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Bioorganic & Medicinal Chemistry

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Bioorganic & Medicinal Chemistry Vol. 17, No. 4, 2009

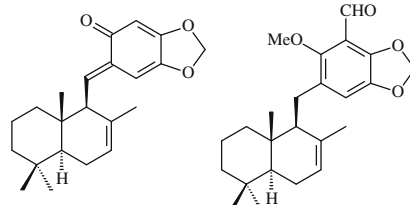
Contents

ARTICLES

Synthesis and pharmacological activities of some sesquiterpene quinones and hydroquinones

pp 1422–1427

Thorsten Laube, Andreas Bernet, Hans-Martin Dahse, Ilse D. Jacobsen, Karlheinz Seifert*



sesquiterpene quinone

protected siphonodictyal C

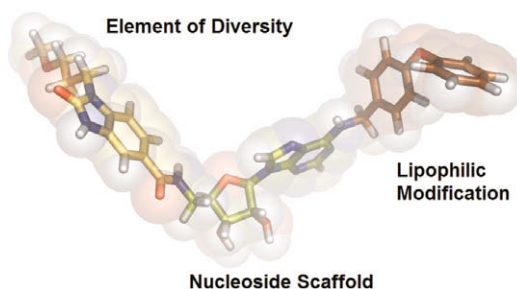
Synthesis of protected siphonodictyal C was achieved via drim-7-en-11-al.

Some sesquiterpene quinones and hydroquinones were tested for their pharmacological activities in assays in search of antiproliferative, cytotoxic, antiphlogistic, antirheumatic and anti-inflammatory drugs.

Inhibitors of adenosine consuming parasites through polymer-assisted solution phase synthesis of lipophilic 5'-amido-5'-deoxyadenosine derivatives

pp 1428–1436

Philipp Heidler, Vida Zohrabi-Kalantari, Marcel Kaiser, Reto Brun, Thomas Emmrich, Andreas Link*

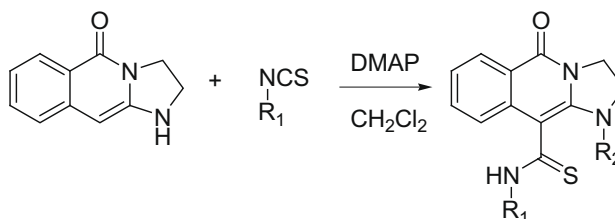


Nucleoside Scaffold

New potent imidazoisquinolinone derivatives as anti-*Trypanosoma cruzi* agents: Biological evaluation and structure–activity relationships

pp 1437–1444

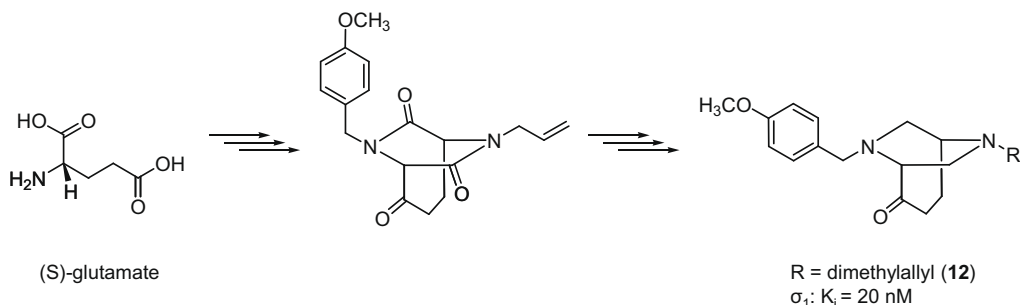
Mariela Bollini, Juan José Casal, Diego E. Alvarez, Lucía Boiani, Mercedes González, Hugo Cerecetto, Ana María Bruno*



Relationships between the structure of 6-substituted 6,8-diazabicyclo[3.2.2]nonan-2-ones and their σ receptor affinity and cytotoxic activity

pp 1445–1455

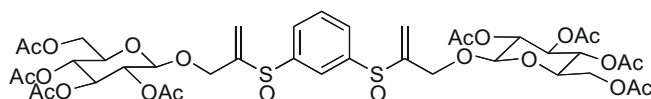
Ralph Holl, Dirk Schepmann, Patrick J. Bednarski, Renate Grünert, Bernhard Wünsch*



Synthesis and biological testing of thioalkane- and thioarene-spaced bis- β -D-glucopyranosides

pp 1456–1463

Maria C. Aversa, Anna Barattucci, Paola Bonaccorsi*, Francesca Marino-Merlo, Antonio Mastino, Maria T. Sciortino

