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Chemistry

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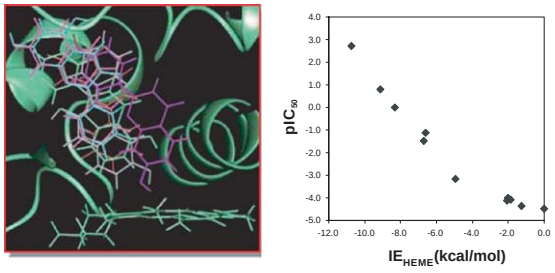
Contents

ARTICLES

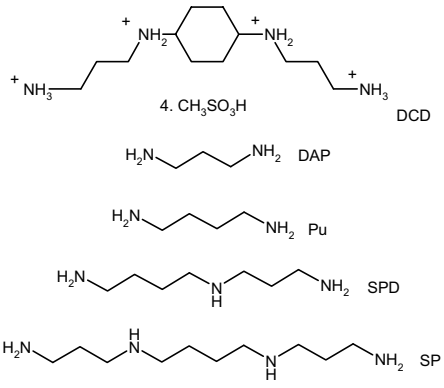
Theoretical quantitative structure–activity relationships of flavone ligands interacting with cytochrome P450 1A1 and 1A2 isozymes pp 4366–4374

F. Iori, R. da Fonseca, M. João Ramos and M. C. Menziani*



A new polyamine derivative, a structural analog of spermine, with in vivo activity as an inhibitor of ethanol appetizte pp 4375–4382

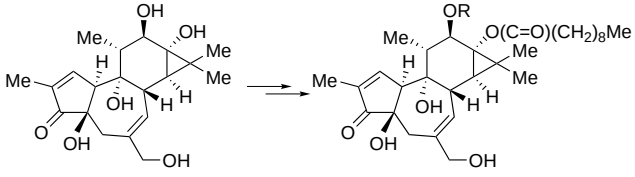
María Font,* Carmen Sanmartín, Hernán García, Selfa Contreras, Carlos Paeile and Norberto Bilbeny



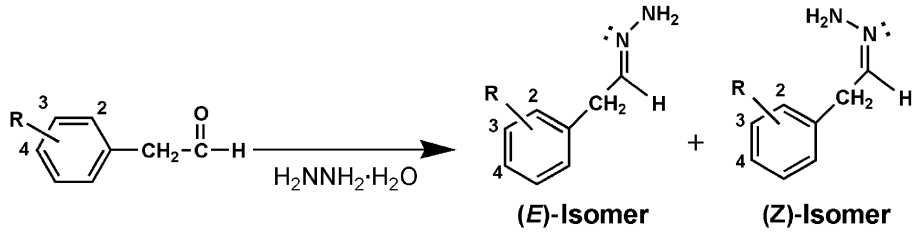
The design and synthesis of the synthetic polyamine DCD (*N*,*N*′-bis-(3-aminopropyl)cyclohexane-1,4-diamine, tetramethane sulfonate), a structural analog of spermine, and its in vivo activity as an inhibitor of alcohol consumption in high-ethanol-consuming UChB rats is described.

Synthesis of new phorbol derivatives having ethereal side chain and evaluation of their anti-HIV activity pp 4383–4388

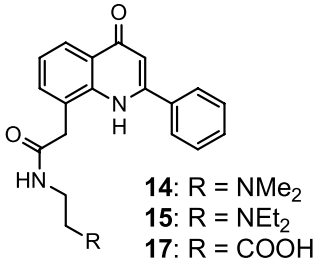
Yuji Matsuya, Zhong Yu, Naoki Yamamoto, Masao Mori, Haruo Saito, Makoto Takeuchi, Mamiko Ito and Hideo Nemoto*



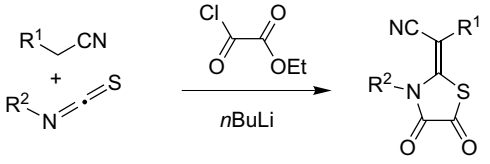
Design and biological evaluation of phenyl-substituted analogs of β-phenylethylidenehydrazine **pp 4389–4395**
Bernard Sowa, Gillian Rauw, Asghar Davood, Afshin Fassihi, Edward E. Knaus and Glen B. Baker*



