

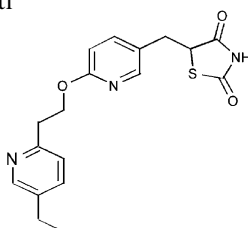
Contents

ARTICLES

Studies on some glitazones having pyridine as the linker unit

pp 655–662

Uma Ramachandran,* Alka Mital, Prasad V. Bharatam, Smriti Khanna, Poduri Rama Rao, Krishnamoorthy Srinivasan, Rakesh Kumar, Harmander Pal Singh Chawla, Chaman Lal Kaul, Suryaprakash Raichur and Ranjan Chakrabarti

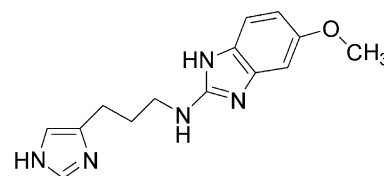


Semi-empirical AM1 studies and synthesis of pyridine derivatives of some glitazones were done. Their efficacy as PPAR γ agonists was evaluated.

Synthesis, biological activity, QSAR and QSPR study of 2-aminobenzimidazole derivatives as potent H₃-antagonists

pp 663–674

Marco Mor,* Fabrizio Bordi, Claudia Silva, Silvia Rivara, Valentina Zuliani, Federica Vacondio, Mirko Rivara, Elisabetta Barocelli, Simona Bertoni, Vigilio Ballabeni, Francesca Magnanini, Mariannina Impicciatore and Pier Vincenzo Plazzi

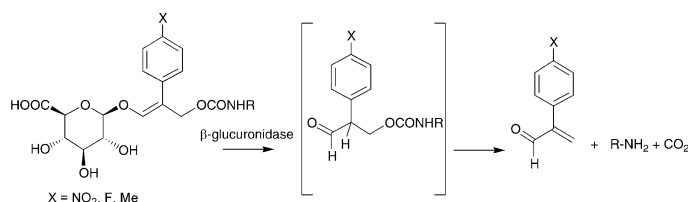


A new class of H₃-antagonists with a 2-aminobenzimidazole moiety is presented. Compound lipophilicity (log *P*), basicity (p*K*_a) and H₃-receptor affinity and antagonist potency were determined and submitted to QSPR and QSAR investigations. When a three-methylene spacer was inserted between the imidazole ring and the 2-aminobenzimidazole nucleus, very potent compounds were obtained.

A new linker for glucuronylated anticancer prodrugs

pp 675–682

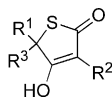
Freddy Rivault, Isabelle Tranoy-Opalinski and Jean-Pierre Gesson*



Analogues of thiolactomycin as potential anti-malarial and anti-trypanosomal agents

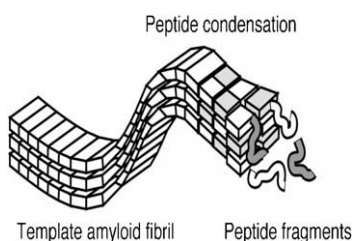
pp 683–692

Simon M. Jones, Jonathan E. Urch, Reto Brun, John L. Harwood, Colin Berry and Ian H. Gilbert*

**Construction of a chemically and conformationally self-replicating system of amyloid-like fibrils**

pp 693–699

Yuta Takahashi and Hisakazu Mihara*



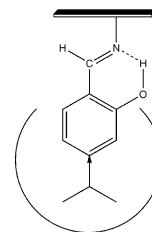
A peptide self-replicating system based on the β -structure of the amyloid-like fibril was designed and constructed.

QSAR and kinetics of the inhibition of benzaldehyde derivatives against *Sacrophaga neobelliaria* phenoloxidase

pp 701–713

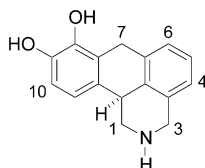
Wei Li and Isao Kubo*

A group of 18 benzaldehyde derivatives was characterized as a family of mixed type inhibitors on the oxidation of L-3, 4-dihydroxyphenylalanine (L-DOPA) catalyzed by *Sacrophaga neobelliaria* phenoloxidase (PO), presumably by forming a Schiff base with a primary amino group of the enzyme. Inhibition constants and IC_{50} were determined. Cuminaldehyde was the most active inhibitor with an IC_{50} of 0.0067 mM. Vanillin was the least active inhibitor with an IC_{50} of 38 mM. It was shown that hydrophobicity of the substituent at the para position of the aldehyde group played major role on inhibition activity: one unit increase in Hansch–Fujita π value of the substituent led to about 4.5 [95% confidence interval is (7.9, 2.6)] -fold increase on IC_{50} . It presumably helps fitting the formed Schiff base to the hydrophobic protein pocket (U). Electron-donating effect (\uparrow) of the substituent at the para position of the aldehyde group was less important than hydrophobicity. Hydroxyl group at the ortho position of the aldehyde group contributed to higher inhibition activity, presumably by forming a quasi-six-membered ring with the unshared pair of electrons on the nitrogen atom of the amino group through intramolecular hydrogen bonding.

