles
- Michael Bogenstätter and Wolfgang Steglich**
 7255 Diastereoselective and convergent synthesis of both 11'-epimers of (–)-(2*R*,3*R*,6*S*)-carnavaline
- Magnus W. Walter, Robert M. Adlington, Jack E. Baldwin and Christopher J. Schofield**
 7267 Synthesis of optically pure α -hydroxyglycine peptides
- Piotr Balczewski and Witold M. Pietrzykowski**
 7275 Synthesis of metallo- β -lactamase inhibitors
- Alfonso Carotenuto, Ernesto Fattorusso, Virginia Lanzotti, Silvana Magno, Rosa Carnuccio and Fulvio D'Acquisto**
 7291 A new, effective approach for the C–C bond formation utilizing 1-, 2- and 3-phosphonyl substituted radicals derived from iodoalkylphosphonates and *n*-Bu₃SnH/Et₃B/O₂ system
- Marcello Tiecco, Lorenzo Testaferri, Francesca Marini, Claudio Santi, Luana Bagnoli and Andrea Temperini**
 7305 Structure and absolute stereochemistry of the new cyclolinteinol and cyclolinteinol acetate, macrophage activation modulators
- 7311 Pyrrolidinamine, piperidinamine and tetrahydropyridazine derivatives from selenium promoted cyclization of alkenyl phenylhydrazones

Jose A. Gómez, Joaquín Campos,
Juan A. Marchal, María A. Trujillo,
Consolación Melguizo,
José Prados, Miguel A. Gallo,
Antonia Aránega and
Antonio Espinosa

Ram N. Ram and I. Charles

Roberto Ballini, Giovanna Bosica
and Tiziana Mecozzi

Giovanni Curotto, Daniele Donati,
Gabriella Finizia and
Antonella Ursini

Phillip C. Bulman Page, Mark Purdie
and David Lathbury

Masakatsu Shibasaki,
Christopher D. J. Boden and
Akihiko Kojima

Oscar M. Moradei,
Cecile M. du Mortier and
Alicia Fernández Cirelli

Marshall Stepanian,
William E. Trego, David G. Bolin,
Leo A. Paquette, Sina Sareth and
Frank G. Riddell

Derek H. R. Barton,
Miguel Costas Saiguelro and
John MacKinnon

Rajiv P. Balasubramaniam,
David K. Moss, Justin K. Wyatt,
John D. Spence, Arvin Gee and
Michael H. Nantz

João V. Comasseto, Wai L. Lo and
Nicola Petragiani

Charles P. Nash, Susan D. Toto and
W. Kenneth Musker

Hiroshi Morita, Akira Gonda,
Koichi Takeya, Hideji Itokawa,
Toshihiko Hirano, Kitaro Oka and
Osamu Shirota

Shiroh Futaki and Kouki Kitagawa

Lai-King Sy, Shi-Man Hui,
Kung-Kai Cheung and
Geoffrey D. Brown

Yong Jip Kim, Masaru Kido,
Masahiko Bando and
Takeshi Kitahara

7319 Chemical modifications on the acyclic moiety of 3-(2-hydroxyethoxy)-1-alkoxypropyl nucleobases—II. Differentiation and growth inhibition in rhabdomyosarcoma cells after exposure to a novel 5-fluorouracil acyclo-nucleoside

7335 Selective esterification of aliphatic nonconjugated carboxylic acids in the presence of aromatic or conjugated carboxylic acids catalysed by $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$

7341 C–C Bond fission via sulphones: a new ring cleavage of cyclic β -keto phenylsulphones

7347 A chemical method for the preparation of novel 1,5-benzodiazepines acting as CCK-B antagonists in high enantiomeric purity

7365 Unusual reversal of stereoselectivity of 1,3-dipolar cycloaddition in the presence of Lewis acids

I Instructions to Contributors

NUMBER 22

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 421

7371 The asymmetric Heck reaction

ARTICLES

7397 Anomalous Horner–Wadsworth–Emmons reactions on 3,4-enuloses

7403 Vicinal tetrahydrofuran polysubstitution of simulated fatty acids

7417 The functionalization of saturated hydrocarbons—XXXIX. Further evidence for the role of the iron–carbon bond in Gif chemistry

7429 Methylation-ring opening of 3,3-disubstituted 2,3-epoxy alcohols. Synthesis of chiral quaternary fragments for assembly of briaran diterpenes

7445 Carbonyl transposition on organoselenium compounds

7461 Solution conformations of unconstrained eight-membered 1,5-heterocycles containing sulfur and phosphorus

7469 Solution state conformation of an immunosuppressive cyclic dodecapeptide, cycloleonorinin

7479 Peptide-unit assembling via disulfide cross-linking: a versatile approach which enables the creation of artificial proteins comprising helices with different amino acid sequences

7493 A rearranged hydroperoxide from the reduction of artemisinin

7501 Novel and versatile synthesis of pyrrolidine type azasugars, DAB-1 and LAB-1, potent glucosidase inhibitors

Werner Schroth,
Ekkehard Hintzsche,
Hartwig Jordan, Thomas Jende,
Roland Spitzner and Iris Thondorf

Beate Rissom and Lutz Fitjer

Dieter Seebach, Georg Jaeschke,
Konstanze Gottwald, Keiji Matsuda,
Roberto Formisano,
David A. Chaplin, Matthias
Breuning and Gerhard Bringmann

Françoise Léost,
Bernard Chantegrel and
Christian Deshayes

Hélène Pellissier,
Pierre-Yves Michellys and
Maurice Santelli

Thierry Maugard,
Magali Remaud-Simeon,
Dominique Petre and
Pierre Monsan

Olivier Lavastre, Sandrine Cabloch,
Pierre H. Dixneuf and Jiri Vohlidal

Sophie Daninos-Zeghal,
Ali Al Mourabit, Alain Ahond,
Christiane Poupot et Pierre Potier

Jean-Christophe Cintrat,
Errol Biart, Jean-Luc Parrain and
Jean-Paul Quintard

Thierry Maugard,
Magali Remaud-Simeon,
Dominique Petre and
Pierre Monsan

Pothiraj Kannan,
Ranganathan Sevel,
Seenivasan Rajagopal,
Kasi Pitchumani and
Chockalingam Srinivasan

Ajay Kumar Mandal and Javed Iqbal

T. Punniyamurthy, Beena Bhatia,
M. Madhava Reddy, Golak
C. Maikap and Javed Iqbal

Giovanni Desimoni, Giuseppe Falta,
Anna Gamba Invernizzi and
Pierpaolo Righetti

Enrique Díez-Barra, Julio Dotor,
Antonio de la Hoz,
Concepción Foces-Foces,
Christine Enjalbal,
Jean Louis Aubagnac,
Rosa María Claramunt and
José Elguero

Anna Bernardi, Cesare Gennari,
Laura Raimondi and Maria B. Villa

Margaret A. Brimble and
Richard J. R. Elliott

- 7509 1,2-Dithiins and precursors—XVII. Synthesis and properties of thienoannelated 1,2-dithiins, structural influence on colour
 - 7529 Sterically crowded cyclohexanes—X. Synthesis, conformation and dynamics of 8,8,13,13-tetramethyltetraspiro[2.0.3.1.3.1.3.0]heptadecane
 - 7539 Resolution of racemic carboxylic acid derivatives by Ti-TADDOLate mediated esterification reactions—a general method for the preparation of enantiopure compounds
 - 7557 Tandem Wolff rearrangement—'tert-amino effect' sequence: synthesis of 2-oxindolinium enolate derivatives
 - 7577 Regiochemistry of Wacker-type oxidation of vinyl group in the presence of neighboring oxygen functions—I
 - 7587 Lipase-catalyzed chemoselective N-acylation of amino-sugar derivatives in hydrophobic solvent: acid-amine ion-pair effects
 - 7595 Selective and efficient access to *ortho*, *meta* and *para* ring-substituted phenylacetylene derivatives R-[C≡C-C₆H₄]_n-Y (Y: H, NO₂, CN, I, NH₂)
 - 7605 Synthèse de métabolites marins 2-aminoimidazoliques: hyménidine, orôidine et kéramadine
 - 7615 An alternative route to enantioenriched α-alkoxyalkylstannanes by stereoselective opening of chiral α-stannylacetals with organometallic reagents
 - 7629 Lipase-catalysed synthesis of biosurfactants by transacylation of *N*-methylglucamine and fatty-acid methyl esters
 - 7635 Oxidation of organic sulfides with clay-supported iodosylbenzene as oxygen donor
 - 7641 A versatile aerobic oxidation of organic compounds catalyzed by cobalt(II) porphyrins
 - 7649 A versatile cobalt(II)-Schiff base catalyzed oxidation of organic substrates with dioxygen: scope and mechanism
 - 7671 Can a chiral catalyst containing the same ligand/metal components promote the formation of both enantiomers enantioselectively? The bis(oxazoline)-magnesium perchlorate-catalyzed asymmetric Diels-Alder reaction
 - 7689 *N,N'*-Linked 1,2-ethanediyl-poly(benzimidazolin-2-ones) and the X-ray crystal structure of a benzimidazolin-2-one trimer
 - 7705 Computational studies on the aldol-type addition of boron enolates to imines: an *ab initio* approach
 - 7715 Addition of silyloxydienes to 2-substituted 1,4-benzoquinones and 1,4-naphthoquinones
- I Tetrahedron Reports on Organic Chemistry
XXIII Instructions to Contributors

NUMBER 23

Contents

- | | | |
|--|------|--|
| | iii | Contributors to this Issue |
| | v | Graphical Abstracts |
| Christine Y. de Leon and
Bruce Ganem | 7731 | A new approach to porphobilinogen and its analogs |
| John F. Barry, Lara Campbell,
Dudley W. Smith and
Thomas Kodadek | 7753 | Synthesis and catalytic epoxidation activity of terpene-derived <i>D</i> ₄ -symmetric metalloporphyrins |
| Michael Prein, Peter J. Manley and
Albert Padwa | 7777 | Site selectivity in the rhodium(II)-catalyzed reaction of α -diazoimides. Ligand and substituent effects |
| Toshihide Horiuchi, Tetsuo Ohta,
Eiji Shirakawa, Kyoko Nozaki and
Hidemasa Takaya | 7795 | Asymmetric hydroformylation of conjugated dienes catalyzed by chiral phosphine–phosphite–Rh(I) complex |
| Bor-Wen Ke, Chao-Hsiung Lin and
Yeun-Min Tsai | 7805 | Generation and intramolecular cyclization of α -sulfinyl and α -sulfonyl radicals |
| Masami Ishibashi, Miho Takahashi
and Jun'ichi Kobayashi | 7827 | Studies on the macrolides from marine dinoflagellate <i>Amphidinium</i> sp.: structures of amphidinolides <i>R</i> and <i>S</i> and a succinate feeding experiment |
| Jeevan Kumar Prasain,
Yasuhiro Tezuka, Jian Xin Li,
Ken Tanaka, Purusotam Basnet,
Hui Dong, Tsuneo Namba and
Shigetoshi Kadota | 7833 | Six novel diarylheptanoids bearing chalcone or flavanone moiety from the seeds of <i>Alpinia blepharocalyx</i> |
| Tsuyoshi Satoh, Hideaki Unno,
Yasuhiro Mizu and
Yasumasa Hayashi | 7843 | Ligand exchange reaction of sulfoxides in organic synthesis: a versatile procedure for one-carbon homologation of methyl-esters to esters, thioesters, carboxylic acids and amides |
| Wilfried Weigel, Sabine Schiller and
Hans-Georg Henning | 7855 | Stereoselective photocyclization to 2-aminocyclopropanols by photolysis of β -aminoketones and oxidative ring opening to enamines |
| Andreas Kirschning and
Jan Harders | 7867 | Addition of <i>C</i> -nucleophiles to carbohydrate-derived 2,3-dihydro-4 <i>H</i> -pyran-4-ones: a new entry to thromboxane analogues |
| Claudia Crestini and
Maurizio D'Auria | 7877 | Singlet oxygen in the photodegradation of lignin models |
| Bahman Tamami and
Hamid Yeganeh | 7889 | Pyrazine-based polymeric complex of oxodiperoxochromium (VI) compound as a new stable, mild, efficient and versatile oxidant in organic synthesis |
| Blanca F. Bonini,
Mauro Comes Franchini,
Mariafrancesca Fochi,
Germana Mazzanti and
Alfredo Ricci | 7897 | Chemistry of thioacylsilanes—XI. Cyclic and open chain α -silyl vinyl sulfides as precursors of thioannulated cyclopentenones and thiofunctionalized enones |
| Andrei A. Semioshkin,
Gennadii M. Ptashits,
Vladimir L. Ivanov,
Vasilii A. Artyomov,
Anatolii M. Shestopalov,
Vladimir I. Bregadze and
Viktor P. Litvinov | 7911 | Nucleophilic substitution at α -methylene group attached to <i>o</i> -carboranes. Synthesis of carboranyl methylthiopyridines |
| Osman Achmatowicz,
Iwona Malinowska,
Barbara Szechner and Jan
K. Maurin | 7917 | Resolution of 4-cyano-4-(4-nitrophenyl)hexanoic acid: synthesis of (<i>R</i>) and (<i>S</i>)-3-(4-aminophenyl)-3-ethylpiperidine-2,6-dione (aminoglutethimide) |
| Pier Carlo Montecchi,
Maria Luisa Navacchia and
Piero Spagnolo | 7929 | 2-Cyano-iso-propyl radical addition to alkynes |
| Jacques Fossey, Giovanni Ghigo,
Glauro Tonachini and
Paolo Venturello | 7937 | <i>Ab initio</i> theoretical study of metallo-dehydrogenation and nucleophilic addition of methyl lithium and methyl potassium with crotonaldehyde dimethyl acetal |

Alexander A. Gevorkyan,
Alvard S. Arakelyan and
Anthony F. Cockerill

Daniel T. Gryko, Piotr Piątek and
Janusz Jurczak

Ryszard Ostaszewski and
Janusz Jurczak

Daniel Nöteborg, Jonas Brånalt,
Ingemar Kvarnström,
Björn Classon, Bertil Samuelsson,
Ulrika Nilroth, U. Helena Danielson,
Anders Karlén and Anders Hallberg

Tamas E. Gunda and
Ferenc Sztaricskai

7947 The electromeric effect in polar 1,2-elimination is a myth. A revised version and a unified rule for elimination

7957 The synthesis of macrocyclic diamides and tetramides containing phenol units

7967 The synthesis of tricyclic cryptands

7975 Synthesis of enantiomerically pure *cis* and *trans* 2-aminocyclopentane-carboxylic acids. Use of proline replacements in potential HIV-protease inhibitors

7985 2-Amino-1-phenyl-propan-1,3-diol as chiral auxiliary. Application in the synthesis of *cis* 3-phthalimido-4-styryl-2-azetidinones

I Instructions to Contributors

NUMBER 24

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 422

7999 Organic reactions on alumina

ARTICLES

8067 Opening of cyclopropyl ketones with SmI_2 . Synthesis of spirocyclic and bicyclic ketones by intramolecular trapping of an electrophile

8085 Synthesis of 2',3'-dideoxy-3'-hydroxymethylcytidine; a unique antiviral nucleoside

8105 Design, synthesis, and characterization of a novel hexa-azacyclophane and interactions with $d(\text{CGCA}_3\text{T}_3\text{GCG})_2$, ctDNA and T4DNA

8121 Yaoundamines A and B, new antimalarial naphthylisoquinoline alkaloids from *Ancistrocladus korupensis*

8129 Synthesis of two marine natural products: the aglycones of pavoninin-1 and 2

8137 Δ^3 -1,3,4-Telluradiazolines, a novel tellurium containing heterocycle: one-pot synthesis, structure, and reactivity

8149 Isolation and stereostructure of dolastatin I, a cytotoxic cyclic hexapeptide from the Japanese sea hare *Dolabella auricularia*

8155 Effects of γ -cyano substituent in allylic bridgehead solvolyses: evidence for cyano π conjugation in carbocations

8165 The formation of silylketenes. A theoretical study

8173 Reaction of dimethyl sulfide ditriflate with alkenes. Synthesis of sulfur derivatives of nortricyclane

George W. Kabalka and
Richard M. Pagni

Gary A. Molander and
Cristina Alonso-Ailja

Margaret M. Faul, Bret E. Huff,
Steven E. Dunlap, Scott A. Frank,
James E. Fritz, Stephen W. Kaldor,
Michael E. LeTourneau,
Michael A. Staszak,
Jeffrey A. Ward, John A. Werner
and Leonard L. Winneroski

Thomas C. Bruce, Yu Chi Yip,
Andrei Blaskó, Felice C. Lightstone,
Kenneth A. Browne, Mark E. Petyak
and Jia Luo

Yali F. Hallock, John H. Cardellina,
II, Manuela Schäffer, Martin Stahl,
Gerhard Bringmann,
Guido François and
Michael R. Boyd

Hong-Seok Kim, In-Chul Kim and
Sang-Ok Lee

Mao Minoura, Takayuki Kawashima,
Norihito Tokito and Renji Okazaki

Hiroki Sone, Hideo Kigoshi and
Kiyoyuki Yamada

Ken'ichi Takeuchi,
Toshikazu Kitagawa, Yasushi Ohga,
Akitoshi Nakakimura and
Motohiro Munakata

Magali Oblin, Michel Rajzmann and
Jean-Marc Pons

Valentine G. Nenajdenko,
Pavel V. Verteletzkiy, Ilya D. Gridnev,
Nikolai E. Shevchenko and
Elizabeth S. Balenkova

Jane L. Ward, Paul Gaskin,
Michael H. Beale, Richard
Sessions, Yasunori Koda and
Claus Wasternack

Petr Holý, Miroslav Havránek,
Magdalena Pánková, Luděk Ridvan
and Jiří Závada

Jacquié L. Harper,
Robin A. J. Smith,
Jennifer J. Bedford and
John P. Leader

Justo Cobo, Adolfo Sánchez,
Manuel Nogueras and Erik De
Clercq

Jesús Ezquerra,
Concepción Pedregal, Carlos
Lamas, Alfredo Pastor,
Pilar Alvarez and
Juan José Vaquero

Javier G. Luis, El Hassane Lahlou,
Lucía S. Andrés,
Fernando Echeverri and
Winston Q. Fletcher

Gurnos Jones, Mark A. Pitman,
Edward Lunt, David J. Lythgoe,
Belén Abarca, Rafael Ballesteros
and Mostafá Elmasnaouy

Carlos Peinador, José M^a Quintela
and Maria J. Moreira

Marina DellaGreca, Lucio Previtera,
Antonio Fiorentino, Gabriele Pinto
and Antonino Pollio

Alessandro Pezzella,
Marco d'Ischia,
Alessandra Napolitano,
Anna Palumbo and Giuseppe Prota

Tim C. T. Ho and Keith Jones

8181 Molecular modelling, synthesis and biological activity of methyl 3-methyljasmonate and related derivatives

8195 Solvent and leaving group effects on the mono- versus dialkylation of alkali salts of diethyl malonate with 1,2-bis-, 1,2,4,5-tetrakis- and 1,2,3,4,5,6-hexakis-(halomethyl)benzenes. A new insight into selectivity control of malonester synthesis

8211 Synthesis, acidity and ¹⁹F NMR characteristics of imidazoles bearing 1-fluorinated substituents with potential application as probes for intracellular pH determination

8225 Synthesis and antiviral evaluation of pyridine fused heterocyclic and nucleosidic derivatives

8237 Stereoselective synthesis of 1,3,4-substituted tetrahydro-β-carbolines from indoles based on selective transformations

8249 Phenylphenalenonic phytoanticipins. New acenaphthylene and dimeric phenylphenalenones from the resistant *Musa* selected hybrid SH-3481

8257 Triazolopyridines—XVIII. Nucleophilic substitution reactions on triazolopyridines; a new route to 2,2'-bipyridines

8269 A short and facile synthesis for heteromine A

8273 Prednisolone biotransformation by the green alga T76 *Scenedesmus quadricauda*

8281 An integrated approach to the structure of sepia melanin. Evidence for a high proportion of degraded 5,6-dihydroxyindole-2-carboxylic acid units in the pigment backbone

8287 A synthesis of the tricyclic pyrroloquinoline core of martinelline

I Instructions to Contributors

NUMBER 25

Contents

iii Contributors to this Issue

v Graphical Abstracts

8295 Synthesis of tripeptide inhibitors of peptidylglycine α-amidating mono-oxygenase (PAM) containing D- and L-styrylglycine

8307 Biomimetic transamination of α-keto perfluorocarboxylic esters. An efficient preparative synthesis of β,β,β-trifluoroalanine

8315 Enantiomeric recognition of alkyl phenyl sulfoxides by crystalline (*R*)-phenylglycyl-(*R*)-phenylglycine

8323 Convergent synthesis of (–)-mirabazole B using a chloroimidazolidium coupling reagent, CIP

8335 Chiral sugar recognition by a diboronic-acid-appended binaphthyl derivative through rigidification effect

8349 Highly stereoselective syntheses of alkenylsilanes and germanes utilizing cyclobutyl ketones

Mark D. Andrews,
Kelly A. O'Callaghan and
John C. Vederas

Vadim A. Soloshonok and
Valery P. Kukhar

Motohiro Akazome,
Makoto Noguchi, Osamu Tanaka,
Atsuko Sumikawa, Kohru Uchida
and Katsuyuki Ogura

Naohiro Kuriyama, Kenichi Akaji
and Yoshiaki Kiso

Masayuki Takeuchi, Shoya Yoda,
Tomoyuki Imada and Seiji Shinkai

Tooru Fujiwara, Koichi Sawabe and
Takeshi Takeda

Jun Ishihara, Yoshikatsu Shimada, Naoki Kanoh, Yasunori Takasugi, Akio Fukuzawa and Akio Murai

H. M. R. Hoffmann, U. Herden, M. Breithor and O. Rhode

M. Breithor, U. Herden and H. M. R. Hoffmann

Thorsten Oost and Markus Kalesse

Susanne Pippich, Herbert Bartsch and Wolfgang Holzer

Stéphanie Fréville, Martine Bonin, Jean-Pierre Célérier, Henri-Philippe Husson, Gérard Lhommet, Jean-Charles Quirion and Vu Moc Thuy

Justine Michel, Geneviève Gueguen, Joseph Vercauteren and Serge Moreau

Xi-Kui Jiang, William Fa-Xiang Ding and Yu-Huang Zhang

Anthony J. Burke and W. Ivo O'Sullivan

Paolo Ceccherelli, Massimo Curini, Maria Carla Marcotullio, Emanuela Pisani, Ornello Rosati and Ernest Wenkert

Yehia A. Ibrahim

Arindam Chakraborty, Gandhi K. Kar and Jayanta K. Ray

Giovanni Viti, Enzo Perrotta, Danilo Giannotti and Rossano Nannicini

Sheetal S. Surange, Govindaraj Kumaran, Srinivasachari Rajappa, K. Rajalakshmi and Vasantha Pattabhi

José M. Seco, Shamyk K. Latypov, Emilio Quiñoa and Ricardo Riguera

David StC. Black, Michael C. Bowyer and Naresh Kumar

David StC. Black, Michael C. Bowyer and Naresh Kumar

Purificación Cuadrado, Ana M. González-Nogal and Senén Martínez

Kenneth D. M. Harris, Benson M. Karluki, Cristos Lambropoulos, Douglas Philp and James M. A. Robinson

