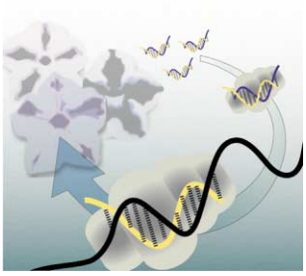
ISSN 1477–0520 OBCRAK(14) 1953–2136(2004)

Organic & Biomolecular Chemistry

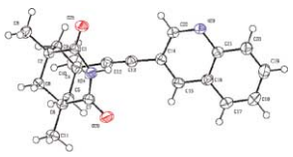
INDEXED IN MEDLINE

Incorporating Acta Chemica Scandinavica



Cover
See Oliver A. Kent and Andrew M. MacMillan, pp. 1957–1961.
Short double-stranded RNA induces potent and specific suppression of gene expression in eukaryotic organisms.

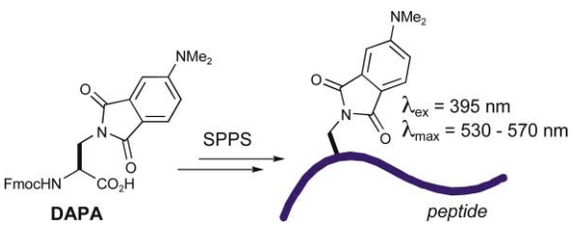
contents



New Rebek imide-type receptors for adenine featuring acetylene-linked π-stacking platforms

Raffaella Faraoni, Muriel Blanzat, Stefan Kubicek, Christophe Braun, W. Bernd Schweizer, Volker Gramlich and François Diederich

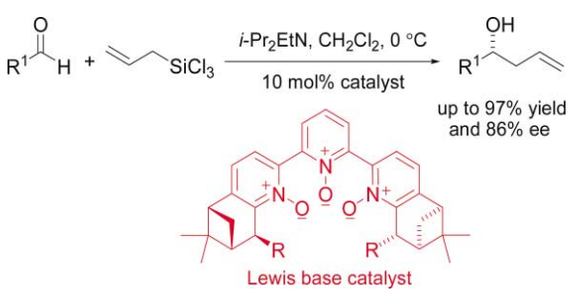
The synthesis, crystal structure and adenine binding properties of novel Rebek imide-type receptors with an acetylenic linker to π-stacking platforms are described.



A new environment-sensitive fluorescent amino acid for Fmoc-based solid phase peptide synthesis

M. Eugenio Vázquez, Deborah M. Rothman and Barbara Imperiali

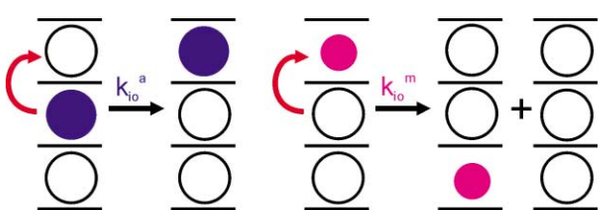
A short and facile synthesis is outlined to access the new 4-DMAP-based environment-sensitive fluorescent amino acid.



The first series of chiral 2,2′:6′,2″-terpyridine tri-*N*-oxide ligands for Lewis base-catalyzed asymmetric allylation of aldehydes

Wing-Leung Wong, Chi-Sing Lee, Hon-Kit Leung and Hoi-Lun Kwong

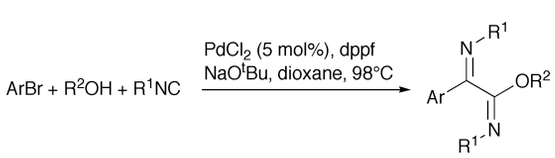
A new series of chiral neutral *O*,*O*,*O*-tridentate ligands has been developed into active Lewis base-catalysts for asymmetric allylation of aldehydes.



$^{15}NH_4^+$ ion movement inside $d(G_4T_4G_4)_2$ G-quadruplex is accelerated in the presence of smaller Na^+ ions

Primož Šket, Martin Črnugelj, Wiktor Koźmiński and Janez Plavec

The lifetime of the inner $^{15}NH_4^+$ ions within the $d(G_4T_4G_4)_2$ G-quadruplex is reduced from 270 ms to 36 ms in the presence of Na^+ ions.



