

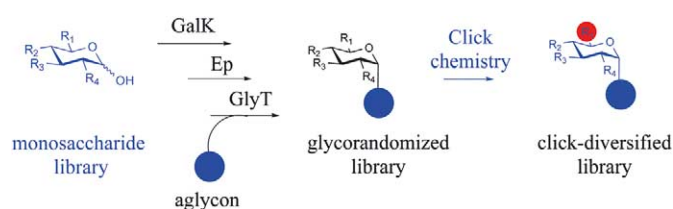
## Contents

### PERSPECTIVE

#### Natural product glycorandomization

pp 1577–1584

Jie Yang, Dirk Hoffmeister, Lesley Liu, Xun Fu and Jon S. Thorson\*

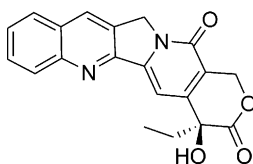


### REVIEW

#### Camptothecin: current perspectives

pp 1585–1604

Craig J. Thomas, Nicolas J. Rahier and Sidney M. Hecht\*



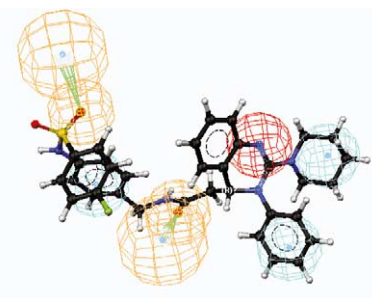
### ARTICLES

#### First pharmacophoric hypothesis for T-type calcium channel blockers

pp 1605–1611

Munikumar Reddy Doddareddy, Hee Kyung Jung, Jae Yeol Lee, Yong Sup Lee, Yong Seo Cho, Hun Yeong Koh and Ae Nim Pae\*

A three-dimensional pharmacophore model was developed for T-type calcium channel blockers in order to map common structural features of highly active compounds by using CATALYST program. This hypothesis will act as a valuable tool in designing new ligands.

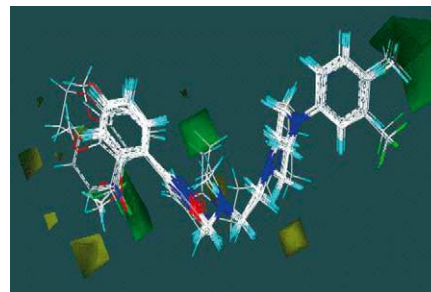


**3D QSAR studies on T-type calcium channel blockers using CoMFA and CoMSIA**

pp 1613–1621

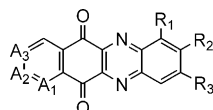
Munikumar Reddy Doddareddy, Hee Kyung Jung, Joo Hwan Cha, Yong Seo Cho, Hun Yeong Koh, Moon Ho Chang and Ae Nim Pae\*

Comparative molecular field analysis (CoMFA) and comparative molecular similarity indices analysis (CoMSIA) were performed on a series of isoxazolyl compounds as a potent T-type calcium channel blockers.

**Synthesis and cytotoxicity evaluation of 6,11-dihydro-pyridazo- and 6,11-dihydro-pyrido[2,3-*b*]phenazine-6,11-diones**

pp 1623–1628

Hyun-Jung Lee, Jin Sung Kim, Se-Young Park, Myung-Eun Suh,\* Hwa Jung Kim, Eun-Kyung Seo and Chong-Ock Lee

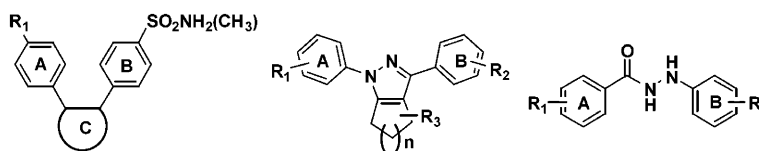


**4a-4g** :  $A_1 = C, A_2 = A_3 = N$   
**9a-9f** :  $A_1 = N, A_2 = A_3 = C$

**Computational studies of COX-2 inhibitors: 3D-QSAR and docking**

pp 1629–1641

Hye-Jung Kim,<sup>a,b</sup> Chong Hak Chae, Kyu Yang Yi, Kyung-Lae Park and Sung-eun Yoo\*