Isidoro Barba and Marcial Tornero

Simona De Marino, Elio Palagiano, Franco Zollo, Luigi Minale and Maria Iorizzi

- 8371 Conversion of prelaureatin into laurallene, a bromo-allene compound, by enzymatic and chemical bromo-etherification reactions
- 8383 Polyannulated glycopyranosides via radical-mediated tandem reactions. Stereoselective synthesis of 6-5-6 dioxatricycles via 5-*exo*-trig, 6-*endo*-dig mode—III
- 8401 Tandem radical-mediated 5-*exo*-trig, 6-*endo*-dig cyclization. Stereoselectivity, α -trimethylsilyl effect and the product spread—IV
- 8421 Synthesis of RNase active site model systems using a steroid template
- 8439 Studies on ring opening reactions of β -lactams
- 8447 Asymmetric synthesis of (+) and (–) *trans*-2,6-dimethylpiperidines
- 8457 Triplex stability of oligodeoxynucleotides containing substituted quinazoline-2,4-(1*H*,3*H*)-dione
- 8479 The nucleophilic silyl radical: dual-parameter correlation analysis of the relative rates of bromine-atom abstraction reactions as measured by a rigorous methodology
- 8491 Flavonoid epoxides—XX. Some unusual reactions of dimethyldioxirane (DMD) with flavonoid compounds
- 8501 Unusual products from dirhodium tetraacylate-catalyzed decomposition of diazoacetylcycloalkanes
- 8507 Synthesis of formazan-3-yltriazolium salts: a new class of formazan and crown-formazan derivatives of expected useful applications
- 8513 Studies on furoterpenes: stereoselective total synthesis of ($\pm$)-ambliol-A and dendrolasin
- 8519 Unusual reductive cleavage of 7-oxa-bicyclo[2,2,1]heptane system for the synthesis of tetrahydrofuran derivatives
- 8531 Synthesis and characterization of 1-amino-4-methylthio-2-nitro-1,3-butadienes
- 8541 Determining factors in the assignment of the absolute configuration of alcohols by NMR. The use of anisotropic effects on remote positions
- 8565 Synthesis of some indolylpyrroles and indolylpyrrolylketones
- 8573 The Vilsmeier synthetic route to indolylpyrroles
- 8585 Reactions of pyrazoles and pyrazolium salts with complex metal hydrides and organometallic reagents. Synthesis of pyrazolines and pyrazolidines
- 8599 A new hydrogen bonding motif based on 10-hydroxy-10,9-borazarophenanthrene
- 8613 Anodic oxidation of methylnaphthalenes and 9-methylantracene
- 8625 A novel sulphated steroid with a 7-membered 5-oxalactone B-ring from an Antarctic starfish of the family *Asteriidae*

Mukund K. Gurjar and
Susanta Adhikari

Bo-Long Poh and Yian Yian Ng

Mariona Gibert, Marta Ferrer,
Francisco Sánchez-Baeza and
Angel Messegue

Elvira Montenegro, Marta Poch,
Albert Moyano, Miquel A. Pericàs
and Antoni Riera

Pier Luigi Barilli, Giancarlo Berti,
Giorgio Catelani, Felicia D'Andrea
and Francesco De Rensis

Rosario Durán, Eva Zubía,
María J. Ortega and Javier Salvá

8629 Synthesis of the unique terminal branched tetrasaccharide of *Mycobacterium gordonae* strain 990

8635 Synthesis and conformations of a water-soluble cyclic tetramer obtained from reacting 5-sulfonatotropolone with formaldehyde

8643 Availability and reactivity of concentrated dimethyldioxirane solutions in solvents other than acetone

8651 Chiral acetylene thioethers: synthesis and Pauson–Khand reactions

8665 A new route to D-xylo-hexos-5-ulose and some of its selectively protected derivatives from D-galactose

8675 New diterpenoids from the alga *Dictyota dichotoma*

I Instructions to Contributors

NUMBER 26

Contents

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 64

RECENT APPLICATIONS OF SYNTHETIC ORGANIC CHEMISTRY

DEDICATED TO PROFESSOR SAMUEL J. DANISHEFSKY, RECIPIENT OF THE
1996 TETRAHEDRON PRIZE FOR CREATIVITY IN ORGANIC CHEMISTRY

Guest Editor: STEPHEN F. MARTIN

The University of Texas, Austin, TX 78712, USA

iii Contributors to this Issue

vii Announcement: Tetrahedron Symposia-in-Print

xiii Preface

xv Graphical Abstracts

Samuel J. Danishefsky

Harry H. Wasserman,
Vincent M. Rotello,
Roger Frechette,
Robert W. DeSimone, Ji Uk Yoo and
Carmen M. Baldino

Mercedes Torneiro and
W. Clark Still

K. C. Nicolaou, John I. Trujillo and
Kelly Chibale

David A. Evans, B. Wesley Trotter
and James C. Barrow

Jacob B. Schwarz, Paul N. Devine
and A. I. Meyers

Ba V. Nguyen, Chentao York and
Tomas Hudlicky

8689 Observations on the state of synthesis: some magic moments revisited

8731 Singlet oxygen in synthesis. Formation of *d,l*- and *meso*-isochrysohermidin from a 3,3'-bipyrrole precursor

8739 Simple synthetic receptors that bind peptides in water

8751 Design, synthesis and biological evaluation of carbohydrate-based mimetics of cRGDFV

8779 Aldol reactions of ketal-protected tartrate ester enolates. Asymmetric syntheses and absolute stereochemical assignments of phospholipase A₂ inhibitors cinatrin C₁ and C₃

8795 Chiral bicyclic lactams as homoenolate equivalents: an asymmetric route to 5-substituted cyclohexenones

8807 Chemoenzymatic synthesis of deoxyfluoroinositols: 5-deoxy-5-fluoro-*myo*-inositol and 3-deoxy-3-fluoro-*L-chiro*-inositol

Michael E. Jung and
Laurie S. Starkey

William R. Roush, David P. Sebesta
and Chad E. Bennett

William R. Roush, David P. Sebesta
and Ray A. James

Bruce G. Szczepankiewicz and
Clayton H. Heathcock

Douglas Bland, David J. Hart and
Stephane Lacoutiere

Hubert Josien and
Dennis P. Curran

Gary A. Molander and
Peter J. Stengel

Claudio F. Sturino,
Pascale Doussot and
Leo A. Paquette

Keith P. Minor and
Larry E. Overman

Robert K. Boeckman, Jr,
Scott R. Breining and
Argyrios Arvanitis

Michael T. Crimmins,
Bryan W. King, Paul S. Watson and
Lisa E. Gulse

Paul A. Grieco and John K. Walker

Stephen F. Martin,
Bruce G. Anderson, Dillon Daniel
and Anne Gaucher

- 8815 Total synthesis of (*S,S*)-isodityrosine
- 8825 Stereoselective synthesis of 2-deoxy- β -glycosides from glycal precursors—I. Stereochemistry of the reactions of D-glucal derivatives with phenylsulfonyl chloride and phenylselenenyl chloride
- 8837 Stereoselective synthesis of 2-deoxy- β -glycosides from glycal precursors—II. Stereochemistry of glycosidation reactions of 2-thiophenyl- and 2-selenophenyl- α -D-glucopyranosyl donors
- 8853 A novel method for suppression of the abnormal Fischer indole synthesis
- 8871 Perhydropyrrolo[1,2-*a*]indole synthesis: diastereoselection in an intramolecular conjugate addition of an amine to a 1,4-cyclohexadienone
- 8881 Synthesis of (*S*)-mappicine and mappicine ketone via radical cascade reaction of isonitriles
- 8887 Reduction of 2-acylaziridines by samarium(II) iodide. An efficient and regioselective route to β -amino carbonyl compounds
- 8913 Antimicrobial algal metabolites of unusual structure. Concise synthesis of the highly oxygenated [4.4]spiroonene dimethyl gliosiphone A by ring expansion of dimethyl squarate
- 8927 Prins-pinacol spiroannulations
- 8941 Molecular cascades—I. Tandem cyclopropyl iminium ion rearrangement-[4 + 2] cycloaddition reactions
- 8963 Synthesis and intramolecular photocycloadditions of 2-acyloxy-3-hexenoyl cyclohexenones: diastereoselectivity in the intramolecular [2 + 2] photocycloadditions of alkenes and cyclohexenones tethered by four atoms
- 8975 Intramolecular cationic [5 + 2] cycloaddition reactions promoted by trimethylsilyl triflate in 3.0 M lithium perchlorate-ethyl acetate: application to a formal total synthesis of ($\pm$)-isocomene
- 8997 A cycloaddition approach to breynolidine

I Instructions to Contributors

NUMBER 27

Contents

iii Contributors to this Issue

v Graphical Abstracts

Moustapha Bah and
Rogelio Pereda-Miranda

Dennis P. Curran, Xin Gu,
Wei Zhang and Paul Dowd

Eugene A. Mash, Kalpana S. Nimkar
and James A. Baron

Shuji Tomoda and Takatoshi Senju

Hideshi Nakamura, Takayuki Jin,
Masahiro Funahashi,
Kazuhiro Fujimaki, Osamu Sempel,
Akio Murali, Till Roenneberg and
J. Woodland Hastings

Masatomi Ohno, Naoya Koide,
Haruhiko Sato and Shoji Eguchi

- 9007 Isolation and structural characterization of new glycolipid ester type dimers from the resin of *Ipomoea tricolor* (Convolvulaceae)
- 9023 On the mechanism of the intramolecular samarium Barbier reaction. Probes for formation of radical and organosamarium intermediates
- 9043 Diastereoselective manipulations of bicyclo[*m*.1.0]alkane derivatives—III. Nucleophilic additions to the carbonyl carbon of (1*R*,8*R*)-bicyclo[6.1.0]nonan-2,6-dione 2-(2*S*,3*S*)-1,4-di-*O*-methyl-1,2,3,4-butanetetrol ketal
- 9057 Origin of π -facial stereoselectivity of hydride reduction of cyclohexanones. A new interpretation based on quantitative analysis of exterior frontier orbital extension
- 9067 Biogenesis of sulfonium compounds in a dinoflagellate; methionine cascade
- 9075 Synthesis of heterocycle-linked [60]fullerene derivatives by heterocyclic *o*-quinodimethane Diels-Alder reaction and self-sensitized photooxygenation of the cycloadducts

- Yee-On Yeung, Roger C. W. Liu, Wing-Fong Law, Pik-Ling Lau, Jianzhuang Jiang and Dennis K. P. Ng
- Vladimir Gevorgyan, Chie Kadowaki, Matthew M. Salter, Isao Kadota, Shinichi Saito and Yoshinori Yamamoto
- Wei-Min Dai and Jinlong Wu
- Jian-Yu Zheng, Katsuaki Konishi and Takuzo Alda
- Tamotsu Takahashi, Zhenfeng Xi, Yasushi Nishihara, Shouquan Huo, Kayoko Kasai, Koichiro Aoyagi, Victor Denisov and Ei-ichi Negishi
- Ingo Klement, Henning Lütjens and Paul Knoche
- Peter Langer and H. M. R. Hoffmann
- Folkert Boße, Ashok Rao Tunoori and Martin E. Maier
- Jef De Brabander and Wolfgang Oppolzer
- Stefan Schulz, Jürgen Gross and Monika Hilker
- Raul Pires and Klaus Burger
- Hans-Günther Schmalz, Thorsten Volk, Dirk Bernicke and Siegfried Huneck
- J. Van Betsbrugge, D. Tourwé, B. Kaptein, H. Kierkels and R. Broxterman
- Christophe Darcel, Christian Bruneau, Pierre H. Dixneuf and Stanley M. Roberts
- Laurence Grimaud, Jean-Pierre Férézou, Joëlle Prunet and Jean-Yves Lallemand
- Luisa Benati, Gianluca Calestani, Daniele Nanni, Piero Spagnolo and Marco Volta
- Enrico Cinquini, Mauro Freccero, Remo Gandolfi, Mirko Sarzi Amadei and Augusto Rastelli
- Ahmad M. Farag, Nabila A. Kheder and Milos Budesinsky
- Ammanamanchi S. R. Anjaneyulu, Moturu V. R. Krishna Murthy and Gottumukkala V. Rao
- Elena Zaballos-García, M. Eugenia González-Rosende, J. Miquel Jorda-Gregori, José Sepúlveda-Arques, W. Brian Jennings, Donal O'Leary and Suzanne Twomey
- José Barluenga, Fernando Aznar, Alfredo Martín and Sofia Barluenga
- 9087 Synthetic studies of substituted 2,3-naphthalocyanines
- 9097 Palladium catalyzed addition of carbon pronucleophiles to conjugated enynes
- 9107 Stereoselective synthesis of (Z)-ketoenynes via Pd(0)–Cu(I)-catalyzed cross-coupling of (Z)-ketoenol triflate with 1-alkynes
- 9115 Guest-selective binding of Z-amino acids by a strapped metalloporphyrin receptor with a hydrogen-bonding capability
- 9123 Convenient preparative method of α,β -disubstituted cyclopentenone by zirconium promoted intermolecular coupling of an alkyne, EtMgBr (or ethylene) and CO
- 9135 Chemoselective oxidation of organozinc reagents with oxygen
- 9145 Diastereocontrol of nucleophilic attack of the rubanone carbonyl group via remote siloxy tether. Establishing the natural configuration at carbon C-3 of *Cinchona* alkaloids
- 9159 Cross-coupling approach towards dynemicin analogs without the nitrogen
- 9169 Enantioselective total synthesis of (–)-denticulatin A and B using a novel group-selective aldolization of a *meso* dialdehyde as a key step
- 9203 Origin of the defensive secretion of the leaf beetle *Chrysomela lapponica*
- 9213 Syntheses of (3*S*)-3-hydroxy-2-pyrrolidinone from (*S*)-malic acid
- 9219 On the deprotonation of η^6 -1,3-dimethoxybenzene–Cr(CO)₃ derivatives: influence of the reaction conditions on the regioselectivity
- 9233 A convenient synthesis of protected (*R*)- α -phenylproline derivatives using the Mitsunobu reaction
- 9241 Stereoselective synthesis of β -ketoesters from prop-2-yn-1-ols
- 9253 Diastereoselective intramolecular Diels–Alder reactions towards the synthesis of a taxol C-ring precursor
- 9269 Diazo transfer reaction of 2-(trimethylsilyl)-1,3-dithiane with tosyl azide. Carbenic reactivity of transient 2-diazo-1,3-dithiane
- 9279 Facial selectivity in the reactions of 1,3-dipoles with *cis*- and *trans*-3,4-dimethyl-1-methoxycarbonyl cyclobutenes
- 9293 Regioselective synthesis of polysubstituted 3,3'-bi-1*H*-pyrazole derivatives via 1,3-dipolar cycloaddition reactions
- 9301 Rare aromadendrane diterpenoids from a new soft coral species of *Sinularia* genus of the Indian Ocean
- 9313 Ring transformation of furfural into an unusual bicyclic system: characterisation and dynamic stereochemistry of 6,7-diethoxycarbonyl-6,7-diaza-8-oxabicyclo[3,2,1]oct-3-en-2-one
- 9323 Enantioselective synthesis of six membered carbocycles through [4 + 2] cycloaddition reactions of chiral 2-amino-1,3-butadienes and tungsten vinyl Fischer type carbene complexes

José M. Minguez, Isabel Castellote,
Juan J. Vaquero,
José L. García Navio,
Julio Álvarez-Builla, Obis Castaño
and José L. Andrés

Ib Thomsen, Bettina V. Ernholt and
Mikael Bols

Lazaros P. Hadjirapoglou and
Kurt Schank

Eric Menager, Eric Merifield,
Mark Smalridge and
Eric J. Thomas

Mariann Béres, György Hajós,
Zsuzsanna Riedl, Géza Timári,
András Messmer, Sándor Holly and
Joachim G. Schantl

Giovanna Barbarella,
Massimo Zambianchi,
Giovanna Sotgiu and
Alessandro Bongini

Josep Bonjoch,
Joan-Carles Fernández,
Dolores Terricabras and
Nativitat Valls

9341 Pyrrolidiazines—IV. Structure and chemistry of 3,4-dihydropyrrolo[1,2-*a*]pyrazine

9357 Synthetic studies of fluorinated analogues of 1-azafagomine: remarkable nucleophilic substitution of fluorine by hydrazine

9365 2,3-Dihydro-3-oxo-2-phenylidonium-benzo[*b*]thiolenide-1,1-dioxide: synthesis, decomposition and Cu-catalyzed thermal reactions

9377 A convergent synthesis of the C(11)–C(25) fragment of the aglycone of avermectin A_{2b}

9393 Ring opening of [1,2,3]triazolo[1,5-*a*]pyrazinium salts: synthesis and some transformations of a novel type of 2-aza-1,3-butadienes

9401 Improved synthesis of functionalized sexithiophenes

9407 Synthesis of 4-ethyloctahydroindolo[2,3-*a*]quinolizine-2-carbaldehydes

I Instructions to Contributors

NUMBER 28

Contents

iii Contributors to this Issue

v Graphical Abstracts

9415 Corrigendum

TETRAHEDRON REPORT NUMBER 423

9417 Controlled racemization of optically active organic compounds: prospects for asymmetric transformation

9477 Five- and six-membered lactones and lactams by tandem dealkoxycarbonylation—Michael addition reactions

9487 Applications of highly enantioenriched alcohols bearing a phenylthio group in the preparation of ring compounds. The two-pot synthesis of an enantiopure spiroacetal pheromone bearing three chiral centers

9497 Preparation of methylene-*gem*-difluorocyclopropanes and its reactivity as Michael acceptor

9509 Asymmetric total syntheses of (+)-coronafacic acid and (+)-coronatine, phytotoxins isolated from *Pseudomonas syringae* pathovars

9525 Direct construction of quaternary carbons from carbonyl compounds utilizing low-valent vanadium complexes

9541 The first asymmetric epoxidation using a combination of achiral (salen)-manganese(III) complex and chiral amine

9553 Highly stereoselective construction of *trans*(2,3)-*cis*(2,6)-trisubstituted piperidines: an application to the chiral synthesis of *Dendrobates* alkaloids

9575 1,3-Dipolar cycloaddition reactions of substituted 3,4-dihydroisoquinoline *N*-oxides with allenes

9585 Asymmetric syntheses of lignans utilizing novel diastereoselective Michael addition of cyanohydrin: syntheses of (+)-fargesin and (–)-picropodophyllone

Elco J. Ebbers,
Gerry J. A. Ariaans, Joannes P.
M. Houbiers, Alle Bruggink and
Binne Zwanenburg

Richard A. Bunce and
Curtis L. Schilling, III

Theodore Cohen and
Shaojing Tong

Takeo Taguchi, Masahito Kurishita,
Akira Shibuya and Kifune Aso

Shinji Nara, Hiroaki Toshima and
Akitami Ichihara

Yasutaka Kataoka, Isamu Makihiro,
Hiroaki Akiyama and Kazuhide Tani

Takashi Hashihayata, Yoshio Ito
and Tsutomu Katsuki

Naoki Toyooka, Keiko Tanaka,
Takefumi Momose, John W. Daly
and H. Martin Garraffo

Bao-Xiang Zhao and Shoji Eguchi

Shin-ichi Yoshida,
Takeshi Yamanaka,
Tutomu Miyake, Yasunori Moritani,
Hiroshi Ohmizu and Tameo Iwasaki

- Tsuyoshi Ichihyanagi, Makoto Shlmizu and Tamotsu Fujisawa**
Hirofumi Ishibashi, Chisato Kameoka, Kazuya Kodama, Hirotaka Kawanami, Masahiro Hamada and Masazumi Ikeda
Siegfried Vieth, Burkhard Costisella and Matthias Schneider
François Natt and Robert Häner
Hugues Bienaimé and Alexia Longeau
Debasis Sengupta and Minh T. Nguyen
Erik Ceulemans, Karin Vercauteren, Leonard K. Dyall, Dirk Buelens and Wim Dehaen
Vladimir Lokshin, André Samat and Robert Guglielmetti
Eric Brown, Gilles Dujardin and Mickaël Maudet
Véronique Alphan, Nicoletta Gaggero, Stefano Colonna, Piero Pasta and Roland Furstoss
S. Pedragosa-Moreau, C. Morisseau, J. Baratti, J. Zylber, A. Archelas and R. Furstoss
Rita Annunziata, Mauro Cinquini, Franco Cozzi, Valentina Molteni and Olaf Schupp
Pelayo Camps, Francesc Pérez and Santiago Vázquez
Marco Clericuzio, Jian Fu, Fusheng Pan, Zijie Pang and Olov Sterner
Ibon Alkorta and José Elguero
Susanta Khound and Pranab J. Das
Paolo Bovicelli, Anna Sanetti, Roberta Bernini and Paolo Lupattelli
Pavel A. Petukhov and Alexey V. Tkachev
Mototsugu Kabeya, Yasumasa Hamada and Takayuki Shioiri
Mototsugu Kabeya, Yasumasa Hamada and Takayuki Shioiri
Lajos Novák, Péter Kovács, György Pirok, Pál Kolonits, Michel Hanania, Katalin Donáth and Csaba Szántay
István Bitter, Alajos Grün, Gábor Tóth, Barbara Balázs and László Tőke
- 9599 Asymmetric cyclopropanation of olefins with diazoacetate using chiral copper catalysts
- 9611 Synthesis of a chiral 1 β -methylcarbapenem key intermediate using radical cyclization of *N*-vinyl α -bromo amides
- 9623 Tandem Michael addition alkylation of vinylphosphonates
- 9629 *Lipocap*: a lipophilic phosphoramidite-based capping reagent
- 9637 Internally Lewis acid-catalyzed Diels–Alder cycloadditions
- 9647 Why α -azido five-membered heterocycles decompose so fast? An *ab initio* molecular orbital study
- 9657 Neighbouring group effects on rates of thermolysis of 4-azidothiazoles
- 9669 Synthesis of photochromic spirooxazines from 1-amino-2-naphthols
- 9679 Lignans—XIX. Total synthesis of (–)-*O*-dimethylsugiresinol, involving asymmetric [4 + 2] heterocycloaddition of a styrene with a benzylidenepyruvic ester of an α -*O*-silyl derivative of (D)-erythronolactone
- 9695 Microbiological transformations—XXXVI. Preparative scale synthesis of chiral thioacetal and thioketal sulfoxides using whole-cell biotransformations
- 9707 Microbiological transformations—XXXVII. An enantioconvergent synthesis of the β -blocker (*R*)-Nifénalol® using a combined chemoenzymatic approach
- 9715 A new multicomponent synthesis of 1,2,3,4-tetrahydroquinolines
- 9727 Pentacyclo[8.2.1.1^{2,5}.1^{4,7}.1^{8,11}]hexadeca-1,7-diene and its 4,5,10,11-tetramethyl derivative, two highly hyperstable slightly pyramidalized dienes
- 9735 Structure and absolute configuration of protoilludane sesquiterpenes from *Russula delica*
- 9741 Carbon acidity and ring strain: a hybrid HF-DFT approach (Becke3LYP/6-311++G**)
- 9749 Solid phase synthesis of *N*-arylazoloindoles
- 9755 Oxyfunctionalisation of activated methylenes by dimethyldioxirane: an easy conversion of isochromans into isocoumarins
- 9761 Synthesis of chiral hexahydrophenazines by treatment of dimeric nitroschlorides with 1,2-diaminoarenes
- 9769 Synthesis of γ -lactone derivatives as a key intermediate for the spiroketal fragment in calyculin A
- 9777 An alternative efficient synthesis of the C₂₀–C₂₅ building unit for calyculin A
- 9789 Rearrangement of allyl aryl ethers—III. Reaction of alkoxyhydroquinone with cycloalkenediols
- 9799 Studies on calix(aza)crowns—I. Synthesis, alkylation reactions and comprehensive NMR investigation of capped calix[4]arenes