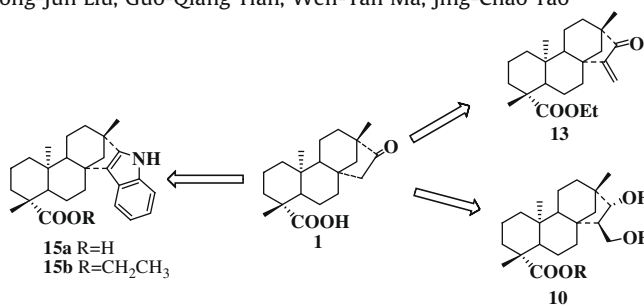


A series of thio-bis- β -D-glucopyranosides containing alkane or arene spacers of different length and flexibility have been synthesized. The relationship between their molecular structure and biological response has been investigated. Product shown above proved to be a good inducer of cell death by apoptosis.

Stereoselective synthesis of bioactive isosteviol derivatives as α -glucosidase inhibitors

pp 1464–1473

Ya Wu, Jing-Hua Yang, Gui-Fu Dai, Cong-Jun Liu, Guo-Qiang Tian, Wen-Yan Ma, Jing-Chao Tao*



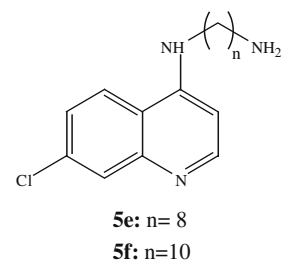
A novel series of isosteviol derivatives were designed and prepared. Within all compounds, **15b** (IC_{50} = 68.2 μ M) showed the most potent inhibitory activities against α -glucosidase.

Synthesis and in vitro antitubercular activity of a series of quinoline derivatives

pp 1474–1480

Marcus V. N. de Souza*, Karla C. Pais, Carlos R. Kaiser, Mônica A. Peralta, Marcelle de L. Ferreira, Maria C. S. Lourenço

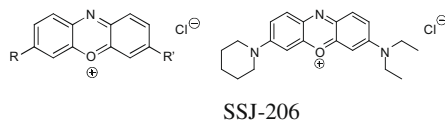
A series of 33 quinoline derivatives have been synthesized and evaluated for their in vitro antibacterial activity against *Mycobacterium tuberculosis* H₃₇Rv using the Alamar Blue susceptibility test and the activity expressed as the minimum inhibitory concentration (MIC) in μ g/mL. Compounds **5e** and **5f** exhibited a significant activity at 6.25 and 3.12 μ g/mL, respectively, when compared with first line drugs such as ethambutol and could be a good starting point to develop new lead compounds in the fight against multi-drug resistant tuberculosis.



Pharmacodynamics and pharmacokinetics studies of phenoxazinium derivatives for antimalarial agent

pp 1481–1485

Mei Yang, Jian-Feng Ge, Chika Arai, Isamu Itoh, Qiang Fu, Masataka Ihara *

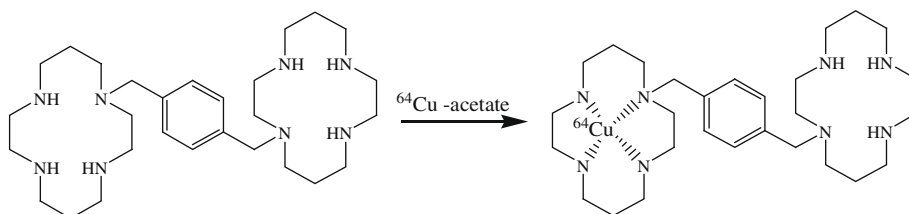


Pharmacodynamics and pharmacokinetics studies were carried out on a series of phenoxazinium derivatives as antimalarial agent.