Synthesis of α-iminoimidates by palladium catalysed double isonitrile insertion

Richard J. Whitby, C. Gustaf Saluste and Mark Furber

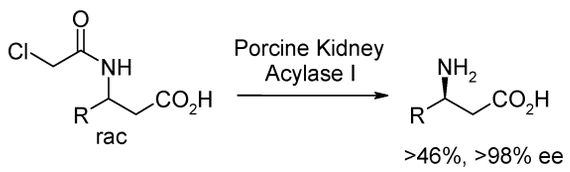
Palladium catalysed selective double insertion of isonitriles into aryl bromides with trapping by sodium alkoxides provides an efficient 4-component synthesis of unusual α-iminoimidates.

COMMUNICATIONS

1977 1978

The first aminoacylase-catalyzed enantioselective synthesis of aromatic β-amino acids

Harald Gröger, Harald Trauthwein, Stefan Buchholz, Karlheinz Drauz, Christiane Sacherer, Sylvie Godfrin and Helge Werner



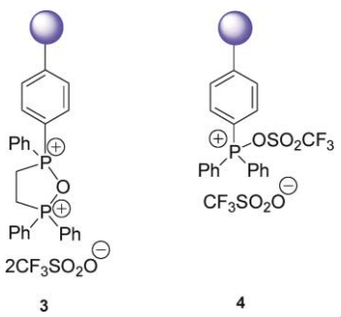
For the first time *N*-acetylated β-amino acids are resolved enzymatically very efficiently by porcine kidney acylase taking chloroacetyl as leaving group.

ARTICLES

1979 1986

Novel polymer-supported coupling/dehydrating reagents for use in organic synthesis

Kathryn E. Fairfull-Smith (née Elson), Ian D. Jenkins and Wendy A. Loughlin

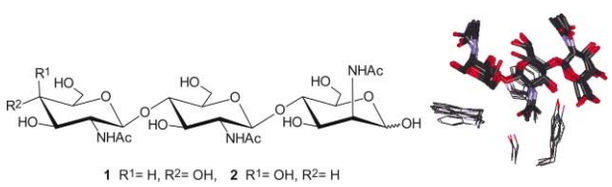


Reagents **3** and **4** are useful for the synthesis of amides, esters, ethers, peptides, nitriles, epoxides, anhydrides, azides and thioacetates.

1987 1994

Enzymatic synthesis of complex glycosaminotrioses and study of their molecular recognition by hevein domains

Nuria Aboitiz, F. Javier Cañada, Lucie Hušáková, Marek Kuzma, Vladimír Křen and Jesús Jiménez-Barbero

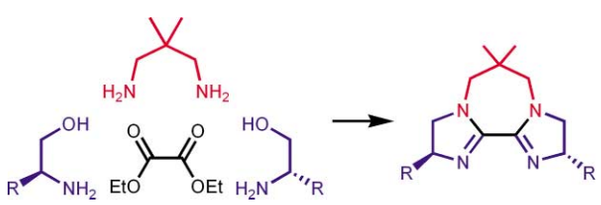


Novel chitotriose analogues, with ManNAc and GalNAc at the reducing and non-reducing ends, respectively, are recognized by hevein domains in a similar manner to the natural compounds.

1995 2002

Preparation of enantiopure biimidazoline ligands and their use in asymmetric catalysis

Nicola A. Boland, Mike Casey, Stephen J. Hynes, Jonathan W. Matthews, Helge Müller-Bunz and Philippa Wilkes

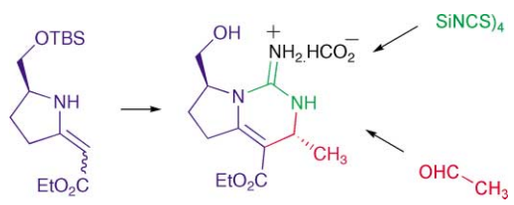


The greater donor strength of biimidazolines may be an advantage over bioxazoline ligands in some catalytic reactions.