**Synthesis and SAR exploration of dinapsoline analogues**

pp 715–734

Sing-Yuen Sit,* Kai Xie, Swanee Jacutin-Porte, Kenneth M. Boy, James Seanz, Matthew T. Taber, Amit G. Gulwadi, Carolyn D. Korpinen, Kevin D. Burris, Thaddeus F. Molski, Elaine Ryan, Cen Xu, Todd Verdoorn, Graham Johnson, David E. Nichols and Richard B. Mailman



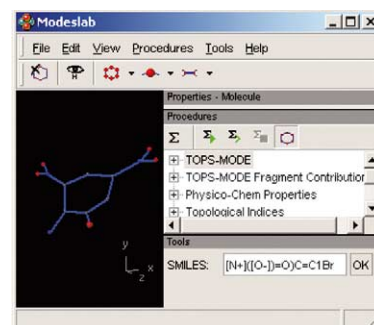
(S)-8,9-Dihydroxy-2,3,7,11b-tetrahydro-1H-dibenz[de,h]isoquinoline
DINAPSOLINE

A novel approach to predict a toxicological property of aromatic compounds in the *Tetrahymena pyriformis*

pp 735–744

Maykel Pérez González,* Humberto González Díaz, Miguel Angel Cabrera and Reinaldo Molina Ruiz

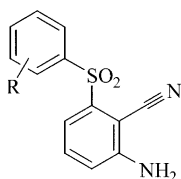
The TOPological Substructural Molecular DEsign (TOPS-MODE) has been successfully used in order to explain the toxicity in the *Tetrahymena pyriformis* on a large data set. The obtained models for the training set had good statistical parameters and also the prediction power of the models found was adequate ($Q^2 = 0.70\text{--}0.80$). Finally, the fragment contributions to the toxicity prediction evidenced the powerful of this topological approach.



QSAR modeling of HIV-1 reverse transcriptase inhibitor 2-amino-6-arylsulfonylbenzonitriles and congeners using molecular connectivity and E-state parameters

pp 745–754

Kunal Roy* and J. Thomas Leonard

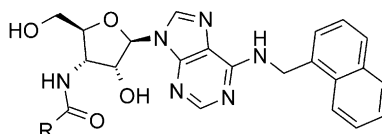


Anti-HIV-1 activity and HIV-1 reverse transcriptase binding affinity of 2-amino-6-arylsulfonylbenzonitriles and their thio and sulfinyl congeners have been modeled using E-state index along with molecular connectivity and indicator parameters in an attempt to explore the different fragments of the molecules contributing significantly to the activities.

Antimalarial activity of N^6 -substituted adenosine derivatives. Part 3

pp 755–762

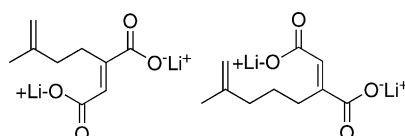
Claudia Herforth, Jochen Wiesner, Philipp Heidler, Silke Sanderbrand, Serge Van Calenbergh, Hassan Jomaa and Andreas Link*



Synthesis and biological activity of isopentenyl diphosphate analogues

pp 763–770

Andrew A. Scholte, Lisa M. Eubanks, C. Dale Poulter and John C. Vederas*

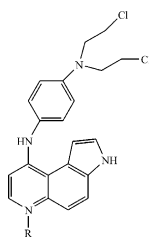


A series of analogues of isopentenyl diphosphate (IPP) having a dicarboxylate moiety in place of the diphosphate were synthesized and investigated as inhibitors of undecaprenyl diphosphate (UPP) synthase and protein farnesyltransferase (PFTase).

Synthesis and antiproliferative activity of some new DNA-targeted alkylating pyrroloquinolines

pp 771–777

M. G. Ferlin,* L. Dalla Via and O. M. Gia

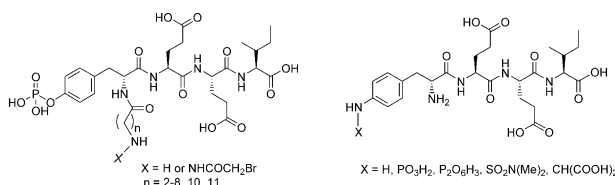


DNA-directed alkylating pyrroloquinolines are more active than aniline mustard moiety alone and than chlorambucil against human tumor cell lines, HeLa and HL-60. Corresponding diols and pyrroloquinoline nucleus are ineffective.

Design of tetrapeptide ligands as inhibitors of the Src SH2 domain

pp 779–787

Nguyen-Hai Nam, Rebecca L. Pitts, Gongqin Sun, Soroush Sardari, Amie Tiemo, Mingxing Xie, Bingfang Yan and Keykavous Parang*

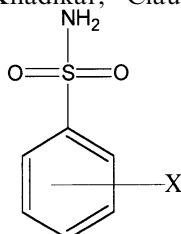


Five distinct classes of tetrapeptides were synthesized and tested for affinity to Src SH2 domain. Design of tetrapeptides focused on several features: substitutions on the tyrosine or phenylalanine phenyl ring; N- and C-terminal substitution; phosphate group replacement; and tyrosine replacement with other cyclic groups.