⁶⁴Cu-AMD3100—A novel imaging agent for targeting chemokine receptor CXCR4

pp 1486–1493

Orit Jacobson, Ido D. Weiss, Lawrence Szajek, Joshua M. Farber, Dale O. Kiesewetter *

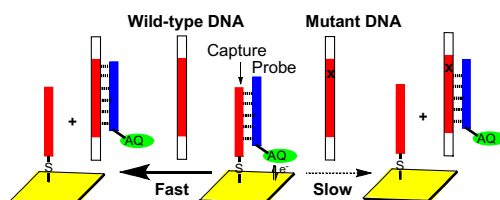


Incorporation of Cu-64 into AMD3100

Electronic detection of DNA mutation based on strand exchange reaction

pp 1494–1497

Mariko Watanabe, Satoshi Kumamoto, Mitsunobu Nakamaura, Kazushige Yamana *



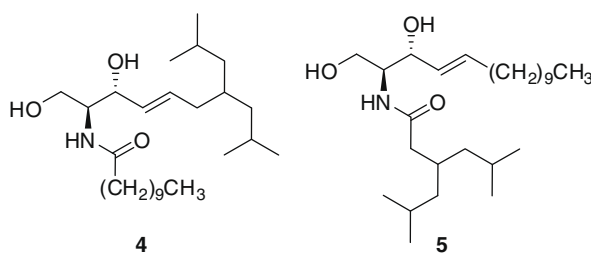
Electronic detection of DNA mutation based on DNA strand exchange reactions (SERs) is described.

The presence of a single base mismatch can be electrochemically determined from the slower SER rates compared with fully matched DNA.

**Ceramides: Branched alkyl chains in the sphingolipid siblings of diacylglycerol improve biological potency**

pp 1498–1505

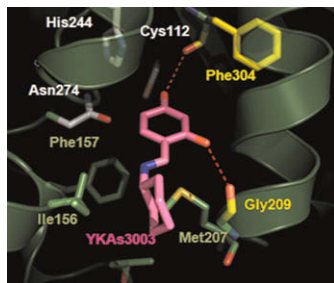
Ji-Hye Kang, Himanshu Garg, Dina M. Sigano, Nicholas Francella, Robert Blumenthal *, Victor E. Marquez *



Novel *E. coli* β -ketoacyl-acyl carrier protein synthase III inhibitors as targeted antibiotics

pp 1506–1513

Jee-Young Lee, Ki-Woong Jeong, Ju-Un Lee, Dong-Il Kang, Yangmee Kim*

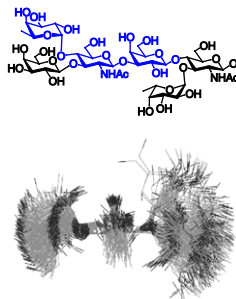


Here, we propose that 4-cyclohexyliminomethyl-benzene-1,3-diol (YKAs3003), is a potent inhibitor of pathogenic KAS III, displaying antibacterial activity against various bacteria.

The flexibility of the Le^aLe^x Tumor Associated Antigen central fragment studied by systematic and stochastic searches as well as dynamic simulations

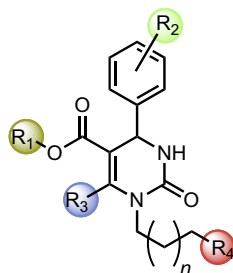
pp 1514–1526

Trudy A. Jackson, Valerie Robertson, Anne Imberty, France-Isabelle Auzanneau*

**Select pyrimidinones inhibit the propagation of the malarial parasite, *Plasmodium falciparum***

pp 1527–1533

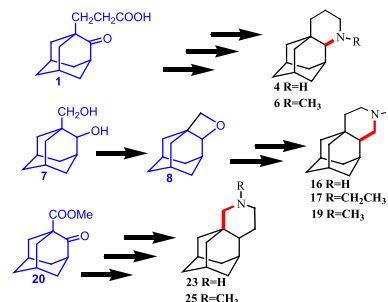
Annette N. Chiang, Juan-Carlos Valderramos, Raghavan Balachandran, Raj J. Chovatiya, Brian P. Mead, Corinne Schneider, Samantha L. Bell, Michael G. Klein, Donna M. Huryn, Xiaojiang S. Chen, Billy W. Day, David A. Fidock, Peter Wipf, Jeffrey L. Brodsky*

**Design and synthesis of 1,2-annulated adamantane piperidines with anti-influenza virus activity**

pp 1534–1541

Grigoris Zoidis, Nicolas Kolocouris*, Lieve Naesens, Erik De Clercq

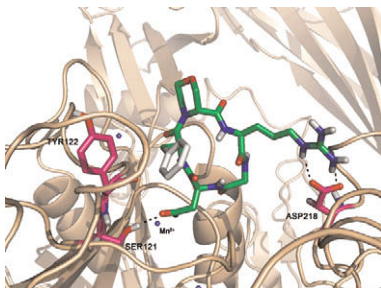
The prime target of this study was to examine the anti-influenza A virus activity of 1,2-annulated adamantane piperidines **4**, **6**, **16**, **17**, **19**, **23** and **25** and to correlate their potency to the size of the heterocyclic ring and the distance of the amine nitrogen atom from the adamantane skeleton.