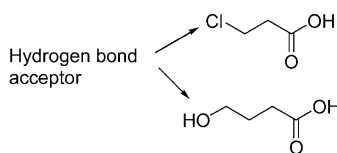


Energetic and structural differences in the interactions between the three chemical classes of selective COX-2 inhibitors and the COX-2 enzyme were investigated by the 3D-QSAR and flexible docking studies.

**3-Chloropropanoic acid (UMB66): a ligand for the gamma-hydroxybutyric acid receptor lacking a 4-hydroxyl group**

pp 1643–1647

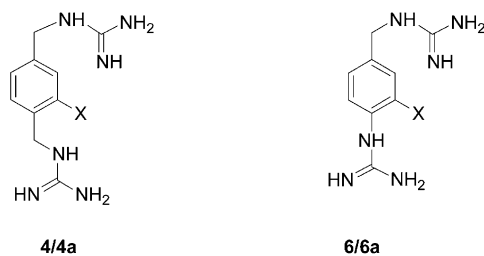
Alba T. Macias, R. Jason Hernandez, Ashok K. Mehta, Alexander D. MacKerell, Jr., Maharaj K. Ticku and Andrew Coop\*



**Meta-iodobenzylguanidine derivatives containing a second guanidine moiety**

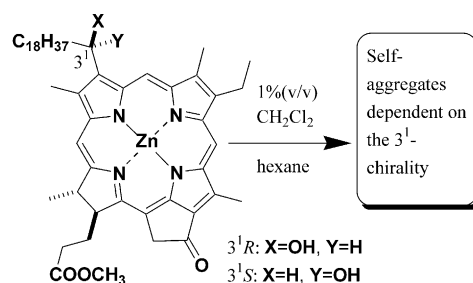
pp 1649–1656

Ganesan Vaidyanathan,\* Sriram Shankar, Donna J. Affleck, Kevin Alston, Joseph Norman, Philip Welsh, Holly LeGrand and Michael R. Zalutsky

**Determination of 3<sup>1</sup>-stereochemistry in synthetic bacteriochlorophyll-*d* homologues and self-aggregation of their zinc complexes**

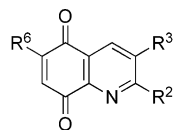
pp 1657–1666

Hitoshi Tamiaki,\* Hiroyuki Kitamoto, Akiyoshi Nishikawa, Takuya Hibino and Reiko Shibata

**Novel quinolinequinone antitumor agents: structure-metabolism studies with NAD(P)H:quinone oxidoreductase (NQO1)**

pp 1667–1687

Tara Fryatt, Hanna I. Pettersson, Walter T. Gardipee, Kurtis C. Bray, Stephen J. Green, Alexandra M. Z. Slawin, Howard D. Beall\* and Christopher J. Moody\*

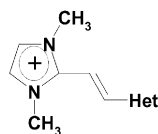


A series of quinolinequinones bearing various substituents has been synthesized, and the effects of substituents on the metabolism of the quinones by recombinant human NAD(P)H:quinone oxidoreductase (hNQO1) was studied.

**Design, synthesis and in vitro antitumor activity of new *trans* 2-[2-(heteroaryl)vinyl]-1,3-dimethylimidazolium iodides**

pp 1689–1695

Francesco P. Ballistreri, Vincenza Barresi, Paolo Benedetti, Gianluigi Caltabiano, Cosimo G. Fortuna, Maria L. Longo and Giuseppe Musumarra\*