Angela Sandulache,
Alexandru Cascaval,
Nicoletta Toniutti and
Angelo G. Giumanini

9813 New flavones by a novel synthetic route

I Instructions to Contributors

NUMBER 29

DEDICATED TO PROFESSOR WILLIAM VON EGGERS DOERING
ON THE OCCASION OF HIS 80th BIRTHDAY

Contents

- | | |
|--|---|
| | iii Contributors to this Issue |
| | v Graphical Abstracts |
| | xiii Preface |
| Jerry W. Cubbage,
Brian L. Edelbach, Kan Shuh Kuen
and JoAnn P. DeLuca | 9823 Stereodirecting effects in the characterization of ylide intermediates in reactions of singlet methylene with an allylic ether and an allylic chloride |
| Donald B. Denney,
Dorothy Z. Denney and
Steven P. Fenelli | 9835 Some chemistry of aromatic fluorine containing radical anions |
| Charles H. DePuy,
Veronica M. Bierbaum,
Marin S. Robinson,
Gustavo E. Davico and
Roustam Gareyev | 9847 The gas-phase reactions of the allenyl anion with CS ₂ , COS and CO ₂ |
| Michael D. Bartberger,
William R. Dolbier, Jr, J. Luszytk
and K. U. Ingold | 9857 Experimental and theoretical studies on the reactivities of partially and fully fluorinated primary alkyl radicals |
| Robb R. Gardner and
Samuel H. Gellman | 9881 Secondary effects in flexible hydrogen bonding networks |
| John C. Gilbert,
Everett G. McKinley and
Duen-Ren Hou | 9891 The nature of cyclopentyne from different precursors |
| Wolfram Grimme and
Susanne Krauthäuser | 9903 Degenerate Cope rearrangement of tetracyclo[7.3.1.0 ^{2,8} .0 ^{4,12}]trideca-5,10-diene |
| Guo-xian Wu, Maitland Jones, Jr,
William von E. Doering and
Lawrence H. Knox | 9913 The non-reaction of methylene with the carbon-carbon bond |
| Hiroshi Kato,
Tomoshige Kobayashi,
Mona Ciobanu and Aikazu Kakehi | 9921 Dipolar cycloadditions of mesoionic compounds with 2- <i>tert</i> -butylfulvenes. A new route to pseudo-hetero-azulenes via sterically assisted [4π+6π] cycloadditions, and isomerization of adducts |
| Wolfgang Kirmse,
Wolfgang Konrad and
Ismail S. Özkir | 9935 Reactivity of functionalized arylcarbenes. 2-Phenylethyl side chains and hetero analogues |
| Toshikazu Kitagawa, Toru Tanaka,
Yuki Takata, Ken'ichi Takeuchi and
Koichi Komatsu | 9965 Ionically dissociative hydrocarbons containing the C ₆₀ skeleton |
| Hendrikus Luitjes, Marius Schakel,
Maxim P. Aarns,
Robert F. Schmitz,
Franciscus J. J. de Kanter and
Gerhard W. Klumpp | 9977 Reactions of the butyllithiums with tertiary oligoethylenepolyamines |
| Joseph B. Lambert and
Xiaoyang Liu | 9989 The β-heteroatom effect on carbenes |
| Robert G. Laughlin | 9997 Mechanistic aspects of phase reactions in aqueous surfactant systems |

J. Hodge Markgraf,
Raymond Chang, John R. Cort,
Joseph L. Durant, Jr.,
Manuel Finkelstein,
Andrew W. Gross,
Michael H. Lavyne,
W. Michael Moore,
Raymond C. Petersen and
Sidney D. Ross

Martin Pomerantz, Moshe Levanon,
Xiaomin Gu and H. V. Rasika Dias

Martin Bertau, Fabian Wahl,
Andreas Weller, Klaus Scheumann,
Jürgen Wörth, Manfred Keller and
Horst Prinzbach

Michal Marom, Craig A. Parish,
José-Luis Giner and
Robert R. Rando

Heinz D. Roth, Hengxin Weng and
Torsten Herbertz

Christopher J. LaFrancois and
Philip B. Shevlin

Nicholas Leventis, Muguo Chen
and Chariklia Sotiriou-Leventis

Stuart W. Staley, Russell A. Grimm,
Gregory S. Martin and
Rachel A. Sablosky

Andrew Streitwieser,
George Peng Wang and
Daniel A. Bors

Daisy de B. Rezende,
M. Regina Alcantara,
Ivan P. de Arruda Campos,
Vicente G. Toscano, Günter Ebeling
and Júlio C. D. Lopes

Kenneth B. Wiberg and
Mark A. Murcko

Vladimir A. Benin, James C. Martin
and M. Robert Willcott

Richard A. Ferrieri, Ram B. Sharma
and Alfred P. Wolf

Yoshiro Yamashita, Katsuhiko Ono,
Masaaki Tomura and Shoji Tanaka

Deqing Lei, Myong Euy Lee and
Peter P. Gaspar

10009 Protodediazoniation of aryldiazonium fluoroborates by dimethylformamide

10019 Formation of two heterocyclic dimers from dimethyl diazomalonate and bis(methoxycarbonyl)carbene. Preparation and trapping of methoxy-(methoxycarbonyl)ketene with cyclopentadiene

10029 From pagodanes to dodecahedranes—search for a serviceable access to the parent (C₂₀H₂₀) hydrocarbon

10041 Minimal structural requirements for diglyceride-site directed activators of protein kinase C

10051 CIDNP study and *ab initio* calculations of rigid vinylcyclopropane systems: evidence for delocalized 'ring-closed' radical cations

10071 An experimental and computational investigation of the electrocyclic ring opening of α -fluorocyclopropyl radicals

10083 Synthesis of substituted phenothiazines analogous to methylene blue by electrophilic and nucleophilic aromatic substitutions in tandem. A mechanistic perspective

10093 Energetics of bond shift in monohalogen-substituted cyclooctatetraenes

10103 Equilibrium acidities of some sulfones and sulfoxides in tetrahydrofuran

10113 ¹H and ¹³C NMR of some α -halo derivatives of *o*-xylene

10123 Heats of reduction of carbonyl compounds

10133 Solution and solid state studies of some new silicon and germanium compounds stabilized by tridentate ligands

10155 Structural influences on the chemical reactivity of hydrocarbons toward nucleogenic carbon atoms

10169 Synthesis and properties of benzobis(thiadiazole)s with nonclassical π -electron ring systems

10179 Gas-phase chemistry of methyl(trimethylsilyl)germylene

I Instructions to Contributors

NUMBER 30

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 424

10197 Ambiphilic allenyl enolates

ARTICLES

10229 Total synthesis of an enantiomeric pair of FR900482—I. Synthetic and end-game strategies

Mark A. Fredrick and Martin Hulce

Tadashi Katoh, Etsuko Itoh,
Toshiharu Yoshino and
Shiro Terashima

- Toshiharu Yoshino, Yuriko Nagata, Etsuko Itoh, Masaru Hashimoto, Tadashi Katoh and Shiro Terashima**
- 10239 Total synthesis of an enantiomeric pair of FR900482—II. Syntheses of the aromatic and the optically active aliphatic segments
- Tadashi Katoh, Yuriko Nagata, Toshiharu Yoshino, Shogo Nakatani and Shiro Terashima**
- 10253 Total synthesis of an enantiomeric pair of FR900482—III. Completion of the synthesis by assembling the two segments
- Katsuhiko Iseki, Yoshichika Kuroki, Daisuke Asada, Mie Takahashi, Satoshi Kishimoto and Yoshiro Kobayashi**
- 10271 Asymmetric aldol addition of aldehydes to a difluoroketene silyl acetal catalyzed by chiral Lewis acids
- Keishi Ishida, Hisashi Matsuda, Masahiro Murakami and Katsumi Yamaguchi**
- 10281 Microginins 299-A and -B, leucine aminopeptidase inhibitors from the cyanobacterium *Microcystis aeruginosa* (NIES-299)
- Roger D. Norcross, Peter von Matt, Hartmuth C. Kolb and Daniel Bellus**
- 10289 Synthesis of novel cyclobutylphosphonic acids as inhibitors of imidazole glycerol phosphate dehydratase
- Axel Couture, Eric Deniau and Pierre Grandclaude**
- 10313 An efficient one-pot synthesis of 3-(aryl and alkyl)methylene-1*H*-isoindolin-1-ones via aryne cyclization and Horner reaction of *o*-(and *m*-) halogeno-*N*-phosphorylmethylbenzamide derivatives
- Delphine Brugier, Francis Ourtquin and Claude Paulmier**
- 10331 Synthesis and reactivity of alkyl (4-aminothien-3-yl)carbamates
- Qi-Yu Zheng, Chuan-Feng Chen and Zhi-Tang Huang**
- 10345 Synthesis of new chromogenic calix[4]crowns and molecular recognition of alkylamines
- Andrew Peiter, Ieuan Jenkins and D. Elyn Jones**
- 10357 The preparations and some properties of mixed aryl–thienyl oligomers and polymers
- M. Emin Sengül, Zeynep Ceylan and Metin Balci**
- 10401 Unusual triethylamine catalyzed rearrangement of bicyclic endoperoxides derived from substituted cycloheptatrienes
- Nitin Puri, Edouard Zamaratski, Christian Sund and Jyoti Chattopadhyaya**
- 10409 Synthesis of 5'-polyarene-tethered oligo-DNAs and the thermal stability and spectroscopic properties of their duplexes and triplexes
- Egle M. Beccali, Alessandro Marchesini and Tullio Pilati**
- 10433 Synthesis of heterocyclic ketene *N,O*-acetals from 5(2*H*)-isoxazolones
- R. Alan Aitken, Lawrence Hill, Tracy Massil, Michael B. Hursthouse and K. M. Abdul Malik**
- 10441 Cycloaddition of Bu₃P-CS₂: formation of extended bis- and tris-1,3-dithiolanes and dithiolane-containing polymers
- Luigi Gomez Paloma, Antonio Randazzo, Luigi Minale, Cécile Debitus and Christos Roussakis**
- 10451 New cytotoxic sesterterpenes from the New Caledonian marine sponge *Petrosaspongia nigra* (Bergquist)
- Siren Neset, Håkon Hope and Kjell Undheim**
- 10459 Stereoselective synthesis of cyclopropane-1,2-bis(glycine) derivatives
- Cinzia Chiappe, Giacomo Lo Moro and Paola Munforte**
- 10471 Lifetime of the glucosyl oxocarbenium ion and stereoselectivity in the glycosidation of phenols with 1,2-anhydro-3,4,6-tri-*O*-methyl- α -D-glucopyranose
- A. Srikrishna, R. Viswajani and C. V. Yelamagad**
- 10479 Tributyltin chloride–sodium cyanoborohydride mediated tandem radical cyclisation–reductive demethoxylation sequence
- Angéla Schwartz, László F. Szabó and Benjamin Podányi**
- 10489 Chemistry of secologanin—III. Graph analysis of the acidic deglycosylation of secologanin derivatives
- Miguel Pítarch, Julie K. Browne and Michael A. M^cKervy**
- 10503 Conformational control in the synthesis of mixed tetraethers of calix[4]arene
- Antonio Arcelli, Matteo Papa, Gianni Porzi and Sergio Sandri**
- 10513 Participation of neighbouring amide group in the competitive acid catalysed hydrolysis of ether linkage and an intramolecular S_N2 reactions—II
- Dillip K. Chand and Parimal K. Bharadwaj**
- 10517 Synthesis of designed hetero-polytopic cryptands through Schiff base condensation
- Bo-Long Poh and Beng Chin Kang**
- 10523 A switchable hydrophobic cavity of disodium 1,8-disulfonato-3,4,5,6-acridinetetracarboxylic acid

Pieter A. Otten, Honorine M. Davies,
Jan Hein van Steenis, Syb Gorter
and Arne van der Gen

Andrew N. Bowler, Paul M. Doyle,
Peter B. Hitchcock and
Douglas W. Young

Elisabetta Brenna, Nicola Caraccia,
Giovanni Fogliato, Giovanni Fronza
and Claudio Fuganti

Jacek W. Morzycki and
Agnieszka Z. Wilczewska

Jacek W. Morzycki,
Sławomir Kallnowski,
Zenon Łotowski and
Joanna Rabczko

Marcello Tiecco, Lorenzo Testaferri,
Francesca Marini, Claudio Santi,
Luana Bagnoli and
Andrea Temperini

Kristin Hammer and Kjell Undheim

Maria D. Rozwadowska

Kevin Blades, Thierry P. Lequeux
and Jonathan M. Percy

Ronald Grigg, Vladimir Savic and
Mark Thornton-Pett

Jacek Młynarski and
Anna Banaszek

- 10527 Stereoselective Horner–Wittig synthesis of (*Z*)-1-chlorovinyl sulfoxides
- 10545 Stereoselective synthesis of non-proteinogenic amino acids
- 10555 On a baker's yeast-mediated approach to Verapamil's optically active intermediates
- 10565 Electrophilic reactions of 4-methyl-A-homo-4-azacholest-4a-en-3-one
- 10579 Synthesis of dimeric steroids as components of lipid membranes
- 10591 Factors controlling the selenium-induced cyclizations of alkenyl hydrazines to pyridazine or pyrrolidinamine derivatives
- 10603 Ruthenium-catalyzed enyne metathesis in stereoselective preparation of cyclic 1-amino-1-carboxylic acids
- 10615 Reaction of (1*S*,2*S*)-2-amino-1-phenyl-1,3-propanediol with thioacids under the Mitsunobu reaction condition
- 10623 A reproducible and high-yielding cerium-mediated route to α,α -difluoro- β -ketophosphonates
- 10633 4-Substituted protoanemonin in intramolecular cycloaddition reactions of non-stabilised azomethine ylides
- 10643 Convenient preparation of α - and β -glycosides of novel isomeric 3-deoxy-hept-2-ulosaric acids diesters

I Instructions to Contributors

NUMBER 31

Contents

iii Contributors to this Issue

v Graphical Abstracts

- 10659 Asymmetric synthesis of 3,5-dihydroxy-6(*E*)-heptenoate-containing HMG-CoA reductase inhibitors
- 10671 Secondary α -deuterium kinetic isotope effects in the decomposition of simple α -acetoxydialkyl nitrosamines: nitrosiminium ion intermediates
- 10677 Synthesis of chlorophyll-*a* homologs by Wittig and Knoevenagel reactions with methyl pyropheophorbide-*d*
- 10689 Synthesis and properties of sulfur-bridged analogs of *p*-*tert*-butylcalix[4]arene
- 10699 An external chiral ligand controlled enantioselective opening of oxirane and oxetane by organolithiums
- 10709 Selective derivatisation of resorcarenes—I. The regioselective formation of tetra-benzoxazine derivatives
- 10725 Efficient total synthesis of the natural products 2,3,4,6-tetra-*O*-galloyl-D-glucopyranose, 1,2,3,4,6-penta-*O*-galloyl- β -D-glucopyranose and the unnatural 1,2,3,4,6-penta-*O*-galloyl- α -D-glucopyranose

Orin Tempkin, Stephan Abel,
Chung-Pin Chen,
Russell Underwood, Kapa Prasad,
Kau-Ming Chen, Oljan Repic and
Thomas J. Blacklock

Hongliang Cai and
James C. Fishbein

Hitoshi Tamiaki and
Mitsuru Kouraba

Tyo Sone, Yoshihiro Ohba,
Kazuhiro Moriya, Hideaki Kumada
and Kazuaki Ito

Masashi Mizuno, Motomu Kanai,
Akira Iida and Kiyoshi Tomioka

Karri Airola, Volker Böhmer,
Erich F. Paulus, Karl Rissanen,
Christian Schmidt, Irls Thondorf
and Walter Vogt

Karamali Khanbabaee and
Kerstin Lötzerich

- Hélène Pellissier, Pierre-Yves Michellys and Maurice Santelli**
- Philippe Dauban, Bernhard Hofmann and Robert H. Dodd**
- Antony Bigot, René Beugelmans and Jieping Zhu**
- Slawomir Jarosz**
- Slawomir Jarosz, Eizbieta Kozłowska and Artur Jeżewski**
- Jairo Quiroga Puello, Braulio Insuasty Obando, Concepción Foces-Foces, Lourdes Infantes, Rosa María Claramunt, Pilar Cabildo, José Antonio Jiménez and José Elguero**
- Norbert De Kimpe, Dirk De Smaele, Arn Hofkens, Yves Dejaegher and Bart Kesteleyn**
- Luigi Lopez, Gianluca M. Farinola, Vincenza Paradiso, Giuseppe Mele and Angelo Nacci**
- Nicholas P. Crouch, Robert M. Adlington, Jack E. Baldwin, Meng-Huee Lee, Colin H. MacKinnon and Diana R. Paul**
- Subodh Kumar, Maninder Singh Hundal, Geeta Hundal, Navneet Kaur and Harjit Singh**
- Mercedes Torneiro, Yagamare Fall, Luis Castedo and Antonio Mouriño**
- Francesco De Riccardis, Irene Izzo, Marcello Di Filippo, Guido Sodano, Fulvio D'Acquisto and Rosa Carnuccio**
- María José Aurell, Luisa Celta, Ramon Mestres and Amparo Tortajada**
- Qinghong Lin, Graham E. Ball and Roger Bishop**
- Sergio Auricchio, Antonella Bini, Eros Pastormerlo and Ada M. Truscello**
- Yolanda Díaz, Anas El-Laghdach and Sergio Castillón**
- Neville Boden, Richard J. Bushby, Steven Clarkson, Stephen D. Evans, Peter F. Knowles and Andrew Marsh**
- 10733 Regiochemistry of Wacker-type oxidation of vinyl group in the presence of neighboring oxygen functions—II
- 10743 Synthesis of 2,3-aziridino-2,3-dideoxy-D-lyxono-γ-lactone 5-phosphonate from D-ribose, a new member of the 2,3-aziridino-γ-lactone family of synthons
- 10753 A formal total synthesis of deoxybouvardin
- 10765 Tri-*n*-butyltin cuprate as a tool for the preparation of stannyl derivatives of carbohydrates
- 10775 Intramolecular Diels–Alder reaction of chiral, highly oxygenated trienoates derived from sugar allyltins
- 10783 Structure and tautomerism of 3(5)-amino-5(3)-arylpyrazoles in the solid state and in solution: an X-ray and NMR study
- 10803 Synthesis of 3-alkenylamines, 4-alkenylamines and 3-allenylamines via a transamination procedure
- 10817 Reactions on (*R*)- and (*S*)-1,1,2-triphenyl-1,2-ethanediols induced by aminium salts and protic acids. Solvent effect
- 10827 Stereochemical course of the conversion of α-ketoisocaproate to β-hydroxy-isovalerate by soluble, recombinant mammalian 4-hydroxyphenylpyruvate dioxygenase
- 10841 Synthetic ionophores—XVI. Synthesis and association behaviour of bis-pyridine tetramide macrocycles: role of increased preorganisation of Ag⁺ selectivity
- 10851 Copper-mediated alkylation of vitamin D C-ring. Synthesis of C11-functionalized 1α,25-dihydroxyvitamin D₃
- 10871 Synthesis and cytotoxic activity of steroid–anthraquinone hybrids
- 10883 Dienediolates of unsaturated carboxylic acids in synthesis. Aldehydes and ketones from alkyl halides, by ozonolysis of β,γ-unsaturated α-alkyl carboxylic acids. The role of a tertiary amine in the cleavage of ozonides
- 10899 Ritter reactions—XII. Reappraisal of the reactivity of methyl Schiff bases with dimethyl acetylenedicarboxylate
- 10911 Iron dichloride induced isomerization or reductive cleavage of isoxazoles: a facile synthesis of 2-carboxy-azirines
- 10921 Synthesis of 2'-deoxy-2'-phenylselenenyl-furanosyl nucleosides from glycals using electrophilic selenium reagents. Conversion into 2'-deoxynucleosides
- 10939 The design and synthesis of simple molecular tethers for binding biomembranes to a gold surface

NUMBER 32

DEDICATED TO PROFESSOR SAMUEL J. DANISHEFSKY

Contents

iii	Contributors to this Issue
v	Graphical Abstracts
xi	Preface
10953	Convergent catalytic asymmetric synthesis of camptothecin analog GI147211C
Francis G. Fang, Donald D. Bankston, Edward M. Huie, M. Ross Johnson, Myung-Chol Kang, Craig S. LeHoullier, George C. Lewis, Thomas C. Lovelace, Melissa W. Lowery, Darryl L. McDougald, Clive A. Meerholz, John J. Partridge, Matthew J. Sharp and Shiping Xie	
	James S. Panek and Jennifer V. Schaus
	Peter E. Mailgres, Ioannis Houpis, Kai Rossen, Audrey Molina, Jess Sager, Veena Upadhyay, Kenneth M. Wells, Robert A. Reamer, Joseph E. Lynch, David Askin, R. P. Volante, Paul J. Reider and Peter Houghton
	Tetsuta Oshitari, Masakatsu Shibasaki, Takeshi Yoshizawa, Masahiro Tomita, Ken-ichi Takao and Susumu Kobayashi
	Michael P. DeNinno and Keith E. McCarthy
	Erik J. Hembre and William H. Pearson
	H. Keith Chenault and Robert F. Mandes
	Jacquelyn Gervay, P. S. Ramamoorthy and Nellie N. Mamuya
	Marco A. Ciufolini and Frank Roschangar
	Frank E. McDonald and Hugh Y. H. Zhu
	Yufu Owada, Takeshi Matsuo and Nobuharu Iwasawa
	Michael Z. Hoemann, Konstantinos A. Agrios and Jeffrey Aubé
	R. Michael Corbett, Chee-Seng Lee, Michelle M. Sulikowski, Joseph Reibenspies and Gary A. Sulikowski
	Mark D. Chappell and Randall L. Halcomb
10971	Double stereodifferentiation in the Lewis acid promoted C-glycosidation of activated glycals with chiral (<i>E</i>)-crotylsilanes
10983	Synthesis of the orally active spiroindoline-based growth hormone secretagogue, MK-677
10993	Synthesis of 2-O-(3-O-carbamoyl- α -D-mannopyranosyl)-L-gulopyranose: sugar moiety of antitumor antibiotic bleomycin
11007	The ^{14}C radiolabelled synthesis of the cholesterol absorption inhibitor CP-148,623. A novel method for the incorporation of a ^{14}C label in enones
11021	Synthesis of the novel mannosidase inhibitors (3 <i>R</i>)- and (3 <i>S</i>)-3-(hydroxymethyl)swainsonine
11033	Synthesis of bis-abasic cyclic dinucleotide, bis-(3 $\div$ 5)-cyclic bis(1,4-anhydro-2-deoxy-D-erythro-pentitol-3-phosphate), an inhibitor of HIV-1 integrase
11039	Ring opening of sialyllactones with glycine esters: synthesis of selectively protected glyciny-NeuAc saccharopeptides
11049	Practical total synthesis of (+)-camptothecin: the full story
11061	Synthesis of pyranose glycals via tungsten and molybdenum pentacarbonyl-induced alkynol cyclizations
11069	Transformation of 1-(1,2-propadienyl)cyclopropanols into substituted hydroquinones employing octacarbonyldicobalt
11087	Total synthesis of (+)-curacin A, a marine cytotoxic agent
11099	Application of the oxa-di- π -methane photoisomerization in the rearrangement of carbocycles possessing bridgehead unsaturation
11109	Synthesis of CMP-sialic acid conjugates: substrates for the enzymatic synthesis of natural and designed sialyl oligosaccharides