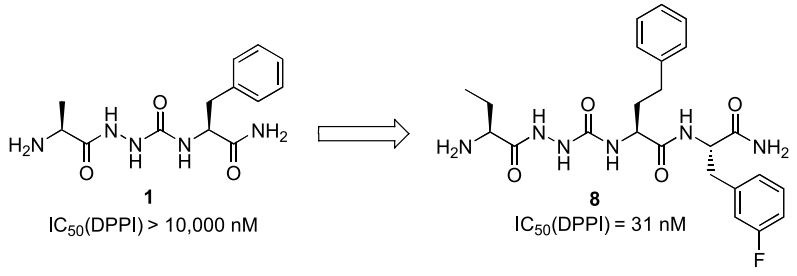
Cancer preventive agents, Part 2: Synthesis and evaluation of 2-phenyl-4-quinolone and 9-oxo-9,10-dihydroacridine derivatives as novel antitumor promoters **pp 4396–4401**
Seikou Nakamura, Mutsuo Kozuka, Kenneth F. Bastow, Harukuni Tokuda, Hoyoku Nishino, Madoka Suzuki, Jin Tatsuzaki, Susan L. Morris Natschke, Sheng-Chu Kuo and Kuo-Hsiung Lee*



Synthesis and structure–activity relationships of 2-alkylidenethiazolidine-4,5-diones as antibiotic agents **pp 4402–4407**
Uwe Albrecht, Dirk Gördes, Enrico Schmidt, Kerstin Thurow, Michael Lalk and Peter Langer*

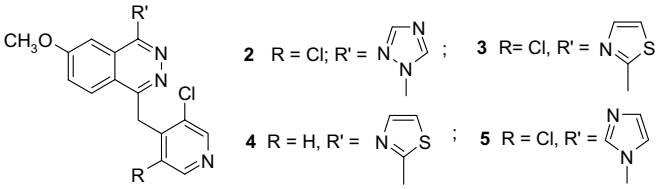


Novel semicarbazide-derived inhibitors of human dipeptidyl peptidase I (hDPPI) **pp 4408–4424**
Jon Bondebjerg,* Henrik Fuglsang, Kirsten Rosendal Valeur, Dorte Wissing Kaznelson, Johnny Arnsdorf Hansen, René Orup Pedersen, Berit Olsen Krogh, Bo Skaaning Jensen, Conni Lauritzen, Gitte Petersen, John Pedersen and Lars Nærum

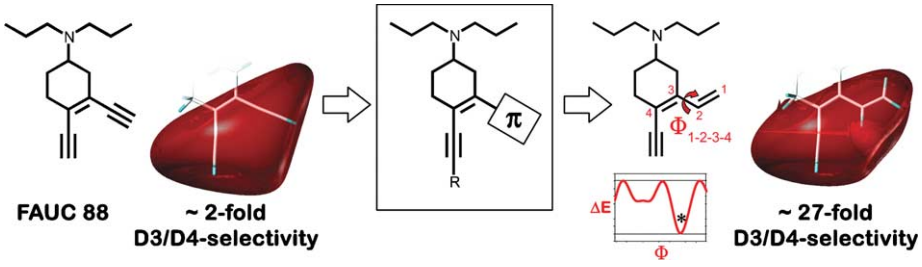


Phthalazine PDE IV inhibitors: Conformational study of some 6-methoxy-1,4-disubstituted derivatives **pp 4425–4433**
Thomas Haack,* Raimondo Fattori, Mauro Napoletano, Franco Pellacini, Giovanni Fronza, Giuseppina Raffaini and Fabio Ganazzoli

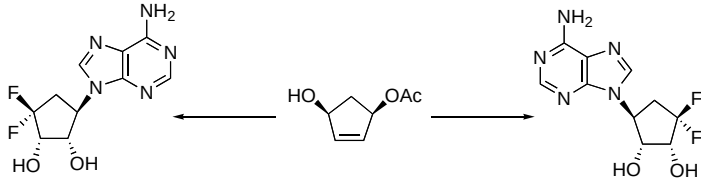
A conformational investigation on the phthalazine phosphodiesterase inhibitors **2**–**5** was performed by using NOE experiments and MD computational methods. A correlation was found between the conformational properties of the heterocyclic five-membered ring and PDE IV inhibitory potency.