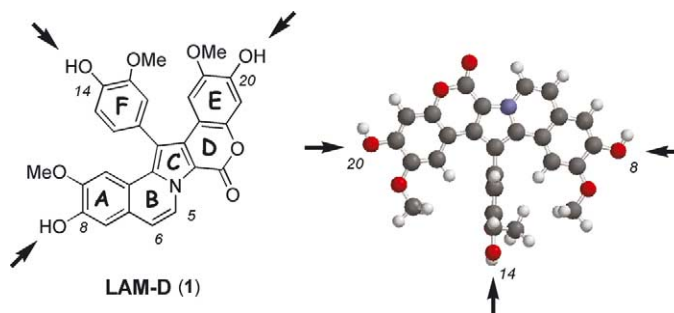


The high in vitro antitumor activities of 5-(2-chlorophenyl)-furan-2-yl and of 5-(4-bromophenyl)-furan-2-yl derivatives vs. MCF7 and LNCap cell lines parallels the molecular modelling predictions.

### Topoisomerase I-mediated DNA cleavage as a guide to the development of antitumor agents derived from the marine alkaloid lamellarin D: triester derivatives incorporating amino acid residues

pp 1697–1712

Christelle Tardy, Michaël Facompré, William Laine, Brigitte Baldeyrou, Dolores García-Gravalos, Andrés Francesch, Cristina Mateo, Alfredo Pastor, José A. Jiménez, Ignacio Manzanares, Carmen Cuevas and Christian Bailly\*

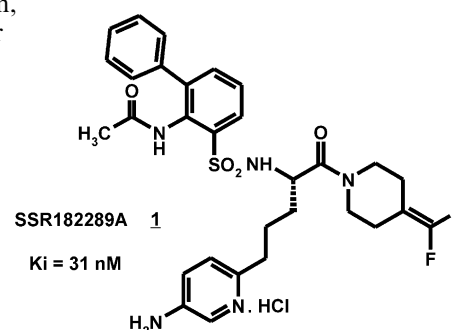


### SSR182289A, a selective and potent orally active thrombin inhibitor

pp 1713–1730

Jean-Michel Altenburger, Gilbert Y. Lassalle,\* Mostapha Matrougui, Daniel Galtier, Jean-Claude Jetha, Zsolt Bocskei, Christopher N. Berry, Catherine Lunven, Janine Lorrain, Jean-Pascal Herault, Paul Schaeffer, Stephen E. O'Connor and Jean-Marc Herbert

SSR182289A **1** is the result of a rational optimisation process leading to an orally active thrombin inhibitor. The structure incorporates an original 2-(acetylamino)-[1,1'-biphenyl]-3-sulfonyl N-terminal motif, a central L-Arg surrogate carrying a weakly basic 3-amino-pyridine, and an unusual 4-difluoropiperidine at the C-terminus. The observed in vitro potency could be rationalized through the examination of the interactions within the SSR182289A **1** - thrombin crystal structure.



### QSAR study on tadpole narcosis using PI index: a case of heterogenous set of compounds

pp 1731–1736

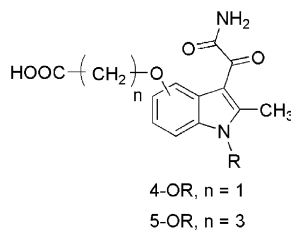
Mona Jaiswal and Padmakar Khadikar\*

QSAR study on tadpole narcosis of heterogenous set of compounds has been carried out using a large set of distance-based topological indices, including logP as molecular descriptors. Excellent results are obtained in biparametric regression models. It was found that PI index, is superior to  $^0\chi$ ,  $^2\chi$  and logP indices for modeling tadpole narcosis.

### Inhibition of the complete set of mammalian secreted phospholipases A<sub>2</sub> by indole analogues: a structure-guided study

pp 1737–1749

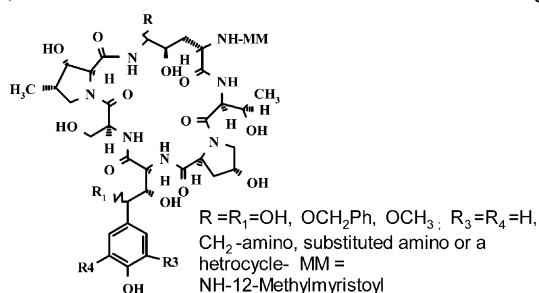
Brian P. Smart, Ying H. Pan, Amanda K. Weeks, James G. Bollinger, Brian J. Bahnson\* and Michael H. Gelb\*