B. T. O'Neill, P. F. Thadelo,
M. W. Bundesmann, A. M. Elder,
S. McLean and D. K. Bryce

Tsai-Lung Yeh, Chun-Chen Liao
and Bing-Jiun Uang

Timothy J. Doyle, Martin Hendrix,
Donald VanDerveer,
Sahar Javanmard and
John Haseltine

Maher N. Qabar, Jan Urban and
Michael Kahn

Sayee G. Hegde and David C. Myles

Robert S. Coleman, John C. Arthur
and Jason L. McCary

Samuel Chackalamannil and
Yuguang Wang

Joel Morris, Donn G. Wishka,
George P. Luke, Thomas M. Judge
and Ronald B. Gammill

Masahiko Yamaguchi,
Yoshihiro Igarashi,
Ravinder S. Reddy, Tai Shiraishi
and Masahiro Hirama

11121 Tandem Michael addition and azanorbomane substance-P antagonists

11141 Enantioselective synthesis of α -amino acids from glycine *t*-butyl ester

11153 A convergent synthesis of (+)-pancratistatin based on intramolecular electrophilic aromatic substitution

11171 A facile solution and solid phase synthesis of phosphotyrosine mimetic L-4-[diethylphosphono(difluoromethyl)]-phenylalanine (F₂Pmp(EtO)₂) derivatives

11179 The kinetics and thermodynamics of bicyclic ketal formation: an application to the synthesis of the zaragozic acids

11191 6-Thio-2'-deoxyinosine: synthesis, incorporation, and evaluation as a post-synthetically modifiable base in oligonucleotides

11203 An enantioselective route to *trans*-2,6-disubstituted piperidines

11211 A titanium (IV) mediated one-pot double condensation synthesis of 5,6-dihydro-4*H*-pyran-4-ones

11223 Asymmetric Michael addition of nitroalkanes to prochiral acceptors catalyzed by proline rubidium salts

I Instructions to Contributors

NUMBER 33

Contents

iii Tetrahedron Prize for Creativity in Organic Chemistry

v Contributors to this Issue

vii Graphical Abstracts

Jens Hasserodt and Kim D. Janda

Ronald L. Halterman, Shyi-Tai Jan,
Heather L. Nimmons,
David J. Standlee and
Masood A. Khan

Ronald L. Halterman, Shyi-Tai Jan,
Aladamash H. Abdulwali and
David J. Standlee

Tsutomu Yokomatsu,
Mutsumi Sato, Hiroshi Abe,
Kenji Suemune, Keita Matsumoto,
Taro Kihara, Shinji Soeda,
Hiroshi Shimeno and
Shiroshi Shibuya

Shigeru Okada, Izumi Tonegawa,
Hisashi Matsuda,
Masahiro Murakami and
Katsumi Yamaguchi

Morten Grøtli, Ramon Eritja and
Brian Sproat

Carme Brosa and Xavier Miró

Ronald ten Have, Marco Huisman,
Auke Meetsma and Albert M. van
Leusen

11237 Syntheses of octahydroquinoline-*N*-oxides: haptens designed to elicit catalytic antibodies that control a terpenoid-like cascade cyclisation

11257 Synthesis and catalytic reactivity of *D*₄-symmetric dinorbomabenzene-derived metallotetraarylporphyrins

11277 Synthesis and catalytic reactivity of sterically and electronically modified *D*₄-symmetric metallotetraarylporphyrins

11297 Synthesis of (2'*S*,3'*S*)-9-(4'-phosphono-4',4'-difluoro-2',3'-methano butyl)guanine and its enantiomer. Evaluation of the inhibitory activity for purine nucleoside phosphorylase

11307 Braunixanthins 1 and 2, new carotenoids from the green microalga *Botryococcus braunii*

11317 Solid-phase synthesis of branched RNA and branched DNA/RNA chimeras

11347 Synthesis of new brassinosteroids with epoxy functions: the effect on the regioselectivity of the Baeyer–Villiger reaction

11355 Novel synthesis of 4(5)-monosubstituted imidazoles via cycloaddition of tosylmethyl isocyanide to aldimines

Laura Palombi,
Francesco Bonadies and
Arrigo Scettri

Nasser Iranpoor and Foad Kazemi

Tadeusz M. Krygowski,
Michał K. Cyrański,
Kazuhide Nakata, Mizue Fujio and
Yuho Tsuno

Bogdan Boduszek,
Agnieszka Halama and Jerzy Zoń

Frances I. Knight, John M. Brown,
Dario Lazzari, Alfredo Ricci and
A. John Blacker

Dennis P. Piet, Hendra M. Willemen,
Theodorus J. M. de Bruin,
Maurice C. R. Franssen,
Joannes B. P. A. Wijnberg and
Aede de Groot

Enrique Díez-Barra, Sonia Merino,
Prado Sánchez-Verdú and
José Torres

Francisco Caturia and
Carmen Nájera

M^a del Mar Blanco,
Carmen Avendaño and
J. Carlos Menéndez

Santiago Conde, Marta Fierros,
Isabel Dorronsoro,
María Luisa Jimeno and
María Isabel Rodríguez-Franco

Anna Aiello, Ernesto Fattorusso,
Maria Luisa Menna, Rosa Carnuccio
and Teresa Iuvone

- 11369 Diastereoselective epoxidation of allylic alcohols by *t*-butyl hydroperoxide/zeolites system
- 11377 Stereospecific formation of *S*(-)-styrene sulfide: efficient conversion of epoxides to thiranes catalysed with Ru(III)
- 11383 Separation of the energetic and geometric contributions to aromaticity—VI. Changes of the aromatic character of the rings in naphthalene, anthracene, phenanthrene and pyrene derivatives induced by the charged substituent CH₂⁺
- 11399 The cleavage of 1-amino-2'-nitrobenzylphosphonates in a basic medium. Formation of the 3-amino-2,1-benzisoxazole derivatives
- 11411 Electrophilic amination of catecholboronate esters formed in the asymmetric hydroboration of vinylarenes
- 11425 Acid- and enzyme-catalysed cyclisation reactions of (*Z,E*)-1(10),4-cyclodecadiene derivatives as model systems for melampolides
- 11437 On the π-π interaction in the benzylation of ketones
- 11449 Preparation and synthetic applications of lithiated vinyl sulfones derived from 3-buten-1-ol and 4-penten-1-ol
- 11465 Hetero Diels-Alder reactions of 4,5,8(1*H*)-quinolinetriones
- 11481 Regioselective lipase catalyzed synthesis of diester crowns. New asymmetric macrocycles containing a 1,3-bis(1*H*-pyrazol-1-yl)propane unit
- 11489 A new antiproliferative sulfated alkene from the Mediterranean tunicate *Microcosmus vulgaris*

I Instructions to Contributors

NUMBER 34

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 425

- 11493 Prebiotic chemistry: a bioorganic perspective

ARTICLES

- 11529 Extended heterocyclic systems—II. The synthesis and characterisation of (2-furyl)pyridines, (2-thienyl)pyridines, and furan-pyridine and thiophene-pyridine oligomers
- 11541 Chemoenzymatic synthesis of fluorinated carbohydrates: 2-deoxy-2-fluoro-D-glucose and 5-deoxy-5-fluoro-manno-γ-lactol
- 11549 Novel cholestane glycosides from the bulbs of *Omithogalum saundersiae* and their cytostatic activity on leukemia HL-60 and MOLT-4 cells
- 11563 A new sesquiterpene from *Nicotiana umbratica* Burbidge

John D. Sutherland and
J. Nicole Whitfield

R. Alan Jones and Pervin U. Civcir

Fengyang Yan, Ba V. Nguyen,
Chentao York and Tomas Hudlicky

Minpei Kuroda, Yoshihiro Mimaki,
Yutaka Sashida, Toshihiko Hirano,
Kitaro Oka, Akira Dobashi,
Hong-yu Li and Nobuyuki Harada

Masashi Mizutani, Koshi Koseki,
Hideo Ago, Masataka Mori,
Toshiaki Matsuzaki and
Takashi Ebata

- Valérie Courtois, Rachid Barhdadi, Michel Troupel and Jacques Périchon**
Bruno Faure, Olivier Pardigon and Gérard Buono
- John D. Sutherland and J. Nicole Whitfield**
- E. V. K. Suresh Kumar, Jai D. Singh, Harkesh B. Singh, Kalyan Das and Babu Verghese**
- Artur M. S. Silva, Lúcia M. P. M. Almeida, José A. S. Cavaleiro, Concepción Foces-Foces, Antonio L. Llamas-Saiz, Christophe Fontenas, Nadine Jagerovic and José Elguero**
- Gábor Krajsovsky, Ákos Kocsis, László Ferenc Szabó and Benjamin Podányi**
- Angel M. Montaña, Sandra Ribes, Pedro M. Grima, Francisca García, Xavier Solans and Mercè Font-Bardia**
- Ponnusamy Shanmugam, Rajagopal Srinivasan and Krishnamoorthy Rajagopalan**
- A. de la Hoz, E. Díez-Barra, F. Langa, S. Merino, A. Rodríguez and P. Sánchez-Verdú**
- Stefania Turchi, Donatella Giomi, Caterina Capaccioli and Rodolfo Nesi**
- Fabio Degiorgis, Marco Lombardo and Claudio Trombini**
- Jonathan H. Bailey, David T. Cherry, Katherine M. Crapnell, Mark G. Moloney, Sung Bo Shim, Mark J. Bamford and R. Brian Lamont**
- Santiago Conde, Paloma López-Serrano, Marta Fierros, María Isabel Biezma, Ana Martínez and María Isabel Rodríguez-Franco**
- K. P. Ravindranathan Kartha and Robert A. Field**
- Matteo Adinolfi, Gaspare Barone, Alfonso Iadonisi, Lorenzo Mangoni and Rosario Manna**
- Raymond C. F. Jones, Pravin Patel, Simon C. Hirst and Ian Turner**
- Paula M. Marcos, José R. Ascenso, Roger Lamartine and J. L. C. Pereira**
- Ronald Grigg, José M. Sansano, Vijayaratnam Santhakumar, Visuvanathar Sridharan, Ravishanker Thangavelanthum, Mark Thornton-Pett and David Wilson**
- 11569 Electroreductive coupling of organic halides in alcoholic solvents. An example: the electrosynthesis of biaryls catalysed by nickel-2,2' bipyridine complexes
- 11577 Reactivity of chiral oxazaphospholidines on activated halide compounds: synthesis and coordination studies of chiral hybrid phosphine-phosphine oxide ligands
- 11595 Studies on a potentially prebiotic synthesis of RNA
- 11627 Synthesis of some functionalised isomeric bis(ethylenedithio)tetrathiafulvalene (BEDT-TTF) and dithiophenetetrathiafulvalene (DTTTF) π -donors
- 11645 Synthesis and molecular structure of new O/N/O ligands: bis-phenol-pyridine and bis-phenol-pyrazole
- 11659 Formation of trioxadamantane type aglucones of 3-methoxy secologanin derivatives
- 11669 2-Functionalized furans as precursors of versatile cycloheptane synthons
- 11685 Synthesis of functionalised bicyclo[4.4.0] and spiro [5.4] compounds by tin-mediated radical cyclization
- 11693 Structural determination by NMR spectroscopy and molecular mechanics of the regio and diastereoisomers obtained in the addition of 2-phenylcyclohexanone to chalcone
- 11711 Hetero Diels–Alder reactions of 4,5-dicyanopyridazine with alkenes
- 11721 Synthesis of four stereoisomers of 5-amino-2,5-dideoxy-heptono-1,5-lactams
- 11731 Functionalised pyrrolidinones derived from (*S*)-pyroglutamic acid by cycloaddition reactions
- 11745 Regioselective lipase-catalyzed synthesis of L-glutamic α -monoamide derivatives. Effect of the N-blocking group
- 11753 Iodine: a versatile reagent in carbohydrate chemistry—IV. Per-*O*-acetylation, regioselective acylation and acetolysis
- 11767 Synthesis of caryose, the carbocyclic monosaccharide component of the lipopolysaccharide from *Pseudomonas caryophylli*
- 11781 Alkylation of an imidazolidine enaminoester: a new sequence for the C^α -alkylation of 4,5-dihydroimidazoles
- 11791 NMR Conformational studies of tetraalkylated dihomooxalix[4]arenes
- 11803 Palladium catalysed tandem cyclisation–anion capture processes—III. Organoboron anion transfer agents

- James P. Murphy, Mark Hadden and Paul J. Stevenson** 11827 Aza-annulation of enamines with crotonyl chloride—formal reversal of regioselectivity
- Debjani Bhar and S. Chandrasekaran** 11835 Synthesis of thiolactones using benzyltriethylammonium tetrathiomolybdate as sulfur transfer reagent
- Jean-Paul G. Seerden, Mike M. M. Boeren and Hans W. Scheeren** 11843 1,3-Dipolar cycloaddition reactions of nitrones with alkyl vinyl ethers catalyzed by chiral oxazaborolidines
- Antonio Cipiciani, Francesco Fringuelli, Vittorio Mancini, Oriana Piermatti, Anna Maria Scappini and Renzo Ruzziconi** 11853 Enzymatic kinetic resolution of ($\pm$)-4-acetoxy[2.2]paracyclophane by *Candida cylindracea* lipase. An efficient route for the preparation of (+)-*R*-4-hydroxy- and (+)-*S*-4-acetoxy[2.2]paracyclophane
- Alla Manjula and Madhavarao Nagarajan** 11859 New supramolecular hosts: synthesis and cation binding studies of novel Tröger's base-crown ether composites
- Herman P. Perzanowski, Said S. Al-Jaroudi, Mohamed I. M. Wazeer and Sk. Asrof Ali** 11869 Cyclic nitrone-ethene cycloaddition reactions
- Geoffrey T. Crisp and Timothy P. Bubner** 11881 Preparation of sterically constrained arylalkynes
- Geoffrey T. Crisp and Timothy P. Bubner** 11899 Preparation of sterically constrained arylalkyne oligomers
- Bo-Long Poh and Yian Yian Ng** 11913 Complexation of aromatic hydrocarbons with a macrocycle containing four tropolone units in water
- Pier Lucio Anelli, Marino Brocchetta, Luisella Calabi, Carlo Secchi, Fulvio Uggeri and Sandra Verona** 11919 Smiles rearrangement as a tool for the preparation of 5-[(2-hydroxyacyl)-amino]-2,4,6-triiodo-1,3-benzenedicarboxamides: main pathway and side reactions
- René M. Ultenbogaard, Jean-Paul G. Seerden and Hans W. Scheeren** 11929 High-pressure promoted stereoselective tandem [4 + 2]/[3 + 2] cycloadditions of nitroalkenes and enol ethers

I Instructions to Contributors

NUMBER 35

Contents

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 65

CHEMICAL BIOLOGY

Guest Editors: GREGORY L. VERDINE* and JULIAN SIMON†

*Harvard University, Cambridge, MA 02138, USA

†Fred Hutchinson Cancer Research Center, Seattle, WA 98104, USA

- iii Contributors to this Issue
- vii Announcement: Tetrahedron Symposia-in-Print
- xiii Preface
- xv Graphical Abstracts
- David D. Manning, Laura E. Strong, Xin Hu, Pamela J. Beck and Laura L. Klessling** 11937 Neoglycopolymers inhibitors of the selectins
- David A. Fancy and Thomas Kodadek** 11953 Site-directed oxidative protein crosslinking

Akira Kawamura, Nina Berova,
Koji Nakanishi, Brunhilde Voigt and
Günter Adam

Jon K. Magnuson,
Timothy D. Paustian,
Vinod K. Shah, Dennis R. Dean,
Gary P. Roberts, Douglas C. Rees
and James B. Howard

Stephen P. Hale and Paul Schimmel

Anthony C. Bishop, Dana Moore,
Thomas S. Scanlan and
Kevan M. Shokat

Gary W. Ashley,
Christopher C. Lawrence,
JoAnne Stubbe and
Morris J. Robins

Wenhong Li, Carsten Schultz,
Juan Llopis and Roger Y. Tsien

Daniel A. Erlanson, Scot A. Wolfe,
Lin Chen and Gregory L. Verdine

Gregory P. Mullen, Walfrido Antuch,
Mark W. Maciejewski,
Rajendra Prasad and
Samuel H. Wilson

- 11961 Configurational assignment of brassinosteroid sidechain by exciton coupled circular dichroic spectroscopy
- 11971 Nitrogenase iron–molybdenum cofactor binding site: protein conformational changes associated with cofactor binding
- 11985 DNA aptamer targets translational editing motif in a tRNA synthetase
- 11995 Screening a hydroxystilbene library for selective inhibition of the B cell antigen receptor kinase cascade
- 12005 Mechanism based inactivation of the adenosylcobalamin-dependent ribonucleotide reductase from *L. leichmannii* by 2'-ara-2'-azido-2'-deoxyadenosine-5'-triphosphate: observation of paramagnetic intermediates
- 12017 Membrane-permeant esters of inositol polyphosphates, chemical syntheses and biological applications
- 12041 Selective base-pair destabilization enhances binding of a DNA methyl transferase
- 12057 Insights into the mechanism of the β -elimination catalyzed by the N-terminal domain of DNA polymerase β

I Instructions to Contributors

NUMBER 36

Contents

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 66

RECENT ASPECTS OF S, Se, AND Te CHEMISTRY

Guest Editors: RICHARD S. GLASS* and RENJI OKAZAKI†

*The University of Arizona, Tucson, AZ 85721, USA
†The University of Tokyo, Bunkyo-ku, Tokyo 113, Japan

- | | | |
|---|-------|--|
| | iii | Contributors to this Issue |
| | vii | Announcement: Tetrahedron Symposia-in-Print |
| | xiii | Preface |
| | xv | Graphical Abstracts |
| Derek H. R. Barton and
Wansheng Liu | 12067 | The invention of radical reactions—XXXVIII. Homologation of carboxylic acids with acrylamide and synthetic studies of 3-deoxy-D-arabino-2-heptulosonic acid (DAH) and its 4-epimer |
| Vithalanand Kulkarni and
Theodore Cohen | 12089 | Cumyl phenyl sulfide forms bicumyl instead of cumyllithium upon reductive lithiation. Thiophenoxide as a leaving group in nucleophilic substitution by SET |
| Akio Kayano, Motohiro Akazome,
Makoto Fujita and Katsuyuki Ogura | 12101 | Highly stereoselective radical addition to 3-hydroxy-1-(methylthio)-1-(p-tolylsulfonyl)-1-alkenes and its application to the preparation of optically active compounds |
| Noriyuki Kurose, Tamiko Takahashi
and Toru Koizumi | 12115 | First synthesis of optically pure selenuranes and stereoselective alkaline hydrolysis. Their application to asymmetric [2,3] sigmatropic rearrangement of allylic selenoxides |
| Qinyu Xu, Bin Chao, Yongmei Wang
and Donald C. Dittmer | 12131 | Tellurium in the 'no-solvent' organic synthesis of allylic alcohols |

- Alain Krief, Cathy Delmotte and Willy Dumont**
Hajime Maeda, Takahiro Matsuya, Nobuaki Kambe, Noboru Sonoda, Shin-ichi Fujiwara and Tsutomu Shin-Ike
Nobuhiro Takeda, Norihiro Tokitoh and Renji Okazaki
Soichi Sato, Takahiro Yamashita, Ernst Horn, Ohgi Takahashi, Naomichi Furukawa, Masataka Yokoyama and Kentaro Yamaguchi
Mao Minoura, Takao Sagami, Masataka Miyasato and Kin-ya Akiba
Akihiko Ishii, Shin-ya Nakamura, Tsuyoshi Yamada and Juzo Nakayama
Nami Choi, Kumiko Asano, Sakura Watanabe and Wataru Ando
Sylvie L. Tardif, Andrzej Z. Rys, Charles B. Abrams, Imad A. Abu-Yousef, Pierre B. F. Lesté-Lasserre, Erwin K. V. Schultz and David N. Harpp
Toshiaki Mural, Hiroya Takada, Kaori Kakami, Makiko Fujii, Masahiko Maeda and Shinzi Kato
Steven K. Holmgren, Paul B. Savage, John M. Desper, Kurt D. Schladetzky, Douglas R. Powell and Samuel H. Gellman
Masahiro Irie, Takeshi Eriguchi, Toshiyuki Takada and Kingo Uchida
Richard S. Glass, Qin Guo and Yunqi Liu
Enrico Baciocchi, Osvaldo Lanzalunga and Bruno Pirozzi
Howard E. Ganthier and J. Robert Lawrence
Eric B. Peterson and Donald Hilvert
- 12147 Chemoselective reduction of organoselenocyanates to diselenides and selenolates
 12159 A new synthesis of isoselenoureas by imidoxylation of amines with selenium and isocyanides
 12167 Syntheses, structures and reactions of the first rotational isomers of stable selenobenzaldehydes, 2,4,6-tris[bis(trimethylsilyl)methyl]selenobenzaldehydes and their η^7 -tungsten complexes
 12183 Isolation and structure of bis(2,2'-biphenylene)dichloro- and -difluoroper-telluranes, [12-Te-6(C4X2), X = Cl, F] (λ^6 -tellane)
 12195 Synthesis and characterization of hexaaryltellurium (TeAr₆); the first neutral hexaarylated element compound
 12203 Stereochemistry of dithirane 1-oxides: optical resolution, absolute configuration, and racemization and isomerization of dithirane 1-oxides
 12215 Formation and oxidation reaction of polychalcogenadisilabicyclo[k.l.m]-alkanes and their germanium analogues
 12225 Recent chemistry of the chalcogen diatomics
 12237 4-Penteneseleothioic acid S-alkyl esters: synthesis via the seleno-Claisen rearrangement
 12249 Steric control of oxidation selectivity in macrocyclic phosphine oxide-dithioethers
 12263 Photochromism of diarylethenes having thiophene oligomers as the aryl groups
 12273 Neighboring tin effect in the oxidation of α -stannyl phenyl vinyl sulfides
 12287 Oxidations of benzyl and phenethyl phenyl sulfides. Implications for the mechanism of the microsomal and biomimetic oxidation of sulfides
 12299 Chemical transformations of selenium in living organisms. Improved forms of selenium for cancer prevention
 12311 Selenosubtilisin's peroxidase activity does not require an intact oxyanion hole

I Instructions to Contributors

NUMBER 37

Contents

- iii Contributors to this Issue
 v Graphical Abstracts

- 12319 A concise synthesis of 7-desmethylasteriscanolide and the discovery of an unusual fragmentation reaction to the related asteriscunolide skeleton