QSAR study on benzenesulphonamide carbonic anhydrase inhibitors: topological approach using Balaban index

pp 789–793

Abhilash Thakur, Mamta Thakur, Padmakar V. Khadikar,* Claudiu T. Supuran and Purushottam Sudele

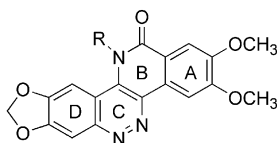


QSAR study on benzene sulphonamide carbonic anhydrase inhibitors has been made using the most discriminatory Balaban index (J). The regression analysis has shown that even in mono-parametric regression this index gave excellent results. However, using the combination of the Balaban index (J) with the Randic index and an indicator parameters, tremendous improvement in the statistics is observed. The results are critically discussed on the basis of regression and cross-validation parameters.

11H-Isoquino[4,3-c]cinnolin-12-ones: novel anticancer agents with potent topoisomerase I-targeting activity and cytotoxicity

pp 795–806

Alexander L. Ruchelman, Sudhir K. Singh, Abhijit Ray, Xiaohua Wu, Jin-Ming Yang, Nai Zhou, Angela Liu, Leroy F. Liu and Edmond J. LaVoie*

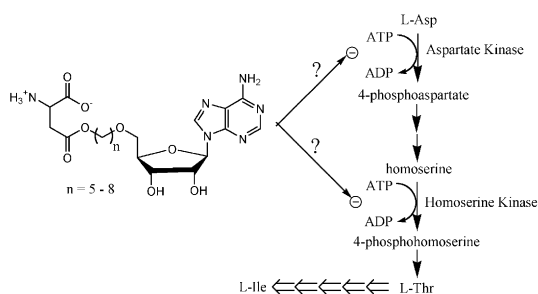


R=CH₂CH₂N(CH₃)₂; CH₂CH₂N(C₂H₅)₂; CHCH₃CH₂N(CH₃)₂; CH₂CH₂N(C₄H₉); CH₂(-CHOCH₂CH₂CH₂-); CH₂CH₂N(CH₃)₂; CH₂CH₂N(CH₂CH₂)₂NCH₃; and R=CH₂CH₂N(CH₃)₂ with A-; D-; both A- and D-ring unsubstituted, and 2,3-(OCH₃)₂-9-NO₂ isoquino[4,3-c]cinnolin-12-one

Small molecule functional discrimination of the kinases required for the microbial synthesis of threonine and isoleucine

pp 807–815

David Bareich, Kalinka Koteva, Ishac Nazi and Gerard D. Wright*

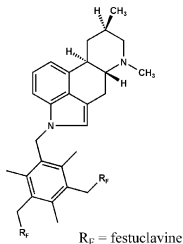


In vitro antiplasmodial activities of semisynthetic *N,N'*-spacer-linked oligomeric ergolines

pp 817–824

Kristina Jenett-Siems, Inga Köhler, Carola Kraft, Heinz H. Pertz, Vladimír Křen, Anna Fišerová, Marek Kuzma, Jitka Ulrichová, Ulrich Bienzle and Eckart Eich*

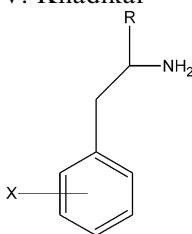
Starting from three monomeric ergolines (terguride, festuclavine, pergolide) *N,N'*-spacer-linked oligomeric derivatives were prepared and evaluated for their in vitro activity against *Plasmodium falciparum*.



QSAR studies on psychotomimetic phenylalkylamines

pp 825–831

Mamta Thakur, Abhilash Thakur and Padmakar V. Khadikar*



QSAR studies on a series of psychotomimetic phenylalkylamines have been made using a combination of MTD method and topological methodology. The topological indices used being a pool of distance-based topological indices. The regression analysis have shown that excellent results are obtained in multiparametric model containing MTD parameters, topological indices in that quantum chemical parameters has to be introduced. The predictive power of the proposed model is discussed on the basis of cross validation parameters.

OTHER CONTENTS

Contributors to this issue
Instructions to contributors

p I
pp III–VI

*Corresponding author

COVER

2004: Overlaps of the eight known aldolase alpha-beta barrels in 2-Deoxyribose-5-phosphate aldolase (DERA). Ribbon model for DERA is shown in green, with key Lys residues capable of Schiff base formation highlighted in stick figure. Reactive Lys167 is shown in yellow. DeSantis, G.; Liu, J.; Clark, D. P.; Heine, A.; Wilson, I. A.; and Wong, C.-H. *Bioorganic & Medical Chemistry* **2003**, *11*, 43–52.



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CONTENTS
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