**Mannich reaction: an approach for the synthesis of water soluble mulundocandin analogues**

pp 1751–1768

Bansi Lal,\* Vitthal Genbhau Gund, Nandu Baban Bhise and Ashok Kumar Gangopadhyay

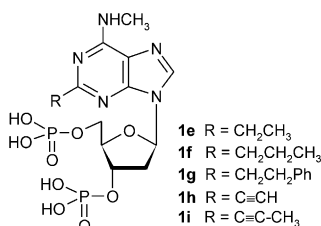


Mannich bases of Mulundocandin as antifungals are synthesized.

**Synthesis and biological activity of 2-alkylated deoxyadenosine bisphosphate derivatives as P2Y<sub>1</sub> receptor antagonists**

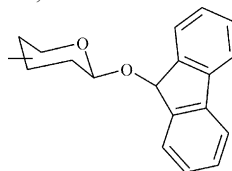
pp 1769–1779

Romain Mathieu, Anthony Baurand, Martine Schmitt, Christian Gachet and Jean-Jacques Bourguignon\*

2-Alkylated deoxyadenosine nucleotides **1e–i** were synthesized and tested as P2Y<sub>1</sub> receptor antagonists and inhibitors of platelet functions.**Design and synthesis of DNA-intercalating 9-fluoren-β-O-glycosides as potential IFN-inducers, and antiviral and cytostatic agents**

pp 1781–1791

S. Alcaro, A. Arena, S. Neri, R. Ottanà, F. Ortuso, B. Pavone and M. G. Vigorita\*



Novel 9-fluoren-β-O-glycosides, designed as DNA-intercalating agents in structural correlation with antiviral tilorone and anticancer anthracyclines, have been prepared, then screened for antiproliferative, immunostimulating and antiviral properties against HSV-1 and HSV-2 viruses. Compounds displaying significant antiviral activity against HSV-2 are acetylated **1** and deprotected **6** 9-fluorenyl-O-D-arabinopyranoses, whereas 9-fluorenyl-O-D-glucopyranose **3** is the most effective on HSV-1 replication, followed by **1** and **6**. The conformational properties of these compounds have been evaluated by molecular modelling techniques.

**QSAR study on <sup>13</sup>C NMR chemical shifts on carbinol carbon atoms**

pp 1793–1798

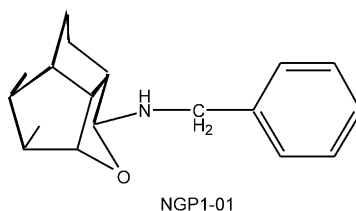
Mona Jaiswal and Padmakar Khadikar\*

QSAR calculations of <sup>13</sup>C NMR chemical shifts (ppm, TMS = 0) on carbinol carbon atoms have been attempted using a large set of distance based topological indices: Wiener (W)-, Szeged (Sz)-, PI (Padmakar-Ivan) and Connectivity (<sup>m</sup>χ, <sup>m</sup>χ<sup>v</sup>) indices. The regression analysis has shown that excellent results are obtained in multiparametric regression. The predictive power of the proposed models are discussed using cross-validated parameters.

**Synthesis and biological evaluation of pentacyclo[5.4.0.0<sup>2,6</sup>.0<sup>3,10</sup>.0<sup>5,9</sup>]undecane derivatives as potential therapeutic agents in Parkinson's disease**

pp 1799–1806

Werner J. Geldenhuys, Sarel F. Malan, Thangaraju Murugesan, Cornelis J. Van der Schyf and Jeffrey R. Bloomquist\*

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Bioorganic &amp; Medicinal Chemistry Reviews

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Instructions to contributors

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\*Corresponding author

 Supplementary data available via ScienceDirect**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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ISSN 0968-0896