Kevin I. Booker-Milburn, Justin K. Cowell and Laurence J. Harris

- Feirong Li, Kexin Yang, John S. Tyhonas, Kristy A. MacCrum and Jonathan S. Lindsey**
Angela Cuenca
Marcos Martínez García, Georgina Espinosa Pérez, Francisco Lara Ochoa and Raymundo Cruz-Almanza
Youxiang Wang and D. Paul Rillema
Danwen Huang, Hong Jiang, Koji Nakanishi and P. N. R. Usherwood
Kenneth G. Hull, Mike Visnick, William Tautz and Allen Sheffron
Tamaki Jikyo, Masashi Eto and Kazunobu Harano
Nobuyuki Hayashi, Kenshu Fujiwara and Akio Murai
Masaaki Miyashita, Toshio Suzuki, Masahide Hoshino and Akira Yoshikoshi
Takashi Saitoh, Takahisa Ikeue, Yoshiki Ohgo and Mikio Nakamura
Christian Kühn, Gunnar Lindeberg, Adolf Gogoll, Anders Hallberg and Boris Schmidt
Valérie Dollé, Chi Hung Nguyen and Emile Bisagni
A. Malanda Kimbonguila, S. Boucida, F. Guibé and A. Loffet
Abdel Latif M. Salah el Din, Pavel Kyslík, Danielle Stephan and Mohamed A. Abdallah
Nicolas Millot, Catherine Guillou and Claude Thal
C. Jouen and J. C. Pommelet
Hélène Poujol, Ali Al Mourabit, Alain Ahond, Christiane Poupot et Pierre Potier
Wenceslao Moreda and Alexander R. Forrester
Wenceslao Moreda and Alexander R. Forrester
X. L. Armesto, M. Canle L., M. V. García and J. A. Santaballa
Kandasamy Subburaj, Rita Katoch, Modachur G. Murugesh and Girish K. Trivedi
Nicolò Vivona, Silvestre Buscemi, Stefano Asta and Tullio Caronna
Ponnusamy Shanmugam, Balachari Devan, Rajagopal Srinivasan and Krishnamoorthy Rajagopalan
- 12339 Beneficial effects of salts on an acid-catalyzed condensation leading to porphyrin formation
- 12361 Micellar effects upon the alkaline hydrolysis of 2-(3-nitrophenoxy)quinoxaline. Effects of cationic head groups
- 12369 Synthesis and Diels–Alder reactions of 3-methylene-2-ferrocenylmethylene-quinuclidine
- 12377 Synthesis, electronic and ^1H NMR properties of a new type of polypyridyl ligand: long-range ring current effects
- 12391 Synthesis and pharmacological activity of philanthotoxin-343 analogs: antagonists of ionotropic glutamate receptors
- 12405 Synthesis of Ro 25-8210 via an enantioselective oxazaborolidine-catalyzed reduction
- 12415 *Ab initio* study of formation and structure of double Diels–Alder cycloadduct derived from sequential pericyclic reactions of 2-pyrone with cycloocta-1,5-diene
- 12425 The biomimetic construction of fused cyclic polyethers
- 12469 The organoselenium-mediated reduction of α,β -epoxy ketones, α,β -epoxy esters, and their congeners to β -hydroxy carbonyl compounds: novel methodologies for the synthesis of aldols and their analogues
- 12487 Barriers to rotation of axially coordinated imidazole ligands in nonplanar *meso*-tetraalkylporphyrinato-cobalt(III) complexes
- 12497 Fmoc protected peptide mimetic based on a cyclohexane framework and incorporation into angiotensin II
- 12505 Studies towards 4-C-alkylation of pyridin-2(1*H*)-one derivatives
- 12525 On the allyl protection of the imidazole ring of histidine
- 12539 Bacterial iron transport: structure elucidation by FAB-MS and by 2D NMR (^1H , ^{13}C , ^{15}N) of pyoverdine G4R, a peptidic siderophore produced by a nitrogen-fixing strain of *Pseudomonas putida*
- 12553 First synthesis and reactivity of phosphinite and phosphine bridge chelate dicarbonyl (η^5 -4-methoxycyclohexadienyl)iron complexes
- 12565 Monofluorination of α -dichlorosulfides: a short access to α -fluoro poly-functionalised thioethers
- 12575 Taxoïdes: 7-déshydroxy-10-acétyldocétaxel et nouveaux analogues préparés à partir des alcaloïdes de l'if
- 12595 Novel heterocyclic dyes as DNA markers—I. Synthesis and characterization
- 12605 Novel heterocyclic dyes as DNA markers—II. Structure and biological activity
- 12615 Evidence for the intermediacy of *N*-(2-imino, 1-oxo-propyl)-glycine in the base-catalyzed decomposition of *N*-halo-dipeptides
- 12621 Regioselective total synthesis of ($\pm$) neorautane, ($\pm$) neorautanin and their analogs. Microwave mediated synthesis of 2*H*-chromenes from propargyl phenyl ethers
- 12629 Photoinduced molecular rearrangements. The photochemistry of 1,2,4-oxadiazoles in the presence of sulphur nucleophiles. Synthesis of 1,2,4-thiadiazoles
- 12637 Studies in bromoacetylenic oxy-Cope rearrangement: synthesis of functionalised medium-size, bicyclic and angularly fused tricyclic compounds

Neil Edwards,
Jacqueline A. Macritchie,
Philip J. Parsons,
Michael G. B. Drew and
Archie W. Jahans

Toh-Seok Kam, K. Yoganathan,
Hong-Yu Li and Nobuyuki Harada

David Alker, Laurence M. Harwood
and C. Eleri Williams

Leiv K. Sydnes and
Marcel Sandberg

Annika Kers, Jacek Stawirski,
Leszek Dembkowski and
Adam Kraszewski

Nele Knoops, Geert Deroover,
Zhang Jldong, Frans Compernelle
and Georges J. Hoornaert

Jun-Jie Chen, Leslie W. Deady and
Maureen F. Mackay

Attila Sápi, József Fetter,
Károly Lempert,
Mária Kajtár-Perey and
Gábor Czira

Frans Compernelle, Gert Joly,
Koen Peeters, Suzanne Toppet,
Georges Hoornaert, Amuri Kilonda
and Babady-Bila

Jesús Ezquerro, Carlos Lamas,
Alfredo Pastor, José L. García-
Navío and Juan J. Vaquero

Belén Abarca, Rafael Ballesteros
and Nadia Houari

- 12651 Chemistry of allene sulfoxides: a new synthesis of 1-aryl-3,4-dihydro-1*H*-[1]benzothieno[3,2-*c*]pyrans
- 12661 Tenuisines A–C and tenuiphylline, novel bisindoles from *Kopsia tenuis*
- 12671 Carbamate derived stable precursors for generating chiral azomethine ylids under mild conditions
- 12679 The chemistry of acylals—I. The reactivity of acylals towards Grignard and organolithium reagents
- 12691 Aryl H-phosphonates—VII. Studies on the formation of phosphorus–carbon bond in the reaction of trityl and benzyl halides with dialkyl and diphenyl H-phosphonates
- 12699 Generation of 3-piperidine(methan)amines and cyclic 3-piperidine-methanamines as potential substance P antagonists
- 12717 Synthesis of some acridone alkaloids and related compounds
- 12729 Simple and condensed β -lactams—XXIX. Synthesis and base-catalyzed ring transformation of 4-[(2*RS*,3*SR*)-3-hydroxy-1-(4-methoxyphenyl)-4-oxo-azetidin-2-yl]thiazol-2(3*H*)-one
- 12739 The synthesis of ester and ketone analogues of 1-deoxynojirimycin and castanospermine
- 12755 Suzuki-type cross-coupling reaction of 1-benzyl-2-iodo-1*H*-benzimidazoles with aryl boronic acids: a regioselective route to N-alkylated 6-alkoxy-2-aryl-1*H*-benzimidazoles
- 12765 Triazolopyridines—XIX. Synthesis and reactions of ylides derived from [1,2,3]triazolo[1,5-*a*]quinoline and [1,2,3]triazolo[5,1-*a*]isoquinoline with methyl propiolate

I Instructions to Contributors

NUMBER 38

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 12771 Corrigendum
- TETRAHEDRON REPORT NUMBER 426**
- 12789 Design and synthesis of conformationally constrained amino acids as versatile scaffolds and peptide mimetics
- ARTICLES**
- 12855 A stereoselective synthesis of 1 α -(3'-carboxypropyl)-4-androsten-17 β -ol-3-one: preparation of immunoreagents for quantification of testosterone by fluorescence polarization immunoassay
- 12867 Facile stereoselective synthesis of γ -substituted γ -amino acids from the corresponding α -amino acids
- 12875 Magnetic properties of dicyclopentapyrenes and their congeners
- 12883 A Raney nickel–sodium hypophosphite combination system for reductive desulfurization without racemization of optically active secondary alcohol

Stephen Hanessian,
Grant McNaughton-Smith,
Henry-Georges Lombart and
William D. Lubell

Maciej Adamczyk, Yon-Yih Chen,
Donald D. Johnson and
Rajarathnam E. Reddy

Martin Smrcina, Pavel Majer,
Eva Majerová,
Tatiana A. Guerassina and
Michael A. Eissenstat

Masahiro Kataoka

Manabu Node, Kiyoharu Nishide,
Yukihiro Shigeta, Kenichi Obata,
Hiroaki Shiraki and
Hideaki Kunishige

- Akiya Ogawa, Noriaki Takami, Taizoh Nanke, Syoji Ohya, Toshikazu Hirao and Noboru Sonoda** 12895 A novel C–H insertion via deoxygenation of amides by a Sm/Sml₂ mixed system
- Takashi Hirano, Ryo Negishi, Mihoko Yamaguchi, Feng Qi Chen, Yoshihiro Ohmiya, Frederick I. Tsuji and Mamoru Ohashi** 12903 Chemi- and bioluminescence of coelenterazine analogues possessing an adamantylmethyl group
- Yuji Mori, Kelsuke Yaegashi and Hiroshi Furukawa** 12917 Stereoselective synthesis of the 6,7,6- and 6,7,7-ring systems of polycyclic ethers by 6-*endo* cyclization and ring expansion
- Hiroaki Ohno, Norio Mimura, Akira Otake, Hirokazu Tamamura, Nobutaka Fujii, Toshiro Ibuka, Isao Shimizu, Akiharu Satake and Yoshinori Yamamoto** 12933 Palladium-catalyzed reductive ring opening with formic acid of aziridines bearing an α,β -unsaturated ester group
- René Csuk, Christina Schröder and Claus Krieger** 12947 Stereoselective synthesis of α -substituted ulosonic acids by magnesio-Reformatsky reactions
- Dieter Enders, Heiner Wahl and Kyriakos Papadopoulos** 12961 Diastereo- and enantioselective synthesis of 2,3- and 1,2-disubstituted 4-oxophosphonates via asymmetric Michael addition
- Zhu Teng, Christoph Boss and Reinhart Keese** 12979 Synthesis of some di- and tricyclic silaalkanes
- Bernd Schmidt and Tim Sattelkau** 12991 Ring closing metathesis as the key step in the synthesis of furan-substituted C-aryl glycosides
- Ferenc Falgi, Tamás Dévényi, Anna Lauko and László Tóke** 13001 Stereoselective synthesis of trifluoromethyl group containing cyclopropane lactones
- Anna Bernardi, Katia Karamfilova, Silvia Sanguinetti and Carlo Scolastico** 13009 Enantioselective conjugate additions of silylketene acetals to 2-carboxy-cyclopentenones promoted by chiral Ti complexes
- Tadeusz M. Krygowski, Marcin Wislorowski, Sean T. Howard and Leszek Z. Stolarczyk** 13027 Angular-group-induced bond alternation—I. Origin of the effect from *ab initio* calculations
- Monica Bergamaschi, Franca Bigli, Maurizio Lanfranchi, Raimondo Maggi, Andrea Pastorio, Maria Angela Pellinghelli, Francesco Peri, Cecilia Porta and Giovanni Sartori** 13037 Stepwise synthesis and structural characterization of calix[4]- and calix[5]arenes bearing a functionalized arm on the methylene bridge
- Bhim C. Maiti and Saswati Lahiri** 13053 Tetracyclo[6.4.0.0^{3,5}.0^{4,8}]dodecan-6-ones: a novel construction of tricyclo-[7.2.1.0^{1,8}]dodecan-10-one skeleton by acid-catalyzed cyclopropyl bond cleavage
- Andrew D. Westwell and Jonathan M. J. Williams** 13063 Auxiliary accelerated reactions: towards the use of catalytic chiral auxiliaries
- Vladimir Yu. Vvedensky, Lambert Brandsma, Eugeny D. Shtephan and Boris A. Trofimov** 13079 2-Mercapto-1-methylpyrrole and the analogous selenol: formation and some transformations
- Sema L. Ioffe, Il'ya M. Lyapkalo, Alexander A. Tishkov, Vitaliy M. Danilenko, Yuri A. Strelenko and Vladimir A. Tartakovsky** 13085 β,β' -Functionalized *N,N*-divinyl-*N*-trimethylsilyloxyamines via silylation of β -substituted aliphatic nitro compounds. The investigation of the mechanism of the process using selective trapping reagents
- M^a Selma Arias-Pérez, A. Alejo and A. Maroto** 13099 Structural study of 3-azabicyclo[3.3.1]nonane derivatives functionalized at 1 and/or 9-positions by molecular mechanics calculations and NMR spectroscopy
- Clive W. Bird** 13111 Heteroaromaticity—X. The direct calculation of resonance energies of azines and azoles from molecular dimensions
- Margot Segura, Victoria Alcázar, Pilar Prados and Javier de Mendoza** 13119 Synthetic receptors for uronic acid salts based on bicyclic guanidinium and deoxycholic acid subunits
- Andrea D'Annibale, Antonella Pesce, Stefano Resta and Corrado Trogolo** 13129 Manganese(III)-promoted free radical cyclizations of enamides leading to β -lactams

Tahir M. Kasumov,
Namig Sh. Pirgulyev,
Valery K. Brel, Yuri K. Grishin,
Nikolai S. Zefirov and
Peter J. Stang

Philip C. Bulman Page,
Michael J. McKenzie,
Steven M. Allin and
Sukhbinder S. Klair

Jasothara Markandu, H. Ali Dondas,
Martyn Frederickson and
Ronald Grigg

Philip Duncanson,
D. Vaughan Griffiths and
John R. Miller

13139 New one-pot method for the stereoselective synthesis of (*E*)-[β -(trifluoromethylsulfonyloxy)-alkenyl](aryl) iodonium triflates

13149 Enantioselective synthesis of α -methyl carboxylic acids using a DiTOX chiral auxiliary

13165 X=Y–ZH Systems as potential 1,3-dipoles—XXXXVII. Tandem nucleophilic substitution–1,3 dipolar cycloaddition reactions of oximes with epoxides and dipolarophiles

13177 Synthesis and studies of the 15-crown-5 complex of the sodium salt of 2-nitroimidazole

I Tetrahedron Reports on Organic Chemistry

XXIII Instructions to Contributors

NUMBER 39

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 427

13183 Selective oxidations catalyzed by peroxidases

Marion P. J. van Deurzen,
Fred van Rantwijk and
Roger A. Sheldon

Robert E. Ireland, Longbin Liu and
Thomas D. Roper

Robert E. Ireland, Longbin Liu,
Thomas D. Roper and
James L. Gleason

Branko S. Jursic

John W. Huffman, Ming-Jung Wu,
W. Kenneth Banner and Dong Dai

Mingqi He, Shinji Tanimori,
Susumu Ohira and
Mitsuru Nakayama

Kenji Kitano, Shinji Miura,
Hiroshi Ohnishi and Hiroshi Meguro

Xiaoyun Wu, Guowei Qin,
Kung Kai Cheung and
Kin Fai Cheng

Zhi-Fu Tao, Xuhong Qian and
Mingcai Fan

S. C. Ng, I. Novak, L. Wang,
H. H. Huang and W. Huang

Vasilii A. Artyomov,
Vladimir L. Ivanov,
Anatolii M. Shestopalov and
Victor P. Litvinov

Harry Heaney,
George Papageorgiou and
Robert F. Wilkins

Dorota Gryko,
Zofia Urbańczyk-Lipkowska and
Janusz Jurczak

ARTICLES

13221 Total synthesis of FK-506—I. Construction of the C16–C34 fragment

13257 Total synthesis of FK-506—II. Completion of the synthesis

13285 A theoretical study of acetylene, ethylene and cyclopropene additions to benzo[b]- and benzo[c]-fused heterocycles

13295 Synthesis of 5',11-dihydroxy- Δ^8 -tetrahydrocannabinol

13307 Enantioselective construction of alicyclic bicyclo[3.1.0]hexane framework by double stereodifferentiation and its application for the synthesis of both enantiomers of vitamin D₃ CD ring synthons

13315 Synthesis of 4'-C-fluoromethylnucleosides as potential antineoplastic agents

13323 New alkaloids from *Isatis indigotica*

13329 Regioselective synthesis and photooxygenations of furonaphthopyrones starting from 2,7-naphthalenediol

13339 Synthesis and electronic structure of 1,2-heteroarylethynes: potential monomers for low bandgap conductive polymers

13351 2-Bromo-1-arylethylidenemalononitriles—convenient reagents for the regioselective synthesis of fused pyridines

13361 The activation of amins and aminol ethers by sulfur dioxide and their reactions with electron rich aromatic compounds

13373 Diastereoselective addition of allyl reagents to *N*-tosyl- and *N*-benzyl-*N*-tosyl-L-alaninal

Vassilios Bavetsias,
Graham M. F. Bisset,
Rosemary Kimbell,
F. Thomas Boyle and
Ann L. Jackman

Jyan S. Mahanty, Mahuya De,
Palas Das and Nitya G. Kundu

Carlo Bonini, Vittorio Esposito,
Maurizio D'Auria and Giuliana Righi

Marina Virgili, Miquel A. Pericàs,
Albert Moyano and Antoni Riera

Mateo Alajarín, Pedro Molina,
Angel Vidal and Fulgencio Tovar

Ian D. Cunningham,
Andrew Brownhill, Ian Hamerton
and Brendan J. Howlin

Giovanni Desimoni, Giuseppe Faita,
Mariella Mella, Marina Ricci and
PierPaolo Righetti

13383 Synthesis of novel quinazoline-based antifolates with modified glutamate side chains as potential inhibitors of thymidylate synthase and antitumour agents

13397 Palladium-catalyzed heteroannulation with acetylenic carbinols as synthons—synthesis of quinolines and 2,3-dihydro-4(1*H*)-quinolones

13419 A study on the open chain model for transition state structures in the nucleophilic addition to β -substituted carbonyl compounds and its application to the 1,3 asymmetric induction

13427 Experimental and theoretical studies on the diastereoselective Diels–Alder reactions of chiral 1-alkoxy-1,3-butadienes—I. Parent system and 4-substituted derivatives

13449 Intramolecular [2 + 2] cycloaddition of ketenimines with imines. Synthesis and chemical behaviour of azeto[2,1-*b*]quinazolines

13473 The ene reaction between maleimides and allyl-substituted aromatics

13495 Catalysis with inorganic cations—VII. The catalytic process of the Diels–Alder reaction with magnesium perchlorate in CH_2Cl_2 : kinetic investigation and spectroscopic detection of the complexed intermediate

I Instructions to Contributors

NUMBER 40

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 428

13509 Allylic protecting groups and their use in a complex environment—I. Allylic protection of alcohols

ARTICLES

13557 Toxicarioside A. A new cardenolide isolated from *Antiaris toxicaria* latex-derived dart poison. Assignment of the ^1H - and ^{13}C -NMR shifts for an antiarigenin aglycone

13567 Synthesis and structures of isomerically pure bis-(alkylbenzo) crown ethers

13583 Tandem radical cyclizations promoted by *O*-stannyl ketyls

13603 Synthesis of α -aminoalkylphosphonates from vinylphosphonates via aziridinyphosphonates

13609 Light-switched metal-tunneling across a π -basic tube of 1,3-alternate-calix[4]arenes

13621 New neplanocin analogues—X. The conversion of adenosine to neplanocin A, a carbocyclic nucleoside antibiotic with potent antiviral activity

13633 CsF in organic synthesis. Inversion of secondary mesylates and tosylates

13641 Stereoselective reactions—XXVIII. Effects of the alkyl group at the amide nitrogen of chiral bidentate lithium amides on enantioselective deprotonation reaction

13657 Energy and electron transfer properties of methyl pheophorbide-*a* in zinc porphyrin–pheophorbide dyads

François Gulbé

Christine A. Carter,
Robert W. Forney,
Elizabeth A. Gray, Amy M. Gehring,
Tanya L. Schneider, David B.
Young, Charles M. Lovett, Jr,
Lincoln Scott, Adam C. Messer and
David P. Richardson

Richard A. Sachleben,
Jeffrey C. Bryan, Jerome M. Lavis,
Courtney M. Starks and
John H. Burns

Eric J. Enholm and Janet A. Burroff

Dae Young Kim and Dae Yong Rhie

Takanobu Tsudera, Atsushi Ikeda
and Seiji Shinkai

Satoshi Niizuma, Satoshi Shuto and
Akira Matsuda

Junzo Otera, Koichi Nakazawa,
Koichi Sekoguchi and Akihiro Orita

Kazumasa Aoki, Kiyoshi Tomloka,
Hiroshi Noguchi and Kenji Koga

Satoshi Shinoda, Hiroshi Tsukube,
Yoshinobu Nishimura,
Iwao Yamazaki and Atsuhiko Osuka

- Hajime Maeda, Nobuaki Kambe, Noboru Sonoda, Shin-ichi Fujiwara and Tsutomu Shin-ike** 13667 Synthesis of 1,3-selenazoles and 2-imidazolin-5-selones from isoselenocyanates and isocyanides
- Georg Pohnert and Wilhelm Boland** 13681 Pericyclic reactions in nature: synthesis and Cope rearrangement of thermolabile bis-alkenylcyclopropanes from female gametes of marine brown algae (Phaeophyceae)
- Richard J. Smith, Svetoslav Bratovanov and Stefan Bienz** 13695 Synthesis of silicon-containing α -amino acids and hydantoins
- Bernd Wockenfuß, Christian Wolff and Werner Tochtermann** 13703 Synthesis of 2(3)-8(9)-bisanhydrolactarorufin A
- Valentin S. Enev, Orlin S. Petrov, Harribert Neh and Klaus Nickisch** 13709 Studies towards a total synthesis of the antiprogesterone onapristone
- Monique Calmes, Jacques Daunis and Nathalie Mai** 13719 Tertiary amines: a decisive factor in the stereoselective addition of (*R*)-pantolactone to *N*-phthalyl valine ketene
- Xavier Lusinchi and Gilles Hanquet** 13727 Oxygen transfer reactions from an oxaziridinium tetrafluoroborate salt to olefins
- Alenka Majcen-Le Maréchal, Philippe Le Grel, Albert Robert and Janja Pavc** 13739 First stable α -diols and hemiketals from the α -halo pyruvamide series
- Murielle Chavarot, Stéphane Socquet, Mitsuharu Kotera and Jean Lhomme** 13749 Synthesis of an adenine-pyridinaldoxime-acridine conjugate for recognition of abasic site lesions in DNA
- Nathalie Arnaud, Claude Picard, Louis Cazaux and Pierre Tisnès** 13757 Synthesis of macrocyclic polyhydroxy tetralactams derived from L-tartaric acid and β -hydroxyglutaric acid
- Albert Defoin, Hervé Sarazin and Jacques Streith** 13769 6-Deoxy-*allo*-nojirimycin in the racemic and D-series, 6-deoxy-D,L-*tal*-nojirimycin, their 1-deoxyderivatives and 6-deoxy-2-D,L-allosamine via hetero-Diels-Alder cycloadditions
- Albert Defoin, Hervé Sarazin and Jacques Streith** 13783 6-Deoxy-nojirimycin and 6-deoxy-*gulo*-nojirimycin in the racemic and D-series, D-*fuco*-nojirimycin and their 1-deoxyderivatives via hetero-Diels-Alder cycloadditions
- Alexandre Gross, Louis Fensterbank, Stéphane Bogen, René Thouvenot and Max Malacria** 13797 Design of a radical translocation step through 1,*n* (*n*=5,6,7) hydrogen transfers for incorporation into new radical cascades
- Henri Ndayikengurukiye, Sven Jacobs, Wim Tachelet, Johan Van Der Looy, Anne Pollaris, Herman J. Gelse, Magda Claeys, Jean M. Kauffmann and Silvia Janietz** 13811 Alkoxyated *p*-phenylenevinylene oligomers: synthesis and spectroscopic and electrochemical properties
- Paramita D. Dey, Arun K. Sharma, Prasad V. Bharatam and Mohinder P. Mahajan** 13829 Regioselective [4 + 2] cycloaddition versus nucleophilic reactions of *N*-arylamino substituted 1,3-diaza-1,3-butadienes with ketenes: synthesis of pyrimidinone and fused pyrimidinone derivatives—II
- Arun K. Sharma and Mohinder P. Mahajan** 13841 Synthesis and [4 + 2] cycloaddition reactions of 4-(*N*-allyl-*N*-aryl)amino-1,3-diaza-1,3-butadienes with vinyl-, isopropenyl- and chloroketenes: entry to novel pyrimidinone/fused pyrimidinone derivatives
- Ugo Chiacchio, Antonino Corsaro, Giuseppe Gumina, Venerando Pistrà, Antonio Rescifina, Manlio Alessi, Anna Piperno, Giovanni Romeo and Roberto Romeo** 13855 Stereoselective synthesis of isoxazole and pyrazole annulated sultams via intramolecular 1,3-dipolar cycloaddition reactions
- Basri Atasoy and Recep Özen** 13867 Synthesis of 3,4-disubstituted furans via unsaturated cyclic peroxides arising by photooxygenation of 2,3-bis(bromomethyl)-1,3-butadiene and derived exocyclic dienes
- Necdet Coşkun** 13873 Regio and diastereoselective addition of imidazoline 3-oxides to aryl isocyanates