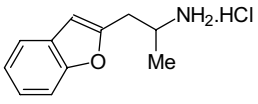
Fancy bioisosteres: Synthesis, SAR, and pharmacological investigations of novel nonaromatic dopamine D3 receptor ligands **pp 4434–4442**
Carola Lenz, Frank Boeckler, Harald Hübner and Peter Gmeiner*



The 4′,4′-difluoro analog of 5′-noraristeromycin: A new structural prototype for possible antiviral drug development toward orthopoxvirus and cytomegalovirus **pp 4443–4449**
Atanu Roy, Stewart W. Schneller,* Kathy A. Keith, Caroll B. Hartline and Earl R. Kern

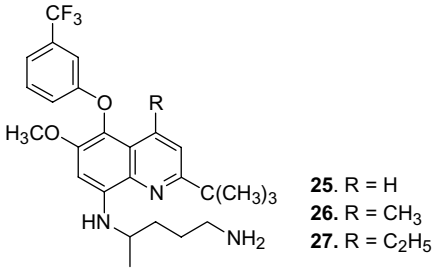


Heteroarylisopropylamines as MAO inhibitors **pp 4450–4457**
Gabriel Vallejos, Angélica Fierro, Marcos Caroli Rezende,* Silvia Sepúlveda-Boza and Miguel Reyes-Parada



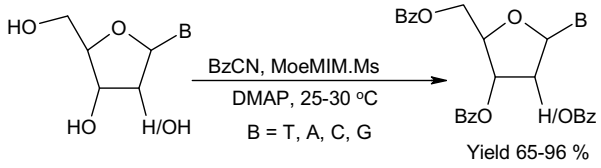
Eleven heteroarylisopropylamines were prepared and evaluated in vitro as MAO-A and MAO-B inhibitors. Molecular dynamics simulation was performed with the most active member of the series, the 1-(2-benzofuryl)-2-aminopropane.

Synthesis, antimalarial, antileishmanial, and antimicrobial activities of some 8-quinolinamine analogues **pp 4458–4466**
Meenakshi Jain, Shabana I. Khan, Babu L. Tekwani, Melissa R. Jacob, Savita Singh, Prati Pal Singh and Rahul Jain*



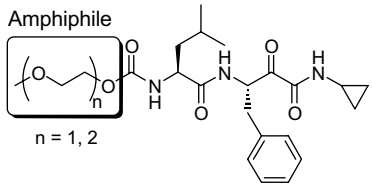
Synthesis, in vitro antimalarial, antileishmanial, antimicrobial activities, and in vivo antimalarial activities of some ring-substituted-8-quinolinamines are described.

'Green' methodology for efficient and selective benzoylation of nucleosides using benzoyl cyanide in an ionic liquid **pp 4467–4472**
Ashok K. Prasad,* Vineet Kumar, Shashwat Malhotra, Vasulinga T. Ravikumar, Yogesh S. Sanghvi and Virinder S. Parmar*



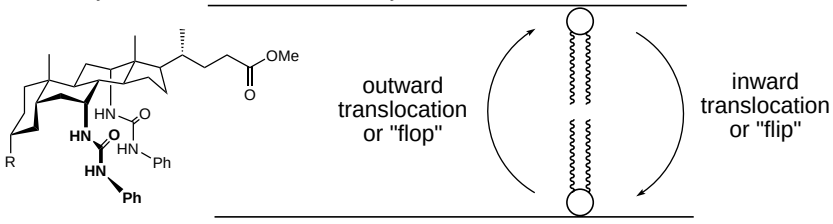
Efficient benzoylation of various nucleosides (both ribo- and 2′-deoxyribo), phenols, aromatic amines, benzyl alcohol, aliphatic diols, 3-aminophenol and 2-aminobenzylalcohol has been accomplished using benzoyl cyanide in ionic liquid 1-methoxyethyl-3-methylimidazolium methanesulfonate with catalytic amount of DMAP under ambient conditions.

Exploration of orally available calpain inhibitors: Peptidyl α-ketoamides containing an amphiphile at P3 site **pp 4473–4484**
Yoshihisa Shirasaki,* Hiroyuki Miyashita, Masazumi Yamaguchi, Jun Inoue and Masayuki Nakamura



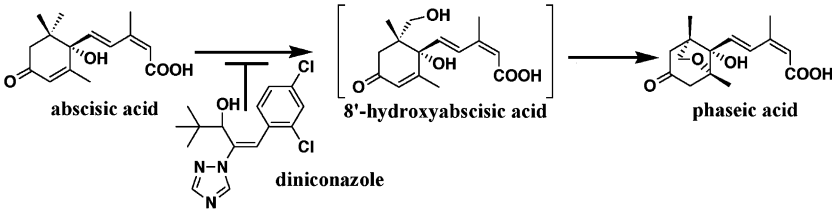
A novel series of dipeptidyl α-ketoamide derivatives with amphiphile was designed and synthesized as water-soluble calpain inhibitors.