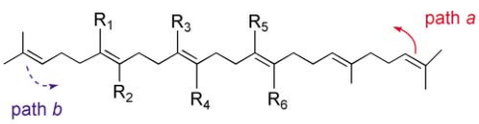
2003 2011

Studies towards the total synthesis of batzelladine A

Mark C. Elliott and Matthew S. Long



Synthesis of the left-hand side of the anti-HIV natural product batzelladine A is presented, using a three-component coupling as the key step.



Substrate **14**; $R_1=R_2=R_4=R_5=H$, $R_3=R_6=Me$ — path *a* and *b*: cyclization

Substrate **15**; $R_1=R_4=R_5=H$, $R_2=R_3=R_6=Me$ — path *a*: cyclization; path *b*: no reaction

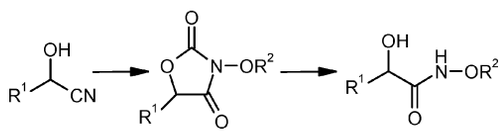
Substrate **16**; $R_2=R_3=R_5=H$, $R_1=R_4=R_6=Me$ — path *a*:cyclization, but low yied; path *b*, no reaction

Substrate **17**; $R_2=R_3=R_6=H$, $R_1=R_4=R_5=Me$ — No reaction

Squalene–hopene cyclase: insight into the role of the methyl group on the squalene backbone upon the polycyclization cascade. Enzymatic cyclization products of squalene analogs lacking a 26-methyl group and possessing a methyl group at C(7) or C(11)

Shin-ichi Nakano, Shumi Ohashi and Tsutomu Hoshino

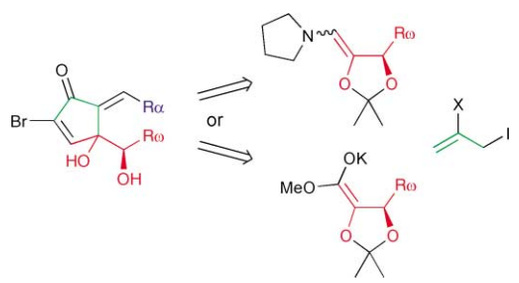
Insights are provided into the polycyclization reaction of squalene; some analogs were synthesized and incubated with the cell-free homogenates of the recombinant *Escherichia coli* encoding the wild-type squalene cyclase.



O-Protected 3-hydroxy-oxazolidin-2,4-diones: novel precursors in the synthesis of α-hydroxyhydroxamic acids

Thomas Kurz and Khalid Widyan

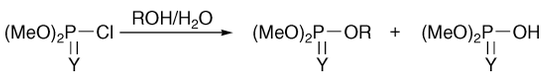
A novel strategy for the synthesis of α-hydroxyhydroxamic acids from *O*-protected 3-hydroxy-oxazolidin-2,4-diones.



Synthesis and biological evaluation of new cross-conjugated dienone marine prostanoid analogues

Cyrille Kuhn, Emmanuel Roulland, Jean-Claude Madelmont, Claude Monneret and Jean-Claude Florent

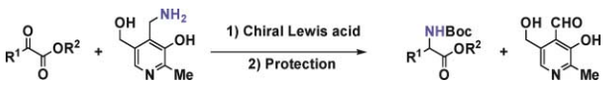
The synthesis of a series of brominated cross-conjugated dienone, marine prostanoid analogues, was considered using two cyclopentannelation processes.



Rate and product studies with dimethyl phosphorochloridate and phosphorochloridothionate under solvolytic conditions

Dennis N. Kevill and Jeffrey S. Carver

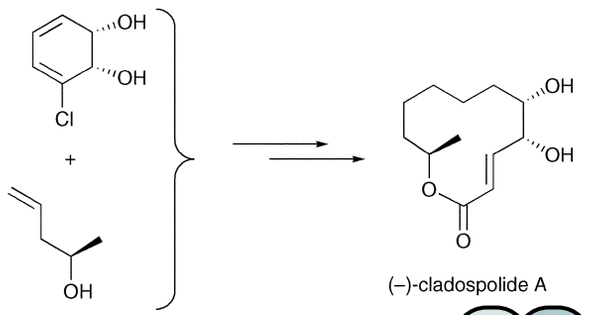
The specific rates of solvolysis of dimethyl phosphorochloridate and of dimethyl phosphorochloridothionate are very well correlated using the extended Grunwald–Winstein equation. It is concluded that the chloride and chloridothionate solvolyses follow a concerted displacement mechanism.