Árpád Kovács-Kulyassa,
Pál Herczegh and
Ferenc Sztaricskai

Cecilia Gómez, Fernando F. Huerta
and Miguel Yus

Michael J. Dunn and
Richard F. W. Jackson

Pauline J. de Bruyn, Linda M. Foo,
Audrey S. C. Lim, Mark G. Looney
and David H. Solomon

Samuel Braverman, Dan Grinstein
and Hugo E. Gottlieb

Wafaa M. Abdou,
Monier A. E. Salem and
Ashraf A. Sedlek

Rodolfo Lavilla, Teresa Gotsens,
Marta Guerrero, Carme Masdeu,
M. Carmen Santano,
Cristina Minguiñón and Joan Bosch

- 13883 Synthesis of conagenin analogs modified at 3'-carbon atom
- 13897 Di(lithiomethyl)benzenes from di(chloromethyl)benzenes by a DTBB-catalysed lithiation under Barbier-type conditions
- 13905 A new approach to the synthesis of di- and tripeptides with unnatural amino acids using organozinc chemistry
- 13915 The chemistry of novolac resins—IV. The strategic synthesis of model compounds
- 13933 Synthesis of mono- and disubstituted sulfoxes via β -elimination of chloroform from trichloromethyl sulfoxides
- 13945 Reactions of alkylidenephosphoranes with symmetrically substituted *p*-quinones
- 13959 Azole additions upon azinium salts

I Instructions to Contributors

NUMBER 41

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 13969 Corrigendum
- TETRAHEDRON REPORT NUMBER 429**
- 13971 Recent applications of anionic oxy-Cope rearrangements
- ARTICLES**
- 14021 Monitoring the solid phase synthesis of analogues of lysobactin and the katanosins using *in situ* MALDI-TOF MS
- 14031 Halogen atom transfer radical cyclization of *N*-allyl-*N*-benzyl-2,2-dihaloamides to 2-pyrrolidinones, promoted by Fe⁰-FeCl₃ or CuCl-TMEDA
- 14043 The first experimental evidence for a larger medium-dependent flexibility of natural β -D-nucleosides compared to the α -D-nucleosides
- 14073 The synthesis and biological evaluation of A-ring substituted steroidal *p*-quinones
- 14085 Classification of organic reactions using similarity
- 14107 [4 + 2] and [2 + 2] cycloaddition reactions of 1-(4-methylphenyl) and 1-benzyl-1,3-diaza-1,3-butadienes with ketenes
- 14115 Dienophilic behavior of (*S*)-2-*p*-tolylsulfanyl butenolide
- 14127 1,6-Conjugate addition to *o*-vinylphenyloxazolines. Syntheses of chuangxinol and 3-*n*-butylphthalide
- 14131 Synthesis of 13 β -analogs of azadiradione

Leo A. Paquette

Bryan J. Egnor and Mark Bradley

Miriam Benedetti, Luca Forti,
Franco Ghelfi, Ugo Maria Pagnoni
and Roberto Ronzoni

Christophe Thibaudeau,
András Földesi and
Jyoti Chattopadhyaya

Dragana R. Milić, Miroslav J. Gašić,
Wolfgang Muster, János J. Csanádi
and Bogdan A. Solaja

Guido Sello and Manuela Termini

Elisabetta Rossi, Giorgio Abbiati
and Elena Pini

Juan Carlos Carretero,
Jose Luis García Ruano and
Luisa M. Martín Cabrejas

M. Montserrat Martínez,
M. Gabriela Ónega, M. Fe Tellado,
Julio A. Seljas and
M. Pilar Vázquez-Tato

Alfonso Fernández-Mateos,
Ana M. López Barba,
Eva Martín de la Nava,
Gustavo Pascual Coca,
José J. Pérez Alonso,
Ana I. Ramos Silvo and
Rosa Rubio González

Hendrik van Rensburg,
Pieter S. van Heerden,
Barend C. B. Bezuidenhout and
Daneel Ferreira

Czesław Bełzecki,
Romuald Urbański,
Zofia Urbańczyk-Lipkowska and
Marek Chmielewski

Józef Drabowicz, Andrzej Kotyński,
Zbigniew H. Kudzin,
Ryszard B. Nazarski and
Maciej K. Tasz

14141 Stereoselective synthesis of flavonoids—IV. *trans*- and *cis*-Dihydroflavonols

14153 Synthesis of 1-oxacephem from D-arabinal and L-rhamnal

14169 Reactions of nitrones with sodium iodide–trifluoroacetic anhydride system. Comments on the Beckmann rearrangement of aldonitrones and competitive processes of nucleophilic addition

I Instructions to Contributors

NUMBER 42

Contents

iii Contributors to this Issue

v Graphical Abstracts

C. Oliver Kappe,
S. Shaun Murphree and
Albert Padwa

TETRAHEDRON REPORT NUMBER 430

14179 Synthetic applications of furan Diels–Alder chemistry

Yongliang Chu, David Colclough,
David Hotchkiss, Myla Tuazon and
James B. White

Kunisuke Okada,
Kazumasa Murakami and
Hideo Tanino

Adam S.-Y. Lee and C.-L. Cheng

Hironobu Hojo, Yoshiko Akamatsu,
Kiyoshi Yamauchi,
Masayoshi Kinoshita, Shunji Miki
and Yu Nakamura

Jian-xie Chen and Junzo Otera

Noriyuki Yonezawa, Tetsuo Hino,
Yoshimi Tokita, Kazuhisa Matsuda
and Tomiki Ikeda

Carsten Gaebert and
Jochen Mattay

Edmond Bacher,
F. W. Joachim Demnitz and
Thomas Hurni

Yaozhong Jiang, Liuzhu Gong,
Xiaoming Feng, Wenhao Hu,
Weidong Pan, Zhi Li and Aiqiao Mi

H. Ali Dondas,
Martyn Frederickson, Ronald Grigg,
Jasothara Markandu and
Mark Thornton-Pett

Emma Alonso, Diego J. Ramón and
Miguel Yus

Fabrizio Badalassi, Paolo Crotti,
Lucilla Favero, Franco Macchia and
Mauro Pineschi

Harry Heaney,
George Papageorgiou and
Robert F. Wilkins

ARTICLES

14235 Synthesis of a *cis*-5-cyclodecenone and *cis* fused hydronaphthalenols through control of the stereochemistry of the oxy-Cope rearrangement with the tri-*n*-propylsilyl substituent

14247 Asymmetric synthesis of the pentacyclic ring system of *Aspidosperma* alkaloids

14255 A novel and selective method for hydrolysis of acetals and ketals

14263 Synthesis and structural characterization of triple-helical peptides which mimic the ligand binding site of the human macrophage scavenger receptor

14275 Organotin perchlorates as gentle Lewis acid catalysts in Mukaiyama reaction

14287 Structural requirements for decarbonylative α,α -diarylation reaction of 2-methoxyalkanoic acids in phosphorus pentoxide–methanesulfonic acid mixture yielding 1,1-diarylethane homologs

14297 [3 + 2] Cycloadditions and nucleophilic additions of aziridines under C–C and C–N bond cleavage

14317 Studies towards the synthesis of 16 α -carboxyprednisolones. Chemistry of C16/C17 fused bromisoxazolines

14327 Salen–Ti(OR)₄ complex catalysed trimethylsilylcyanation of aldehydes

14339 X=Y–ZH systems as potential 1,3-dipoles—XLVIII. Enantiopure cycloadducts from oxime–nitron–isoxazolidine cascades

14355 Reductive deprotection of allyl, benzyl and sulfonyl substituted alcohols, amines and amides using a naphthalene-catalysed lithiation

14369 Improved stereoselective synthesis of both methyl α - and β -glycosides corresponding to the amino sugar component of the E ring of calicheamicin γ_1 and esperamicin A₁

14381 The functionalisation of electron rich aromatic compounds with 1,3-oxazolidines and 1,3-dimethylimidazolidine

Rafael Suau,
Juan Manuel López-Romero and
Rodrigo Rico

Jana Klose, Colin B. Reese and
Quanlai Song

David M. Gethin and
Nigel S. Simpkins

Nikolai A. Bumagin and
Victor V. Bykov

Abdullah Menzek,
Nurullah Saraçoğlu, Arif Daştan,
Metin Balci and Rıza Abbasoglu

Martín Avalos, Reyes Babiano,
Pedro Cintas, Carlos J. Durán,
Francisco J. Higes,
José L. Jiménez, Ignacio López and
Juan C. Palacios

David S. Carver, Stephen D. Lindell
and Elizabeth A. Saville-Stones

Augusto C. Veronese,
Rosella Callegari, Carlo F. Morelli
and Chiara B. Vicentini

14397 Sequential bicyclization of biphenyl acetamides promoted by $(\text{COCl})_2/\text{SnCl}_4$. Total synthesis of 4,5-dioxoaporphines

14411 Preparation of 2-(2-cyanoethyl)sulfanyl-1*H*-isoindole-1,3-(2*H*)-dione and related sulfur-transfer agents

14417 A new synthetic approach to the polyoxins: concise stereoselective preparation of protected thymine polyoxin C

14437 Ligandless palladium catalyzed reactions of arylboronic acids and sodium tetraphenylborate with aryl halides in aqueous media

14451 Bromination of benzhomobarrelene derivatives—X. High temperature bromination

14463 Reactions of thioamides with metal carboxylates in organic media

14481 Polyfunctionalisation of imidazole via sequential imidazolyl anion formation

14497 A facile synthesis of pyrazole, isoxazole and pyrimidine *ortho*-dicarboxylic acid derivatives via β -enaminoketoesters

I Instructions to Contributors

NUMBER 43

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 431

14507 Synthesis of cyclopenta[c]pyran skeleton of iridoid lactones

ARTICLES

14547 Synthesis and stereochemistry of bilirubin analogs lacking carboxylic acids

14565 The selective functionalization of saturated hydrocarbons—XL. Aspects of Fe^{II} based peroxide fragmentation in pyridine solution

14579 Reaction of antitumor hydroxymethylacylfulvene (HMAF) with thiols

14591 Synthesis of a sterically congested α, α' -iminodiacid

14599 Bifunctional antitumor agents. Derivatives of pyrrolo[9,10-*b*]phenanthrene—a DNA intercalative delivery template

14615 Synthesis of macrocyclic ketoesters by an $n + 1$ strategy based on free-radical carbonylation

14627 Properties of unusual phospholipids—IV. Chemoenzymatic synthesis of phospholipids bearing acetylenic fatty acids

14635 Synthesis of methyl 5-azido-5-deoxy-2,3-*O*-isopropylidenecarba- α -D-*allo*-hexafuranuronate, the sugar part of carbapolyoxins and carbanikkomyins

14645 Coimmobilization of L- α -glycerophosphate oxidase with catalase and its application for the synthesis of dihydroxyacetone phosphate

14651 Highly efficient synthesis of ($\pm$)-lamoxirene, the gamete-releasing and gamete-attracting pheromone of the Laminariales (Phaeophyta)

Ashwini Nangia, G. Prasuna and
P. Bheema Rao

Stefan E. Boladjev,
William P. Pfeiffer and
David A. Lightner

Derek H. R. Barton and
Franck Launay

Trevor C. McMorris, Jian Yu,
Leita A. Estes and Michael J. Keiner

Michael A. Walker

Graham B. Jones and
Jude E. Mathews

Kiyoto Nagahara, Ilhyong Ryu,
Hiroshi Yamazaki, Nobuaki Kambe,
Mitsuo Komatsu, Noboru Sonoda
and Akio Baba

Sandra Pisch, Uwe T. Bornscheuer,
Hartmut H. Meyer and
Rolf D. Schmid

H. Kapeller and H. Griengl

Leonie Krämer and
Eberhard Steckhan

Christian Hertweck and
Wilhelm Boland

Rüdiger Faust, Christian Weber,
Vito Fiandanese,
Giuseppe Marchese and
Angela Punzi

Gerhard Brelpohl, David W. Will,
Anusch Peyman and
Eugen Uhlmann

Karsten Marx and
Wolfgang Eberbach

Nathalie Braussaud,
Norbert Hoffmann and
Hans-Dieter Scharf

Igor Novak and Anthony W. Potts

Giovanna Almanza,
Luisa Balderrama, Cecilia Labbé,
Catherine Lavaud,
Georges Massiot,
Jean-Marc Nuzillard,
Joseph D. Connolly,
Louis J. Farrugia and
David S. Rycroft

M. Consuelo Jiménez,
Miguel A. Miranda and
Rosa Tormos

J. R. Suresh, Pranab K. Patra, H. Ila
and H. Junjappa

Jonathan M. Percy and
Robin D. Wilkes

David Alonso-Perarnau,
Pedro de March, Mustafa el Arrad,
Marta Figueredo, Josep Font and
Teodor Parella

Viacheslav V. Tverezovsky,
Mark S. Baird and Ivan G. Bolesov

Luděk Rídván and Jiří Závada

Jeremy Robertson,
Jeremy N. Burrows and
Paul A. Stupples

- 14655 One-step synthesis of dialkynyl-1,2-diones and their conversion to fused pyrazines bearing enediyne units
- 14671 Novel synthetic routes to PNA monomers and PNA–DNA linker molecules
- 14687 The first 1,7-electrocyclizations of butadienyl pyridinium ylides: stereo-selective formation of 1,2-annulated 2,3-dihydroazepines
- 14701 Synthesis of cyclobutanetricarboxylic acid derivatives via intramolecular [2+2] photocycloaddition
- 14713 Photoelectron spectroscopy of monocyclic olefins
- 14719 Clerodane diterpenoids and an ursane triterpenoid from *Salvia haenkei*. Computer-assisted structural elucidation
- 14729 Photocyclization of 2-cinnamylphenols via excited state proton transfer (ESPT) involving the lowest-lying styrenic singlet
- 14737 A new general regiocontrolled synthesis of highly substituted and condensed indoles via heteroaromatic annelation
- 14749 A rapid and convenient approach to functionally diverse monofluorinated vinylic compounds
- 14763 Cycloadditions of 3,4-dihydro-2*H*-pyrrole 1-oxide to methylene- γ -butyrolactones
- 14773 Synthesis of (2*S*,3*R*,4*S*)-3,4-methanoproline and analogues by cyclopropylidene insertion
- 14793 Mono- versus dialkylation of carbanions. Effects of absolute and relative acidity of the conjugate carbon acids in selectivity control
- 14807 Bicyclo[10.2.1]pentadecenone derivatives by free radical macrocyclisation

I Instructions to Contributors

NUMBER 44

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 14821 Corrigendum
- TETRAHEDRON REPORT NUMBER 432**
- 14823 Synthetic studies with carbohydrate-derived chiral auxiliaries
- ARTICLES**
- 14871 Hydrogen shifts in cyclohexylcarbenes. Spatial dependence of activating power and of primary deuterium isotope effects
- 14895 Stereoselectivities of Diels–Alder cycloadditions of tricyclic dienes to MTAD, PTAD, and *N*-methylmaleimide
- 14903 Synthesis of 1*D*-3-deoxy- and -2,3-dideoxyphosphatidylinositol

Philip G. Hultin, Marion A. Earle and
Manjula Sudharshan

James A. Kenar and Alex Nickon

Alan P. Marchand,
Eric Zhiming Dong, Rajesh Shukla,
Annavaiah Durga Prasad and
Simon G. Bott

Alan P. Kozlowski, Lixin Qiao,
Werner Tückmantel and
Garth Powis

- Tsutomu Ishikawa, Yumie Oku and Ken-Ichiro Kotake**
- Ralf Dunkel, Matthias Mentzel and H. M. R. Hoffmann**
- Louis Barriault, Stéphane G. Ouellet and Pierre Deslongchamps**
- Griet Ceulemans, Arthur Van Aerschot, Jef Rozenski and Piet Herdewijn**
- Asish K. Bhattacharya, Dharam C. Jain, Ram P. Sharma, Raja Roy and Andrew T. McPhail**
- Frans J. C. Martins, Agatha M. Viljoen, Hendrik J. Venter and Philippus L. Wessels**
- S. Chandrasekhar, Mohamed Takhi, Y. Ravindra Reddy, Suchismita Mohapatra, C. Rama Rao and K. Venkatram Reddy**
- Valeriya M. Lyubchanskaya, Lyudmila M. Alekseeva and Vladimir G. Granik**
- Barbara Bertani, Romano Di Fabio, Chiara Ghiron, Alcide Perboni, Tino Rossi, Russell J. Thomas and Paola Zarantonello**
- Elisabetta Brenna, Claudio Fuganti, Valentina Perozzo and Stefano Serra**
- József Kovács, István Pintér, Mária Kajtár-Peredy and László Somsák**
- Martyn Frederickson, Ronald Grigg, Jasothara Markandu, Mark Thornton-Pett and James Redpath**
- Vijay Nair, Jaya Prabhakaran and Tesmol G. George**
- Johan F. A. Van Der Looy, Gerd J. H. Thys, Pieter E. M. Dleltiens, Daniël De Schrijver, Christian Van Alsenoy and Herman J. Geise**
- Timothée F. Herpin, William B. Motherwell, Brian P. Roberts, Sylvain Roland and Jean-Marc Welbel**
- Shaun Tennant and Rodney W. Rickards**
- Nicolás Gil, M^a Pilar Bosch and Angel Guerrero**
- James C. Anderson, Hilmi Namlı and Craig A. Roberts**
- 14915 Diastereoselective preparation of a *trans,trans* 2,3-dimethylchroman-4-ol skeleton: a model synthetic approach to anti-HIV-1 active *Calophyllum* coumarins
- 14929 8-Oxabicyclo[3.2.1]oct-6-en-3-one as a module for the synthesis of β -alkoxy- δ -valerolactones relevant to natural products and drugs
- 14937 Transannular Diels–Alder reaction studies with an activated dienophile. An enantioselective synthesis of an A.B.C.[6.6.6.]*trans-syn-cis* tricycle
- 14957 Oligonucleotides with 3-hydroxy-*N*-acetylprolinol as sugar substitute
- 14975 Boron trifluoride–acetic anhydride catalysed rearrangement of dihydroarteannuin B
- 14991 Synthesis of novel tetracyclo[6.3.0.0^{2,6}.0^{3,10}]undecane and tetracyclo[6.4.0.0^{2,6}.0^{3,10}]dodecane derivatives
- 14997 TaCl₅–silicagel and TaCl₅ as new Lewis acid systems for selective tetrahydropyranylation of alcohols and thioacetalisation, trimerisation and aldolisation of aldehydes
- 15005 The first example of aza-Nenitzescu reaction. A new approach to the heterocyclic quinones synthesis
- 15011 The synthesis of 4-aminocarbonylmethoxy trimers
- 15029 Recent progress on the iterative construction of 4-substituted-3-hydroxy benzoic acids from unsaturated aldehydes and dimethyl succinate
- 15041 Unexpected reactions of (1*R*)-2,3,4,6-tetra-*O*-acetyl-1-azido- α -D-galactopyranosyl cyanide and the derived carboxamide with triphenylphosphine
- 15051 X=Y–ZH systems as potential 1,3-dipoles—XLIX. Catalytic palladium(II) mediated oxime–nitron–isoxazolidine cascades
- 15061 A facile synthesis of optically active lactones using benzyl-3,6-anhydro glucofuranoside as chiral auxiliary
- 15069 Synthesis, characterization and electronic properties of some hetero-arylene vinylene oligomers
- 15085 Free radical chain reactions for the preparation of novel anomeric carbohydrate difluoromethylene-phosphonates and -phosphonothioates
- 15101 Determination of the absolute configuration of the chiral biaryl system in the streptonigrin antibiotics by exciton coupled circular dichroic spectroscopy
- 15115 Chemoenzymatic synthesis of (*R*)-(+)- α -(4-fluorophenyl)-4-(2-pyrimidinyl)-1-piperazinebutanol and (*R*)-(+)- α -(4-fluorophenyl)-4-methyl-1-piperidinebutanol as potential antipsychotic agents
- 15123 Investigations into ambient temperature biaryl coupling reactions

Yves Blériot, Christian F. Masaguer,
Joanne Charliwood,
Bryan G. Winchester,
Alexandra L. Lane, Sarah Crook,
David J. Watkin and
George W. J. Fleet

- 15135 6*R*-, and 6*S*-, 6*C*-methylglucose from D-glucuronolactone: efficient synthesis of a seven carbon fucose analogue: inhibition of some enzymes of primary metabolism

Christian F. Masaguer, Yves Blériot,
Joanne Charliwood,
Bryan G. Winchester and
George W. J. Fleet

- 15147 6*C*-Butylglucoses from glucuronolactone: suppression of silyl migration during borohydride reduction of lactols by cerium(III) chloride: inhibition of phosphoglucosylase

I Instructions to Contributors

NUMBER 45

Contents

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 67

MODERN ORGANIC CHEMISTRY OF POLYMERIZATION

Guest Editor: PROFESSOR H. K. HALL, Jr

The University of Arizona, Tucson, AZ 85721, USA

- | | | |
|---|-------|--|
| | iii | Contributors to this Issue |
| | vii | Announcement: Tetrahedron Symposia-in-Print |
| | xiii | Preface |
| | xv | Graphical Abstracts |
| Jin-Bong Kim and Iwhan Cho | 15157 | Synthesis and electronic effect of the substituents on anionic ring-opening polymerization of <i>para</i> -substituted phenyl cyclopropanes |
| James V. Crivello and
Surésh K. Rajaraman | 15167 | The dicobaltoctacarbonyl catalyzed polymerization of allylic ethers |
| Takeshi Endo, Koji Takagi and
Ikuyoshi Tomita | 15187 | Design and synthesis of polymerizable cumulated double bond system. Living coordination polymerization of alkylallenes by π -allylnickel catalyst |
| Harry W. Gibson,
Devdatt S. Nagvekar, Jason Powell,
Caiguo Gong and William S. Bryant | 15197 | Polyrotaxanes by <i>in situ</i> self threading during polymerization of functional macrocycles—II. Poly(ester crown ether)s |
| Richard D. Ashby, Fengying Shi
and Richard A. Gross | 15209 | Use of poly(ethylene glycol) to control the end group structure and molecular weight of poly(3-hydroxybutyrate) formed by <i>Alcaligenes latus</i> DSM 1122 |
| Eva Malmström, Robert D. Miller
and Craig J. Hawker | 15225 | Development of a new class of rate-accelerating additives for nitroxide-mediated 'living' free radical polymerization |
| Yong Ding and Allan S. Hay | 15237 | Novel synthesis of poly(arylene thioether)s via one-pot polymerization of bis(<i>N,N'</i> -dimethyl-S-carbamate)s with activated dihalo aromatic compounds |
| Takahito Itoh, Hiroyuki Okuno,
Takeshi Hishida, Akira Inokuchi,
Nobuaki Kamel, Tamotsu Sato,
Masataka Kubo and Shouji Iwatsuki | 15247 | Synthesis and polymerization of 7-alkoxycarbonyl-7,8,8-tricyanoquinodimethanes and 7,7-bis(alkoxycarbonyl)-8,8-dicyanoquinodimethanes |
| Tatsuki Kitayama, Tomohiro Hirano
and Koichi Hatada | 15263 | Remarkable effect of structure of bulky aluminum phenoxides on stereospecificity of methacrylate polymerization |
| Shin-ichiro Shoda, Satoru Iwata,
Kazuo Yajima, Katsuhiko Yagi,
Yasuharu Ohnishi and
Shiro Kobayashi | 15281 | Synthesis of germanium enolate polymers from germylene monomers |
| Eugene A. Mash, Hans-Gert Korth
and Suzanne M. DeMoss | 15297 | On the reported intermediacy of vinyl radicals in spontaneous polymerization: an ESR-spin trapping study and its significance for the bond forming initiation theory |