Steroid-derived phospholipid scramblases induce exposure of phosphatidylserine on the surface of red blood cells **pp 4485–4490**
Kristy M. DiVittorio, Timothy N. Lambert and Bradley D. Smith*



A series of methyl 7α,12α-bis(phenylurea) cholate derivatives with different cationic substituents at the 3α-position are evaluated for an ability to increase the level of endogenous phosphatidylserine (PS) on the surface of red blood cells (erythrocytes) and to promote the translocation of fluorescent NBD-labeled phospholipids across vesicle membranes.

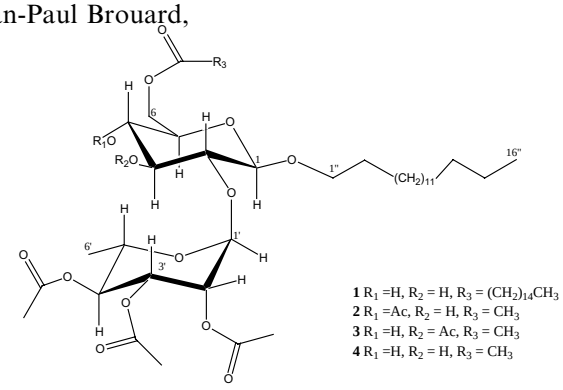
Chemical regulation of abscisic acid catabolism in plants by cytochrome P450 inhibitors **pp 4491–4498**
Nobutaka Kitahata, Shigeki Saito, Yutaka Miyazawa, Taishi Umezawa, Yukihisa Shimada, Yong Ki Min, Masaharu Mizutani, Nobuhiro Hirai, Kazuo Shinozaki, Shigeo Yoshida and Tadao Asami*



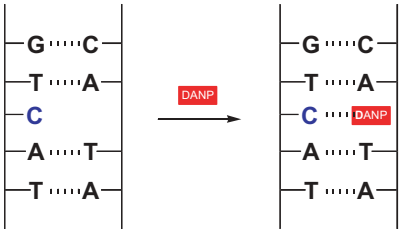
Plant hormone abscisic acid is hydroxylized by cytochrome P450 to phaseic acid. We found that diniconazole was a potent inhibitor of this hydroxylation step.

New ether diglycosides from *Matayba guianensis* with antiplasmodial activity **pp 4499–4506**
Mariana Laundry de Mesquita, Philippe Grellier, Alain Blond, Jean-Paul Brouard, José Elias de Paula, Laila Salmen Espindola* and Lengo Mambu*

Four new ether diglycosides (**1**–**4**), named matayosides A–D, were isolated from the root bark of *Matayba guianensis*. The antiplasmodial activity of the compounds was evaluated.



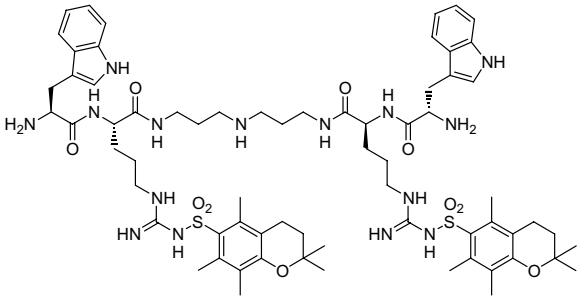
***N*,*N*′-Bis(3-aminopropyl)-2,7-diamino-1,8-naphthyridine stabilized a single pyrimidine bulge in duplex DNA** **pp 4507–4512**
Hitoshi Suda, Akio Kobori, Jinhua Zhang, Gosuke Hayashi and Kazuhiko Nakatani*



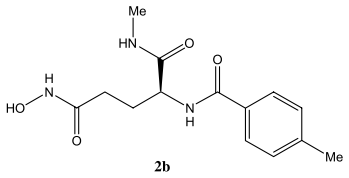
A new ligand *N*,*N*′-bis(3-aminopropyl)-2,7-diamino-1,8-naphthyridine bound to cytosine and thymine bulges. CSI-TOF MS firmly confirmed the 1:1 binding stoichiometry.

Mechanism and structure–activity relationships of norspermidine-based peptidic inhibitors of trypanothione reductase **pp 4513–4526**
Mark J. Dixon, Richard I. Maurer, Cristina Biggi, Julen Oyarzabal, Jonathan W. Essex and Mark Bradley*

A library of polyamine–peptide conjugates was synthesised and screened against the parasitic enzyme trypanothione reductase. Kinetic analysis revealed that subtle structural changes caused a switch from non-competitive to competitive behaviour. Further mechanistic studies of the non-competitive inhibitors led to the elucidation of an allosteric mechanism of action.