Mimicking enzymatic transaminations: attempts to understand and develop a catalytic asymmetric approach to chiral α-amino acids

Stephan Bachmann, Kristian Rahbek Knudsen and Karl Anker Jørgensen

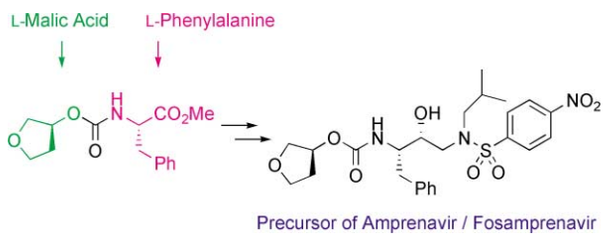
Chiral Lewis acids can mediate the asymmetric transamination of α-keto esters using primary amines as the nitrogen source.



A chemoenzymatic total synthesis of the phytotoxic undecenolide (−)-cladospolide A

Martin G. Banwell and David T. J. Loong

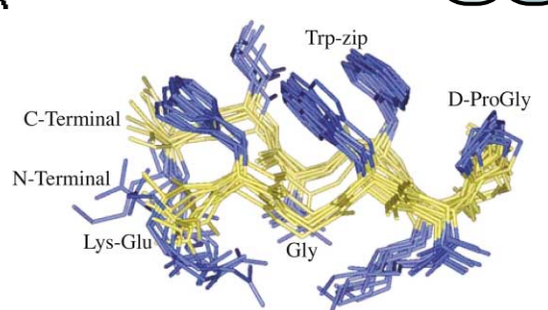
The enzymatically-derived and enantiomerically pure synthons shown on the left have been exploited in an efficient assembly of the title undecenolide.



New approaches to the industrial synthesis of HIV protease inhibitors

Yutaka Honda, Satoshi Katayama, Mitsuhiko Kojima, Takayuki Suzuki, Naomi Kishibata and Kunisuke Izawa

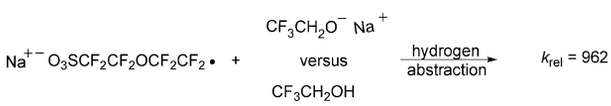
A synthetic route in which an (*S*)-tetrahydrofuranyloxy carbonyl is attached to L-phenylalanine appears to be the most promising manufacturing process.



Expected and unexpected results from combined β-hairpin design elements

Muthu Dhanasekaran, Om Prakash, Yu Xi Gong and Paul W. Baures

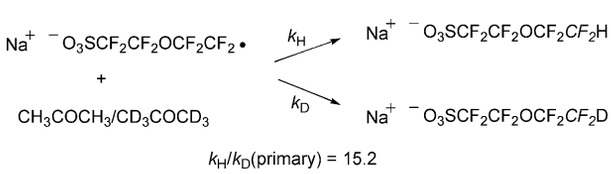
A combined D-ProGly β-turn, Trp–zip interaction, and Glu–Lys cross strand interaction stabilize a β-hairpin with a β-strand Gly.



Rate constants for hydrogen abstraction from alkoxides by a perfluoroalkyl radical. An oxyanion accelerated process

Joseph A. Cradlebaugh, Li Zhang, G. Robert Shelton, Grzegorz Litwinienko, Bruce E. Smart, Keith U. Ingold and William R. Dolbier, Jr.

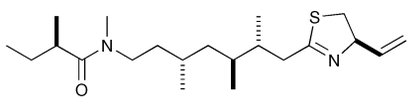
H-abstraction rate constants of alkoxides by a fluorinated radical are 100 to 1000 times greater than those of the respective alcohols.



Large primary kinetic isotope effects in the abstraction of hydrogen from organic compounds by a fluorinated radical in water

Joseph A. Cradlebaugh, Li Zhang, A. B. Shtarev, Bruce E. Smart and William R. Dolbier, Jr.

Both primary and secondary deuterium isotope effects have been measured for H-abstraction from some water soluble substrates by a fluorinated radical.