**Krzysztof Matyjaszewski,
Kelly Davis, Timothy E. Patten and
Mingli Wei**

**Douglas J. Pesak and
Jeffrey S. Moore**

Frank Morgenroth and Klaus Mullen

Lisa S. Boffa and Bruce M. Novak

**Warunee Srisiri, Youn-Sik Lee,
Thomas M. Sisson,
Bruce Bonduant and
David F. O'Brien**

**Keigo Aoi, Kaname Tsutsumiuchi,
Ayami Yamamoto and
Masahiko Okada**

**Jacques Penelle and
Véronique Mayné**

**Tsuyoshi Ando, Masami Kamigaito
and Mitsuo Sawamoto**

**Jörg Frahn, Birol Karakaya,
Andreas Schäfer, A.-Dieter Schlüter**

**Shiying Zheng and
Dotsevi Y. Sogah**

**Dian-Kui Fu, Bing Xu and
Timothy M. Swager**

**Mary K. Lothian-Tomalía,
David M. Hedstrand,
Donald A. Tomalia,
Anne Buyle Padias and H. K. Hall,
Jr**

Jens A. John and James M. Tour

Brigitte I. Voit and Dieter Wolf

**Christoph Kowitz and
Gerhard Wegner**

**Gerhard Wenz,
Marc Boris Steinbrunn and
Katharina Landfester**

**Huinan Yu, Gordana Srdanov,
Kobi Hasharoni and Fred Wudl**

**Tsutomu Yokozawa,
Masato Tagami,
Tomoyuki Takehana and
Tadashi Suzuki**

- 15321 Observation and analysis of a slow termination process in the atom transfer radical polymerization of styrene
- 15331 Polar domains on globular macromolecules: shape-persistent, amphiphilic tridendrons
- 15349 Dendritic and hyperbranched polyphenylenes via a simple Diels–Alder route
- 15367 Bimetallic samarium(III) catalysts via electron transfer initiation: the facile synthesis of well-defined (meth)acrylate triblock copolymers
- 15397 Polymerization of supramolecular assemblies: comparison of lamellar and inverted hexagonal phases
- 15415 Globular carbohydrate macromolecule 'sugar balls'—III. 'Radial-growth polymerization' of sugar-substituted α -amino acid *N*-carboxyanhydrides (GlycoNCAs) with a dendritic initiator
- 15429 Reactivity of electrophilic reagents towards silyl enol ether groups incorporated into vinyl polymers
- 15445 Design of initiators for living radical polymerization of methyl methacrylate mediated by ruthenium(II) complex
- 15459 Suzuki polycondensation: on catalyst derived phosphorus incorporation and reproducibility of molecular weights
- 15469 Highly isotactic optically active methacrylate polymers by free radical cyclopolymerization
- 15487 Alternating poly(pyridylvinylphenylenevinylene)s: synthesis and solid state organizations
- 15495 A contemporary survey of covalent connectivity and complexity. The divergent synthesis of poly(thioether) dendrimers. Amplified, genealogically directed synthesis leading to the de Gennes dense packed state
- 15515 Synthesis of polyphenylene derivatives by thermolysis of enediynes and dialkynylaromatic monomers
- 15535 Perfectly branched polyamide dendrons based on 5-(2-aminoethoxy)-isophthalic acid
- 15553 Functionalized poly- and oligo-phenylenes: variations on the Suzuki cross-coupling of functionalized aryl dibromides with the 1,3-propanediol diester of 2,5-dialkyl-1,4-phenylenediboric acid
- 15575 Solid state polycondensation within cyclodextrin channels leading to water-soluble polyamide rotaxanes
- 15593 Decacyanoctatetraene dianion: a model system for cyanocarbon-based conjugated polymers
- 15603 Synthesis of terpolymers by spontaneous copolymerization of the cyclobutane adducts of electron-acceptor olefins and vinyl ether with 2-oxazolines

I Instructions to Contributors

NUMBER 46

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 433

- 15617 Epoxide hydrolases as asymmetric catalysts

Ian V. J. Archer

- Lina Long, Sang Kook Lee, Hee-Byung Chai, Philippe Rasoanaivo, Qi Gao, Hernán Navarro, Monroe E. Wall, Mansukh C. Wani, Norman R. Farnsworth, Geoffrey A. Cordell, John M. Pezzuto and A. Douglas Kinghorn**
Yves Bousquet, Paul C. Anderson, Tibor Bogri, Jean-Simon Duceppe, Louis Grenier and Ingrid Guse
Jun'ichi Kobayashi, Minako Suzuki and Masashi Tsuda
Masafumi Yamada, Tomoaki Horie, Masao Kawai, Hatsuo Yamamura and Shuki Araki
Motomasa Kobayashi, Taifo Mahmud, Takashi Umezome, Weiqi Wang, Nobutoshi Murakami and Isao Kitagawa
Yûji Matsuya, Takashi Itoh, Kazuhiro Nagata and Akio Ohsawa
F. Rezgui et M. M. El Gaïed
Martine Redon, Zdenek Janousek and Heinz G. Viehe
Quanying Liu, Allan P. Marchington and Christopher M. Rayner
Marina Gordaliza, M^a Angeles Castro, José M^a Miguel del Corral, M^a Luisa López-Vázquez, Pablo A. García, Arturo San Feliciano, M^a Dolores García-Grávalos and Howard Broughton
Fiona C. Ross, Nigel P. Botting and Paul D. Leeson
David C. Harrowven and Richard F. Dainty
W. Russell Bowman and Daniel R. Coghlan
El-Sayed I. El-Desoky, Mahmoud A. Hammad, Nabil Grant, Emad M. El-Tebany and Abdel Rahman H. Abdel-Rahman
Kwai-Ming Cheung and Peter M. Shoolingin-Jordan
Anthony J. Manny, Staffan Kjelleberg, Naresh Kumar, Rocky de Nys, Roger W. Read and Peter Steinberg
Pier Lucio Anelli, Marino Brocchetta, Debora Copez, Daniela Palano, Massimo Visigalli and Paola Paoli
Richard D. Chambers, John Hutchinson, Graham Sandford, Aneela Shah and Julian F. S. Vaughan
- ARTICLES**
- 15663 Novel bioactive phenanthrene derivatives from *Domohinea perrieri*
- 15671 Preparation of enantiopure 4-oxygenated pipecolic acid derivatives
- 15681 Konbu'acidin A, a new bromopyrrole alkaloid with cdk4 inhibitory activity from *Hymeniacidon* sponge
- 15685 Diastereoselective reduction of acyclic hydroxyketones and diketones with an indium hydride reagent
- 15691 The absolute stereostructures of the polyacetylenic constituents of Ginseng Radix Rubra
- 15701 A mild dehydrazination reaction of arylhydrazines using nitric oxide in the presence of oxygen
- 15711 Réaction régiospécifique des carbanions stabilisés avec la 2-(acétoxy-méthyl)cyclohex-2-én-1-one: synthèse de diénones bicycliques
- 15717 Trifluoroethyl sulfonylation or sulfinylation with 2,2,2-trifluoroethyl *t*-butyl sulfoxide
- 15729 Synthesis of new potential aminopeptidase inhibitors by Lewis acid induced rearrangement of 2,3-epoxy amines and regiospecific nucleophilic trapping of aziridinium ion intermediates with α -amino esters
- 15743 Preparation and cytotoxicity of podophyllotoxin derivatives lacking the lactone ring
- 15761 Synthesis of 2S-[2-²H]-kynurenine and use in kinetic isotope effect studies with kynureninase
- 15771 The sliding cyclohexane rearrangement
- 15787 A facile method for the *N*-alkylation of α -amino esters
- 15799 Synthesis and reactions of some new substituted spirofurochromanone derivatives
- 15807 Synthesis of 3-amino-3-vinylpropanoic acid and its conversion to 4-amino-5-hydroxy-4,5-dihydrofuran-2-one hydrochloride (HAD), a cyclic stabilised form of aspartate 1-semialdehyde hydrochloride
- 15813 Reinvestigation of the sulfuric acid-catalysed cyclisation of brominated 2-alkyllevulinic acids to 3-alkyl-5-methylene-2(5*H*)-furanones
- 15827 Unexpected formation of acylformamidines by reaction of primary carboxamides with MeONa in DMF in the presence of CHCl₃
- 15833 Elemental fluorine—VII. New oxidation methodology

**Franco D'Onofrio,
Roberto Margarita, Luca Parlanti,
Daniele Pernazza and
Giovanni Piancatelli**

**M. Antonietta Loreto,
Federica Pompel, Paolo A. Tardella
and Daniela Tofani**

**Francesca Clerici, Emanuela Erba,
Maria Luisa Gelmi and
Marinella Valle**

**Laura Palombi,
Francesco Bonadies and
Arrigo Scettri**

**Marta Ferrer,
Francisco Sánchez-Baeza and
Angel Messeguer**

**Maria Rita Cramarossa, Luca Forti
and Franco Ghelfi**

**Pedro Molina, Alberto Tárraga,
David Curiel and
Carmen Ramirez de Arellano**

**Vijay Nair, G. Anilkumar,
K. V. Radhakrishnan,
M. V. Nandakumar and Sasi Kumar**

- 15843 Reactions of 2,5-dihydro-2,5-dimethoxy-furan with phenylselenenylchloride: regio- and stereocontrolled generation of highly functionalized C₄ building-blocks
- 15853 β,γ -Unsaturated α -amino ester derivatives by amination of γ -silylated α,β -unsaturated esters
- 15859 Isothiazoles—VII. An efficient palladium-catalyzed functionalization of 3-amino-4-aryl-isothiazole 1,1-dioxides with organostannanes
- 15867 Microwave-assisted oxidation of saturated and unsaturated alcohols with *t*-butyl hydroperoxide and zeolites
- 15877 On the preparation of amine *N*-oxides by using dioxiranes
- 15889 Acetals by AlFe-pillared montmorillonite catalysis
- 15895 Synthesis of imidazo[1,5-*c*][1,3]benzodiazepines via an aza-Wittig/carbo-diimide-mediated annulation process
- 15903 Cycloaddition reactions of 3-ethoxycarbonyl-2*H*-cyclohepta[*b*]furan-2-one with 6,6-dialkyl, cycloalkyl and diaryl pentafulvenes

I Tetrahedron Reports on Organic Chemistry

XXIII Instructions to Contributors

NUMBER 47

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 434

- 15911 Templatation and encapsulation in supramolecular chemistry

ARTICLES

- 15947 Dibenz[*a,c*]anthracene: electrophilic substitution and synthesis of phenol isomers
- 15957 The synthesis of bicyclic *ortho*-quinodimethanes from tricyclic sulfones
- 15969 Photochemically generated bicyclic *ortho*-quinodimethanes: photo-enolization of bicyclic aldehydes and ketones
- 15983 Three new malynamides from the marine cyanobacterium *Lyngbya majuscula*
- 15991 Acid catalyzed rearrangement and acyl migration studies on 9-dihydro-13-acetylbaccatin-III, a major taxane from *Taxus canadensis*
- 16009 Reactions of per-*O*-benzoyl- β -D-Gal*f* isothiocyanate, a chiral resolving agent
- 16017 The selective functionalisation of saturated hydrocarbons—XLI. The use of Cu^{II}/H₂O₂ and Cu^I/H₂O₂ systems in pyridine
- 16029 Asymmetric total synthesis of syringolide 1, a nonproteinaceous elicitor

**Robert G. Chapman and
John C. Sherman**

**Ronald G. Harvey, Elias Aboshkara
and John Pataki**

**Terrence J. Connolly and
Tony Durst**

**Terrence J. Connolly and
Tony Durst**

**Min Wu, Kenneth E. Milligan and
William H. Gerwick**

**Lolita O. Zamir,
Sarala Balachandran,
Yi Feng Zheng, Maria E. Nedeia,
Gaétan Caron,
Anastasia Nikolakakis,
Ram A. Vishwakarma,
Françoise Sauriol and Orval Mamer**

**Carla Marino, Oscar Varela and
Rosa M. de Lederkremer**

**Derek H. R. Barton,
Nathalie C. Delanghe and
Henri Patin**

**Jun Ishihara, Tetsuya Sugimoto
and Akio Murai**

- Masao Shiozaki, Shin-ichi Kurakata, Tohru Tatsuta, Hiroaki Maeda and Masahiro Nishijima** 16041 Syntheses of 2,6-anhydro-3-deoxy-5-*O*-phosphono-3-tetradecanamido-4-*O*-[(*R*)-3-(tetradecanoyloxy)tetradecanoyl]-*D*-glycero-*D*-ido-heptonic acid, its dimeric analogue, and related compounds
- Tomohiro Okawa, Naoto Osakada, Shoji Eguchi and Akikazu Kakehi** 16061 One-pot synthesis of novel (2-oxo-1,2-dihydropyridin-3-yl)-1,3,5-triazine derivatives from methyl 2-(*N*-triphenylphosphoranylidene)aminonicotinate, aryl isocyanates and primary amines: sequential aza-Wittig/cycloaddition/ring-transformation reactions
- Malika Ibrahim-Ouali, Marie-Ève Sinibaldi, Yves Troin, Dominique Guillaume and Jean-Claude Gramain** 16083 Diastereoselective photochemical synthesis of 3,3'-disubstituted indolines
- Didier Felix, Jan Szymoniak and Claude Moise** 16097 Asymmetric allylation of aldehydes using tiglyltitanocenes attached to a carbohydrate
- Christophe Jeandon, Rubén Ocampo and Henry J. Callot** 16107 Unexpected methylation and propylation of porphyrin E-ring during the hemisynthesis of deoxophylloerythroetioporphyrin (DPEP)
- Akli Hammadi, André Ménez and Roger Genet** 16115 Asymmetric deuteration of *N*-acetyl-(*Z*)- α,β -dehydrotryptophan-(*L*)-phenylalanine methyl ester produced by (*L*)-tryptophan 2',3'-oxidase from *Chromobacterium violaceum*. A new route for stereospecific labelling of peptides
- Shaw-Tao Lin, Fu-May Yang and Lee-Huey Lin** 16123 Preparation of 3e,4,5,6e,7,8-hexahydro[2.2]paracyclophane
- Roberto Ballini and Giovanna Bosica** 16131 α -Nitrocycloalkanones as a source of α,ω -dicarboxylic acid dimethyl esters
- David Tanner and Thomas Groth** 16139 Regioselective nucleophilic ring opening of epoxides and aziridines derived from homoallylic alcohols
- Liat Chill, Yoel Kashman and Michael Schleyer** 16147 Oriamide, a new cytotoxic cyclic peptide containing a novel amino acid from the marine sponge *Theonella* sp.
- Marko J. Ahlmark and Jouko J. Vepsäläinen** 16153 Strategies for the selective synthesis of monosubstituted (dichloromethylene)bisphosphonate esters
- Jacek W. Morzycki, Zenon Łotowski, Monika Stępniewska, Agnieszka Gryszkiewicz and Agnieszka Z. Wilczewska** 16161 Nitration of *N*-acetyl enamines with acetyl nitrate
- M. Isabel Burguete, Beatriz Escuder, Juan C. Frías, Santiago V. Luis, Juan F. Miravet and Enrique García-España** 16169 A remarkable selectivity in the N-functionalization of polyaza[*n*]-paracyclophanes. Synthesis of *N*-(4-picolyl)-substituted 2,6,9,13-tetraaza[14]paracyclophanes
- Braulio M. Fraga, Inmaculada Cabrera, Victor P. García, Ricardo Guillermo and Aurea Perales** 16177 The acylation-dimerization of precocene II
- Angel Alberola, Rocío Álvaro, Alfonso González Ortega and Carmen Sañudo** 16185 Synthesis of [1]benzopyrano[2,3-*b*]pyrrol-4(1*H*)-ones
- Miguel Pitarch, Julie K. Browne and M. Anthony McKervey** 16195 Conformational control in the synthesis of mixed tetraethers of calix-[4]arene—II
- Ugo Azzena, Simonetta Carta, Giovanni Melloni and Alessandra Sechi** 16205 Reductive lithiation of arylalkyl methyl ethers

NUMBER 48

Contents

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 68

NEW SYNTHETIC METHODS—V

Guest Editor: JOHN L. WOOD

Yale University, New Haven, CT 06520, USA

	iii	Contributors to this Issue
	vii	Announcement: Tetrahedron Symposia-in-Print
	xiii	Preface
	xv	Graphical Abstracts
Varinder K. Aggarwal, Abraham Thomas and Steffen Schade	16213	<i>trans</i> -1,3-Dithiane-1,3-dioxide; a chiral acyl anion equivalent. Enantioselective synthesis of α -hydroxy-carboxylic acids, esters, amides and ketones
Merritt B. Andrus and Xi Chen	16229	Catalytic enantioselective allylic oxidation of olefins with copper(I) catalysts and new perester oxidants
Vijaya Gracias, Kristine E. Frank, Gregory L. Milligan and Jeffrey Aubé	16241	Ring expansion by <i>in situ</i> tethering of hydroxy azides to ketones: the Boyer reaction
Mary S. Shepard and Erick M. Carreira	16253	Enantioselective allene/enone photocycloadditions: the use of an inexpensive optically active 1,3-disubstituted allene
André B. Charette and Hélène Juteau	16277	Application of the chemo- and enantioselective cyclopropanation of polyenes to the total synthesis of (+)-bicyclohumulenone
Noritaka Chida, Jun Takeoka, Kohji Ando, Noriko Tsutsumi and Seiichi Ogawa	16287	Stereoselective total synthesis of (+)-lactacystin from D-glucose
Marco A. Ciufolini, Melissa V. Deaton, Shuren Zhu and Mingying Chen	16299	A remarkable ene-like reaction: development and synthetic applications
Robert S. Coleman and Andrew J. Carpenter	16313	The development of strategies for construction of the aziridine core of the antitumor agents azinomycins A and B
Daniel L. Comins, Paresh M. Thakker, Matthew F. Baevsky and Mohamed M. Badawi	16327	Chiral auxiliary mediated Pictet–Spengler reactions: asymmetric syntheses of (–)-laudanosine, (+)-glauanine and (–)-xylopinine
He Huang and Craig J. Forsyth	16341	Complementary regioselective cyclopropyl ring openings of 6-formyl-spirobicyclo[5.2]octane mediated by TMSCl and TBAI
Rosa M. Lopez and Gregory C. Fu	16349	A mild, convenient, and inexpensive method for converting imines into amines: tin-catalyzed reduction with polymethylhydrosiloxane (PMHS)
Jacquelyn Gervay, Terrence M. Flaherty and Daniel Holmes	16355	Studies on the synthesis of C-glycoside sulfones as potential glycosyl transferase inhibitors
Karl J. Hale, Soraya Manaviazar and Rukpong Tupprasoot	16365	The synthesis and reactions of some novel pyranoid 5,6-glycals derived from D-fructose
Zhongmin Xu, Charles W. Johannes, Daniel S. La, Gloria E. Hofilena and Amir H. Hoveyda	16377	Synthesis of amino sugars through a highly diastereoselective dipolar cycloaddition. Enantioselective synthesis of the carbohydrate segment of Sch 38516
William J. Sanders, David D. Manning, Kathryn M. Koeller and Laura L. Kiessling	16391	Synthesis of sulfated trisaccharide ligands for the selectins

Linda Joy Brzezinski, Sara Rafel
and James W. Leahy

Frank E. McDonald and
Colleen C. Schultz

John Montgomery,
Maxim V. Chevliakov and
Harry L. Brielmann

Nicos A. Petasis, Andrew Goodman
and Ilia A. Zavialov

Hong Woon Yang, Cunxiang Zhao
and Daniel Romo

Scott D. Rychnovsky and
Sonja S. Swenson

Eric L. Stangeland and
Tarek Sammakia

John A. Tallarico,
Michele L. Randall and
Marc L. Snapper

Sangku Lee, Hee-Jong Lim,
Koburn Lulu Cha and
Gary A. Sulikowski

Takashi Matsumoto,
Hiroki Yamaguchi and
Keisuke Suzuki

Alecia W. Eppley and
Nancy I. Totah

Eric J. Gilbert, Joseph W. Ziller and
David L. Van Vranken

B. N. Naidu and F. G. West

Peter Wipf, Wenjing Xu,
Hongyong Kim and
Hidenori Takahashi

Jared T. Shaw and K. A. Woerpel

- 16423 The asymmetric Baylis–Hillman reaction as a template in organic synthesis
- 16435 Sequential application of stereoselective *syn*-oxidation methodologies to natural product synthesis: a potentially biomimetic approach to the C₁₂–C₂₁ bistetrahydrofuran region of monensin
- 16449 Nickel-catalyzed heterocycle construction with stereoselective exocyclic alkene introduction
- 16463 A new synthesis of α -aryl glycines from aryl boronic acids
- 16471 Studies of the tandem Mukaiyama aldol–lactonization (TMAL) reaction: a concise and highly diastereoselective route to β -lactones applied to the total synthesis of the potent pancreatic lipase inhibitor, (–)-panclicin D
- 16489 Tandem radical nitrile transfer–cyclization reactions of 1,3-dioxane-4-nitriles: synthesis of spirocyclic systems
- 16503 New chiral ligands for the asymmetric copper catalyzed conjugate addition of Grignard reagents to enones
- 16511 Selectivity in ring-opening metatheses
- 16521 Asymmetric approaches to 1,2-disubstituted mitosenes based on the intramolecular cyclization of diazoesters
- 16533 C-Glycosyl juglone in angucycline synthesis: total synthesis of galtamycinone, common aglycon of C-glycosyl naphthacenequinone-type angucyclines
- 16545 A new chiral titanium species for the ring opening reactions of *meso* epoxides
- 16553 Cyclizations of unsymmetrical bis-1,2-(3-indolyl)ethanes: synthesis of (–)-tjipanazole F1
- 16565 A short, enantioselective synthesis of (–)-epilupinine from proline via a spirocyclic ammonium ylide
- 16575 Zirconocene-catalyzed epoxy ester–ortho ester rearrangement: a new method for the protection of polyfunctionalized carboxylic acids and the asymmetric synthesis of ortho esters
- 16597 Preparation and synthetic utility of oxasilacyclopentane acetals derived from siliranes