Novel matrix metalloproteinase inhibitors: Generation of lead compounds by the in silico fragment-based approach pp 4527–4543
Kanji Takahashi, Masahiro Ikura, Hiromu Habashita, Minoru Nishizaki, Tsuneyuki Sugiura, Shingo Yamamoto, Shingo Nakatani,* Koji Ogawa, Hiroyuki Ohno, Hisao Nakai and Masaaki Toda

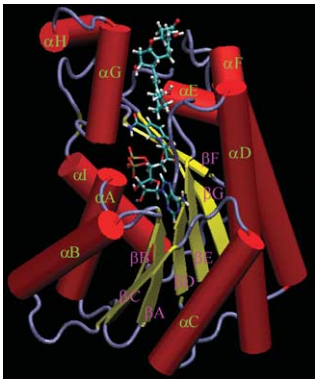


2b

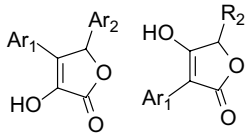
Discovery process of a new chemical lead to identify matrix metalloproteinase inhibitors using the in silico fragment-based approach is reported.

Understanding human 15-hydroxyprostaglandin dehydrogenase binding with NAD^+ and PGE_2 by homology modeling, docking and molecular dynamics simulation pp 4544–4551
Adel Hamza, Hoon Cho, Hsin-Hsiung Tai* and Chang-Guo Zhan*

The first 3D model of the entire 15-PGDH–NAD^+–PGE_2 complex was determined by a combined use of various molecular modeling techniques.



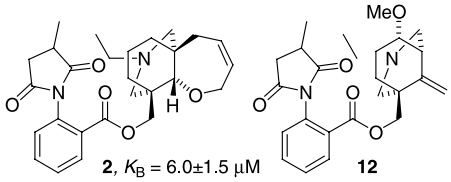
New 3- and 4-hydroxyfuranones as anti-oxidants and anti-inflammatory agents pp 4552–4564
Valérie Weber, Catherine Rubat, Eliane Duroux, Claire Lartigue, Michel Madesclaire and Pascal Coudert*



8 18

Two series of furanones **8** and **18** substituted by methylsulfonylphenyl or methylsulfamidophenyl moieties were prepared and their anti-oxidant and anti-inflammatory activities evaluated.

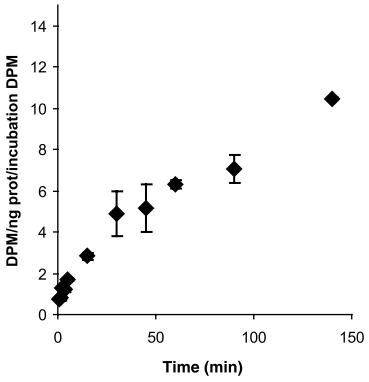
Methyllycaconitine analogues have mixed antagonist effects at nicotinic acetylcholine receptors pp 4565–4575
David Barker, Diana H.-S. Lin, Jane E. Carland, Cindy P.-Y. Chu, Mary Chebib, Margaret A. Brimble, G. Paul Savage and Malcolm D. McLeod*



2, K_B = 6.0±1.5 μM 12

Human serum transferrin cobalt complex: Stability and cellular uptake of cobalt **pp 4576–4579**
T. A. D. Smith*

Tumours express higher levels of transferrin receptors than do normal tissues. To investigate the suitability of human serum transferrin (Tf) complexed with radioisotopes of Co for tumour imaging, the stability and accumulation of ^{57}Co by tumour cells incubated with ^{57}Co-Tf were investigated. Stability studies were carried out by dialysis of trace quantities of ^{57}Co-Tf with challenge solutions and by measurement of change in absorbance at 405nm of Co-Tf during incubation with albumin. Figure shows uptake of ^{57}Co by MCF7 cells incubated with ^{57}Co-human serum transferrin.



Intrastrand base-stacking buttresses widening of major groove in interstrand cross-linked B-DNA **pp 4580–4587**
Mateus Webba da Silva, Ross G. Bierbryer, Christopher J. Wilds, Anne M. Noronha, O. Michael Colvin, Paul S. Miller and Michael P. Gamcsik*

OTHER CONTENTS

Corrigenda **pp 4588–4589**
Contributors to this issue **p I**
Instructions to contributors **p III**

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

2005: Human liver glycogen phosphorylase A (HLGPa) is an attractive target enzyme for discovering anti-type 2 diabetes drugs. This picture shows the interaction model for a series of indole-2-carboxamides to HLGPa derived from molecular docking simulations [Liu, G.; Zhang, Z.; Luo, X.; Shen, J.; Liu, H.; Shen, X.; Chen, K.; Jiang, H. *Bioorg. Med. Chem.* **2004**, *12*, 4147–4157].

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