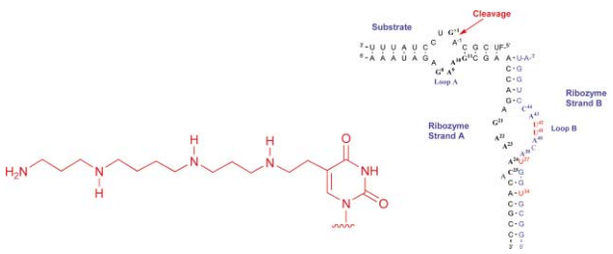


(+)-Kalkitoxin

Total synthesis and biological evaluation of (+)-kalkitoxin, a cytotoxic metabolite of the cyanobacterium *Lyngbya majuscula*

James D. White, Qing Xu, Chang-Sun Lee and Frederick A. Valeriote

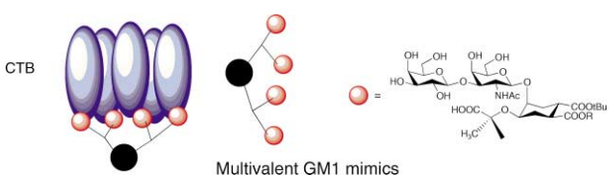
An asymmetric tandem conjugate addition–enolate alkylation leads to the *anti*,*anti*-1,2,4-trimethyl array of (+)-kalkitoxin whose cytotoxicity (IC_{50} 10^{-3} μg mL^{-1}) is compared to that of two precursors lacking the thiazoline moiety.



The synthesis and properties of oligoribonucleotide–spermine conjugates

Andrew J. Marsh, David M. Williams and Jane A. Grasby

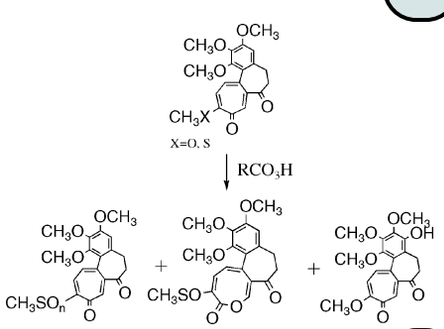
The chemical synthesis and properties of modified hairpin ribozymes containing C5-spermine-functionalised uridines (in red) are described.



Synthesis and cholera toxin binding properties of multivalent GM1 mimics

Daniela Arosio, Ioannis Vrasidas, Paola Valentini, Rob M. J. Liskamp, Roland J. Pieters and Anna Bernardi

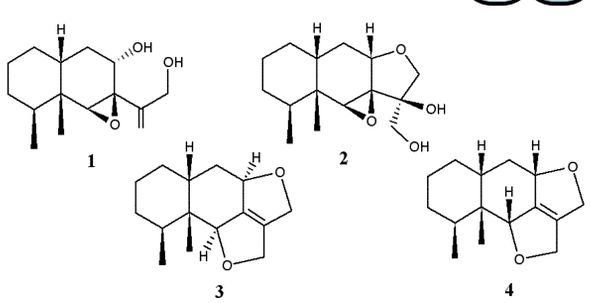
Multivalent versions of a GM1 mimic showed greatly enhanced binding to cholera toxin B subunit (CTB).



Stereochemical variations on the colchicine motif. Peracid oxidation of thiocolchicone. Synthesis, conformation and inhibition of microtubule assembly

Ulf Berg, Håkan Bladh and Konstantinos Mpampos

Peracid oxidation of thiocolchicone produced five different colchicine analogs, which were studied with respect to conformation and inhibition of microtubule assembly.



Peribysins A–D, potent cell-adhesion inhibitors from a sea hare-derived culture of *Periconia* species

Takeshi Yamada, Masashi Iritani, Katsuhiko Minoura, Kenzo Kawai and Atsushi Numata

Peribysin A–D **1**–**4**, including a new type of furanofuran, have been produced by a strain of *Periconia byssoidess* from an *Aplysia* sea hare. All these metabolites potently inhibited the adhesion of human-leukemia HL-60 cells to HUVEC.

ADDITIONS AND CORRECTIONS

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