I Instructions to Contributors

NUMBER 49

Contents

- iii Contributors to this Issue
- v Graphical Abstracts
- 16607 Corrigendum
- TETRAHEDRON REPORT NUMBER 435**
- 16609 Synthesis of nonracemic phosphonates
- ARTICLES**
- 16645 Synthesis and conformational features of topographically constrained designer chimeric amino acids: the β -isopropyl phenylalanines
- 16663 General method for asymmetric synthesis of substituted 2,2'-biaryldiols via asymmetric desymmetrization of 2,2',6,6'-tetrahydroxybiphenyl with *l*-menthone
- 16679 Tauroacidins A and B, new bromopyrrole alkaloids possessing a taurine residue from *Hymeniacidon* sponge

David F. Wiemer

Subo Liao, Mark D. Shenderovich,
Jun Lin and Victor J. Hruby

Toshiro Harada, Shinji Ueda,
Tran Mai Thi Tuyet, Atsushi Inoue,
Katsuhiko Fujita,
Masahiro Takeuchi,
Nobuhiro Ogawa, Akira Oku and
Motoo Shiro

Jun'ichi Kobayashi, Kenjiro Inaba
and Masashi Tsuda

- Kosaku Hirota, Yasunari Monguchi, Yukio Kitade and Hironao Sajiki
Takayuki Nemoto, Go Yoshino, Makoto Ojika and Youji Sakagami
A. S. Bhanu Prasad and Paul Knoche
Y. W. Lu
Yves Le Merrer, Myrielle Fuzier, Isabelle Dosbaa, Marie-José Foglietti and Jean-Claude Depezay
Didier Dubreull, Jeannine Cleophax, Mauro Vieira de Almeida, Catherine Verre-Sebrié, Jérôme Liaigre, George Vass and Stéphane D. Gero
Stéphane Boivin, Francis Outurquin and Claude Paulmier
Vladimir Yu. Vvedensky, Lambert Brandsma, Evgeny D. Shtefan, Boris A. Trofimov
Dilip D. Dhavale, Vasant P. Mali, Surendra G. Sudrik and Harikisan R. Sonawane
Sonsoles Martín-Santamaría, Modesta Espada and Carmen Avendaño
Montserrat Closa, Pedro de March, Marta Figueredo, Josep Font and Angeles Soria
C. S. Rajesh, T. L. Thanulingam and Suresh Das
Antonio M. Echavarren, Nuria Tamayo, Óscar de Frutos and Alicia García
Murat Kizil and John A. Murphy
Susana Caveda Cepas and Michael North
István Bitter, Alajos Grün, László Tóke, Gábor Tóth, Barbara Balázs, Ildikó Mohammed-Ziegler, András Grofcsik and Miklós Kubinyi
Antonella De Mico, Roberto Margarita, Luca Parlanti, Giovanni Piancatelli and Andrea Vescovi
Abdol Reza Hajipour
Aldo Spinella, Ernesto Mollo, Enrico Trivellone and Guldo Cimino
Michel P. van Boggelen, Bart F. G. A. van Dommelen, Shende Jiang and Gurdial Singh
- 16683 Ribofuranose-ring cleavage of purine nucleosides with diisobutylaluminum hydride: convenient method for the preparation of purine acyclonucleosides
16699 Amphimic acids and related long-chain fatty acids as DNA topoisomerase I inhibitors from an Australian sponge, *Amphimedon* sp.: isolation, structure, synthesis, and biological evaluation
16711 Preparation and reactions of 2-zincated 2-cyclohexen-1-one and related heterocycles
16721 Decisive role of Al³⁺ cation in the electrodetosylation of *N,N'*-bis-(*o*-tosylaminophenyl) propanediamide to *N,N'*-bis-(*o*-aminophenyl) propane-diamide
16731 Synthesis of thiosugars as weak inhibitors of glycosidases
16747 Stereoselective synthesis of 6-deoxy and 3,6-dideoxy-D-*myo*-inositol precursors of deoxy-*myo*-inositol phosphate analogues from D-galactose
16767 Synthesis and reactivity of β-phenylselenyl α-oxoesters
16783 1-Methyl-1*H*-2-pyrroliethiol and -selenol. Synthesis, tautomerism and auto-transformations
16789 Media controlled photo-Favorskii type rearrangement of α-chloro acetophenones: synthesis of phenylacetic acids
16795 Regio- and diastereoselective dialkylation of (4*S*)-2,4-dimethyl-2,4-dihydro-1*H*-pirazino[2,1-*b*]quinazoline-3,6-dione
16803 Cycloadditions of highly functionalized C₆-synthons to cyclic nitrones
16817 Photoelectron transfer induced decarboxylation of substituted carboxylic acids across a liquid/liquid interface
16835 Synthesis of benzo[*b*]carbazoloquinones by coupling of organostannanes with bromoquinones
16847 A new free radical route to oximes using alkyl halides, hexabutylditin and readily available nitrite esters
16859 1,2-Dithia-5-azacyclooctan-6-one and related compounds: synthesis and conformation
16867 Novel chromogenic pyridinium derivatives of calix[4]arenes—II
16877 Hypervalent iodine induced nucleophilic additions to alkenes: synthesis of 1,2-diperchlorates
16883 Highly diastereoselective reduction of chiral β-imino sulfoxides to the corresponding β-amino sulfoxides
16891 Testudinariol A and B, two unusual triterpenoids from the skin and the mucus of the marine mollusc *Pleurobrancus testudinarius*
16897 Methyl iodide mediated cleavage of the nitrogen–oxygen bond of isoxazolidines

NUMBER 50

Contents

- | | | |
|---|-------|---|
| | iii | Contributors to this Issue |
| | v | Graphical Abstracts |
| Antônio F. de C. Alcântara,
Dorila Piló-Veloso,
Humberto O. Stumpf and
Wagner B. de Almeida | 16911 | NMR and semiempirical conformational analysis of the 2-aryl-1,3-dihydroxy-4,4,5,5-tetramethylimidazolidines |
| Robert R. Wilkening,
Ronald W. Ratcliffe,
George A. Doss, Ralph T. Mosley
and Richard G. Ball | 16923 | Novel transannular rearrangements of azalide iminoethers |
| Eric Marsault and George Just | 16945 | Oxazaphosphorinane precursors to the diastereoselective synthesis of DNA phosphorothioates |
| Christine A. Carter,
Elizabeth A. Gray,
Tanya L. Schneider,
Charles M. Lovett, Jr, Lincoln Scott,
Adam C. Messer and
David P. Richardson | 16959 | Toxicarioside B and toxicarioside C. New cardenolides isolated from <i>Antiaris toxicaria</i> latex-derived dart poison |
| Yoshiyasu Fukuyama,
Hideyuki Yaso, Yuuko Kiriyama,
Hironobu Takahashi,
Hiroyuki Minami and
Tadao Kamikawa | 16969 | Synthesis of cytotoxic maesaquinone bearing a 2,5-dihydroxy-6-methyl-1,4-benzoquinone nucleus |
| Masashi Ohba, Kazuaki Iizuka,
Hiroyuki Ishibashi and Tozo Fujii | 16977 | Syntheses and absolute configurations of the marine sponge purines (+)-agelasimine-A and (+)-agelasimine-B |
| Toyoharu Yamashita, Daisaku Sato,
Taro Kiyoto, Arvind Kumar and
Kenji Koga | 16987 | Stereoselective reactions—XXIX. Lithium–hydrogen interchange between achiral tridentate lithium amides and chiral bidentate amines. An approach to catalytic enantioselective deprotonation |
| Zhi-Hong Jiang, Takashi Tanaka,
Haruko Hirata, Reiko Fukuoka and
Isao Kouno | 16999 | The first euphane-type triterpene tridesmosides and bisdesmoside from <i>Rhoiptelea chiliantha</i> |
| Masaaki Suzuki, Toshihiro Kiho,
Kyoji Furuta, Shoji Fukushima,
Yoshikazu Takeuchi and
Ryoji Noyori | 17009 | Δ^7 -Prostaglandin C ₁ : a primary metabolite of antitumor Δ^7 -prostaglandin A ₁ in the sera |
| Hiroshi Kitajima, Katsuji Ito and
Tsutomu Katsuki | 17015 | A new methodology for the stereoselective synthesis of 4-substituted butenolides: asymmetric Michael addition reaction of 2-(trimethylsilyloxy)-furans to oxazolidinone enoates |
| Yoshiyasu Kitahara,
Shinsuke Nakahara,
Takanobu Yonezawa,
Masanori Nagatsu,
Yoshikazu Shibano and
Akinori Kubo | 17029 | Synthetic studies on pentacyclic aromatic alkaloids, kuanoniamine A, 11-hydroxyascididemin, and neocalliactine acetate |
| Brunhilde Voigt, Andrea Porzel,
Clemens Bruhn, Christoph Wagner,
Kurt Merzweiler and Günter Adam | 17039 | Synthesis of 24-epicathasterone and related brassinosteroids with modified side chain |
| Sylke Pietz, Roland Fröhlich and
Günter Haufe | 17055 | Microbial oxygenation of cycloheptyl- <i>N</i> -phenylcarbamate and ($\pm$)- <i>trans</i> -2-fluorocycloheptyl- <i>N</i> -phenylcarbamate with <i>Beauveria bassiana</i> |
| Sylke Pietz, Dörthe Wölker and
Günter Haufe | 17067 | Selectivity of the biooxygenation of <i>N</i> -phenylcarbamates by the fungus <i>Beauveria bassiana</i> |
| Gérard Mandville, Christian Girard
and Robert Bloch | 17079 | A general and stereoselective approach to nonactate esters and isomers: a versatile synthesis of (+)-methyl nonactate |
| E. Dolhem, M. Oçafraïn,
J. Y. Nédélec and M. Troupel | 17089 | Nickel catalyzed electrosynthesis of ketones from organic halides and metal carbonyls |

**Pierfausto Seneci, Isabelle Leger,
Michel Souchet and Guy Nadler**

**Ping-Shu Chen and
Chin-Hsing Chou**

C. De Tollenare and L. Ghosez

**Arrigo Scettri, Francesco Bonadies,
Alessandra Lattanzi, Laura Palombi
and Silvia Pesci**

**John M. Mellor,
Stephen R. Schofield and
Stewart R. Korn**

**John M. Mellor,
Stephen R. Schofield and
Stewart R. Korn**

**Chockalingam Venkatachalapathy
and Kasi Pitchumani**

**Enrichetta Albertini, Achille Barco,
Simonetta Benetti, Carmela De Risi,
Gian P. Pollini and Vinicio Zanirato**

Clive W. Bird

**Cecilia Gómez, Fernando F. Huerta,
Isidro M. Pastor and Miguel Yus**

**Ryszard Gawinecki,
Ewa D. Raczynska, Danuta Raszala
and Stanislaw Stycz**

**David R. Kelly, Simon Jones,
John O. Adigun, Kevin S. V. Koh,
David E. Hibbs,
Michael B. Hursthouse and
Simon K. Jackson**

17097 Stereoselective alkenylation of aldehydes with phosphorus carbanions: preparation of *E*- and *Z*-2-alkoxy- and 2-aryloxy-2-alkenoates

17115 Study of the pyrolytic chemistry of isobenzofurylmethyl benzoates

17127 Synthesis and dienophilic reactivity of 1,2-difluorovinylphenylsulfone

17139 Chemical, photochemical and enzymatic approach to furylhydroperoxides

17151 Routes to building blocks for heterocyclic synthesis by reduction of ketene dithioacetals

17163 Reactions of ketene dithioacetals with bis-nucleophiles: synthesis of novel heterocyclic thiols

17171 Fries rearrangement of esters in montmorillonite clays: steric control on selectivity

17177 A unified asymmetric approach to substituted hexahydroazepine and 7-azabicyclo[2.2.1]heptane ring systems from D(-)-quinic acid: application to the formal syntheses of (-)-balanol and (-)-epibatidine

17195 Heteroaromaticity—XI. The conjugation energies of annulenes and heteroannulenes from their molecular dimensions

17201 Functionalised propargyllithium reagents

17211 Tautomeric and conformational preferences in nitraminopyridines: comparison of theoretical and experimental data

17221 The addition of nitric oxide to 1,5-dimethylhexa-2,4-diene; X-ray crystal structure determination of the major product, (*E*)-2,5-dimethyl-2,5-dinitrohex-3-ene

I Instructions to Contributors

NUMBER 51

Contents

iii Contributors to this Issue

v Graphical Abstracts

**Irving J. Borowitz,
Grace B. Borowitz, Louis Weiss and
Barry Rickman**

**Marie Dolores Maturano,
Véronique Bongibault,
Michèle Willson, Alain Klébé and
Didier Fournier**

**Mirjana Gelo-Pujic,
Eryka Guibé-Jampel and
André Loupy**

Pierre Beslin and Bruno Lelong

F. Chemla and J. F. Normant

**Ching-Yang Liu, Hwei-Yan Shie,
Shin-Yi Chen, Chiung-Yi You,
Wei-Chang Wang, Liang-Neng Hua,
He-Jiun Yang and Chih-Min Tseng**

**Roy L. Beddoes, James E. Painter,
Peter Quayle and Prakash Patel**

17235 Cation-induced shifts in the proton NMR spectroscopy of dioxydiacetamide ionophores

17241 A chemical model for the enzymatic mono de-alkylation of (methyl and ethyl) parathion by glutathione-S-transferase

17247 Enzymatic glycosidations in dry media on mineral supports

17253 Stereocontrolled thio-Claisen rearrangement of S-allylic ketene aminothioacetals by an hydroxysubstituted adjacent stereogenic centre

17265 Preparation and reactions of acylzinc species

17275 Exocyclic substituent effects in the unsymmetrically cycloadditions of electron-deficient heptafulvenes with electron-rich fulvenes: stereoselectivity, periselectivity, and regioselectivity

17297 Synthesis and X-ray structure determination of the first chelated phenylsulfinyl Fischer carbene complex

- Maurizio D'Auria and Rocco Racioppi** 17307 Photochemical dimerization in solution of arylacrylonitrile derivatives
- Ian R. Marsh and Mark Bradley** 17317 Solid phase synthesis of polyamine conjugates for the study of trypanothione reductase
- Anjan Ghatak, Subrata Sarkar and Subrata Ghosh** 17335 Strategic use of retro Diels–Alder reaction in the construction of β -carboxy- α -methylene- γ -lactones. Total synthesis of methylenolactocin and proto-lichesterinic acid
- Maria Letizia Ciavatta, Margherita Gavagnin, Raffaella Puliti, Guido Cimino, Eugenia Martínez, Jesús Ortea and Carlo Andrea Mattia** 17343 Dactylallene: a novel dietary C₁₅ bromoallene from the Atlantic anaspidean mollusc *Aplysia dactylomela*
- D. Bhaskar Reddy, N. Chandrasekhar Babu, V. Padmavathi and A. Padmaja** 17351 A simple strategy for styryl sulfonyl ethynylogues and 1,4-diarylbut-1-en-3-yne
- Vijay Nair, G. Anilkumar, K. V. Radhakrishnan, K. C. Sheela and Nigam P. Rath** 17361 Diels–Alder reactions of a 6-arenyl fulvene with dienes and dienophiles and related chemistry
- Prabir K. Choudhury, Juan Almena, Francisco Foubelo and Miguel Yus** 17373 New homologation of 2-hydroxy and 2-mercapto benzylic alcohols
- Giorgio Boccardo, Giuseppe Capozzi, Meri Giuntini, Stefano Menichetti and Cristina Nativi** 17383 α,α' -Dioxothiones—II. Asymmetric Diels–Alder reactions of chiral non-racemic α,α' -dioxothiones
- Richard J. Mears, Harshani De Silva and Andrew Whiting** 17395 Synthesis of a new C₂-symmetric chiral diol: application to asymmetric allylboration
- Sergio Auricchio, Antonio Selva and Ada M. Truscello** 17407 New reactions of furoxans: formation of alkynes and cyclobutaphenanthrenes
- David E. Hibbs, Michael B. Hursthouse, Iwan G. Jones, Wyn Jones, K. M. Abdul Malik and Michael North** 17417 A facile approach for the synthesis of *pseudo*-peptides incorporating a (2*S*,3*R*)-2-amino-cyclopropane carboxylic acid residue
- Merete L. Skar and John S. Svendsen** 17425 Conformationally restricted diamines as spacers for parallel β -sheet formation
- Adel M. Attia, Galal H. Elgemeie and Lamies A. Shahada** 17441 Synthesis of some novel condensed pyridine-2(1*H*)-thiones and related glycosides
- David J. Bergmann, Eva M. Campi, W. Roy Jackson, Quentin J. McCubbin and Antonio F. Patti** 17449 Rhodium-catalysed hydroformylation and carbonylation of *N*-alkenyl-1,3-diaminopropanes
- Ahmad M. Farag, Kamal M. Dawood and Abdou O. Abdelhamid** 17461 Synthesis and reactivity of benzothiazol-2-ylcarbonylhydroximoyl chloride, a versatile synthon
- Ping Ge and Richard A. Russell** 17469 The synthesis of anthraquinone derivatives as potential anticancer agents
- Ping Ge and Richard A. Russell** 17477 The synthesis of bisanthraquinone derivatives as DNA bisintercalating agents
- Geoffrey T. Crisp, Yu-Lin Jiang, Peter J. Pullman and Chris De Savi** 17489 Elaboration of the side-chain of amino acid derivatives by palladium catalysed couplings
- Hari Babu Mereyala and Sarita Reddy Lingannagaru** 17501 A study of Pd(II)Cl₂/CuCl catalysed Wacker reaction for the deprotection of prop-2-enyl and prop-1-enyl ethers
- Alberto Arnone, Francesca Blasio and Giuseppe Resnati** 17513 Complete diastereocontrol in [3 + 2] cycloaddition reactions: synthesis of enantiomerically pure fluoromethyl substituted β -amino acids
- Hadi Ghaneolhosseini, Werner Tjarks and Stefan Sjöberg** 17519 Synthesis of boronated phenanthridinium derivatives for potential use in boron neutron capture therapy (BNCT)
- Peter O'Brien and Jérôme J. Tournayre** 17527 Stereocontrolled synthesis of functionalised cyclohexanes via the lithium amide-mediated rearrangement of a *meso* 4,5-disubstituted cyclohexene oxide

NUMBER 52

Contents

iii Contributors to this Issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 436

17543 Free radical cyclizations involving nitrogen

ARTICLES

17595 Azacrown ethers containing oximic and Schiff base sidearms—potential heteronuclear metal ion receptors

17607 The preparation of synthetically useful carbonyl-protected δ - and ϵ -lithio ketones via reductive lithiation

17625 Novel cytotoxic 1*H*-cyclopenta[*b*]benzofuran lignans from *Aglaia elliptica*

17633 NMR and X-ray study of cyclotetramertrilene derivatives

17643 Novel synthesis of *N*-alkyl-3,4-disubstituted pyrrolidine-2,5-diones: condensation of α -oxoketene *O,N*-acetals and maleic anhydride

17653 Synthesis of 4-oxo- and 4-*anti*-formyl-8,10,12,13-tetraoxapentacyclo-[5.5.1.0^{2,6}.0^{3,11}.0^{5,9}]tridecanes

17669 Moenomycin A: new chemistry that allows to attach the antibiotic to reporter groups, solid supports, and proteins

17691 Selective derivatisations of resorcarenes—II. Multiple regioselective ring closure reactions

17699 Stereoselective syntheses of deuterium labelled marmesins; valuable metabolic probes for mechanistic studies in furanocoumarin biosynthesis

17711 Synthesis of chiral α -substituted *N*-[[(2*S*)-2-hydroxy-2-phenyl]-ethyl]-2-phenylglycine derivatives by diastereocontrolled alkylation of (6*R*)-2,3,5,6-tetrahydro-3,6-diaryl-*N*-[(2'*R*)-(2'-methyl)phenyl-methyl]-4*H*-1,4-oxazin-2-ones

17727 Synthesis of part of a proposed insulin second messenger glycosylinositol phosphate and the inner core of glycosylphosphatidylinositol anchors

17735 Synthesis of new chiral *N*-substituted fused pyrazoles and pyrazolinols

17751 Facile synthesis of 2,2'-dichalcogenobis(*N*-alkyl/aryl benzenesulfonamides) from *N*-substituted benzenesulfonamides and the emergence of 2-alkyl 1,3,2-benzothiaselenazole 1,1 dioxides. Ebselen analogues

17761 Halogen atom transfer radical addition of α -polychloroesters to olefins promoted by Fe⁰ filings

17769 New enzymatic and chemical approaches to enantiopure etodolac

Alex G. Fallis and Irina M. Brinza

Andrei V. Bordunov,
Jerald S. Bradshaw,
Victor N. Pastushok, Xian X. Zhang,
Xiaolan Kou, N. Kent Dailey,
Zhaoxia Yang, Paul B. Savage and
Reed M. Izatt

Shirong Zhu and Theodore Cohen

Baoliang Cui, Heebyung Chai,
Thawatchai Santisuk,
Vichai Reutrakul,
Norman R. Farnsworth,
Geoffrey A. Cordell,
John M. Pezzuto and
A. Douglas Kinghorn

M. Martínez García,
P. Arroyo Ortega, F. Lara Ochoa,
G. Espinosa Pérez,
S. Hernández Ortega,
M. I. Chávez Uribe, M. Salmón and
R. Cruz-Almanza

Isao Furukawa, Tetsuji Abe,
Hironori Fujisawa and Tetsuo Ohta

Hsien-Jen Wu and Jyh-Haur Chern

Uwe Kempin, Lothar Hennig,
Dietmar Knoll, Peter Weizel,
Dietrich Müller, Astrid Markus and
Jean van Heijenoort

C. Schmidt, K. Airola, V. Böhmer,
W. Vogt and K. Rissanen

Volker Stanjek, Martin Miksch and
Wilhelm Boland

Philippe Remuzon,
Maxime Soumeillant,
Christian Dussy and
Daniel Bouzard

Per J. Garegg, Peter Konradsson,
Stefan Oscarson and Katinka Ruda

Sergey A. Popov,
Makhmut M. Shakirov,
Alexey V. Tkachev and
Norbert De Kimpe

Sungano Mhizha

Luca Forti, Franco Ghelfi,
Emanuela Libertini, Ugo M. Pagnoni
and Ercole Soragni

Elisabetta Brenna, Claudio Fuganti,
Daniela Fuganti, Piero Grasselli,
Luciana Malpezzi and
Giuseppe Pedrocchi-Fantoni

**Martin R. Bryce, Peter J. Skabara,
Adrian J. Moore,
Andrei S. Batsanov,
Judith A. K. Howard and
Vanessa J. Hoy**

17781 Synthesis of new mono-functionalised tetrathiafulvalene derivatives by reactions of tetrathiafulvalenyllithium with aldehydes and ketones: X-ray crystal structures of TTF-CMe(OH)Fc, TTF-CMe(OMe)Fc and TTF-CH(OMe)TTF (Fc=ferrocenyl)

**Simon T. Ingate, José L. Marco,
Myriam Witvrouw,
Cristophe Pannecouque and
Erik De Clercq**

17795 Studies into the synthesis of derivatives of 4-amino-2,3-dihydroisothiazole 1,1-dioxides and 4-amino-1,2-oxathiole 2,2-dioxides: the search for linked π -system containing analogues as potential inhibitors of HIV-1 reverse transcriptase

**D. V. Griffiths, J. M. Hughes,
J. W. Brown, J. C. Caesar,
S. P. Swetnam, S. A. Cumming and
J. D. Kelly**

17815 The synthesis of 1-amino-2-hydroxy- and 2-amino-1-hydroxy-substituted ethylene-1,1-bisphosphonic acids and their *N*-methylated derivatives

I Instructions to Contributors