Morpholine-based RGD-cyclopentapeptides as $\alpha_v\beta_3/\alpha_v\beta_5$ integrin ligands: Role of configuration towards receptor binding affinity

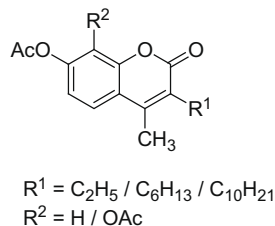
pp 1542–1549

Nicoletta Cini, Andrea Trabocchi, Gloria Menchi, Anna Bottoncetti, Silvia Raspanti, Alberto Pupi, Antonio Guarna*

**Specificities of Calreticulin Transacetylase to acetoxy derivatives of 3-alkyl-4-methylcoumarins: Effect on the activation of nitric oxide synthase**

pp 1550–1556

Abha Kathuria, Anjali Gupta, Nivedita Priya, Prabhjot Singh, Hanumantharao G. Raj, Ashok K. Prasad, Virinder S. Parmar, Sunil K. Sharma*

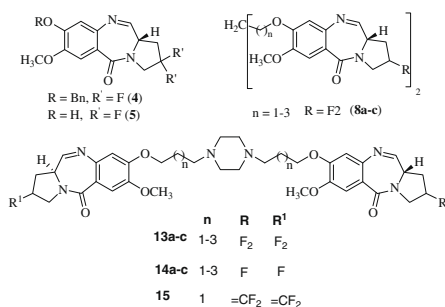


A series of 3-alkyl-4-methylcoumarins were synthesized. The effect of alkyl substitution at C-3 position of acetoxy coumarins were studied for antioxidant activities, that is, transacetylase and nitric oxide synthase.

Remarkable enhancement in the DNA-binding ability of C2-fluoro substituted pyrrolo[2,1-c][1,4]benzodiazepines and their anticancer potential

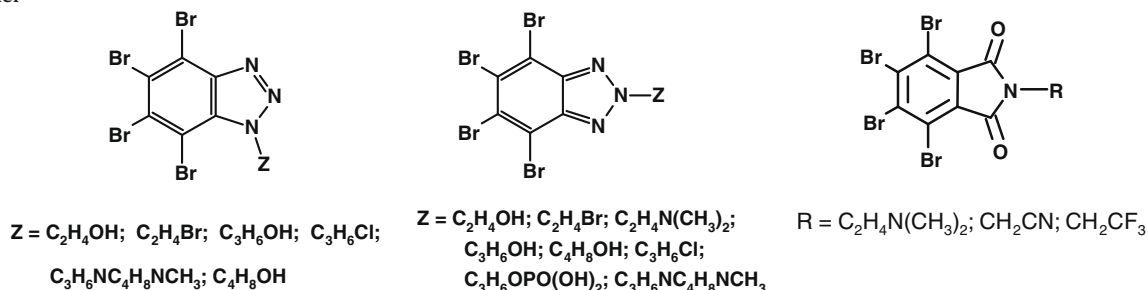
pp 1557–1572

Ahmed Kamal*, Rajender, D. Rajasekhar Reddy, M. Kashi Reddy, G. Balakishan, T. Basha Shaik, Mukesh Chourasia, G. Narahari Sastry

**Synthesis of new analogs of benzotriazole, benzimidazole and phthalimide—potential inhibitors of human protein kinase CK2**

pp 1573–1578

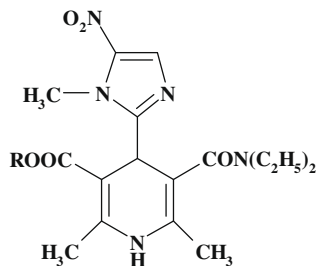
Andzelika Najda-Bernatowicz, Maja Łebska, Andrzej Orzeszko, Katarzyna Kopańska, Ewa Krzywińska, Grażyna Muszyńska, Maria Bretner*



Synthesis and biological evaluation of some new 1,4-dihydropyridines containing different ester substitute and diethyl carbamoyl group as anti-tubercular agents

pp 1579–1586

Mehdi Khoshneviszadeh, Najmeh Edraki, Katayoun Javidnia, Abdolvahab Alborzi, Bahman Pourabbas, Jalal Mardaneh, Ramin Miri*

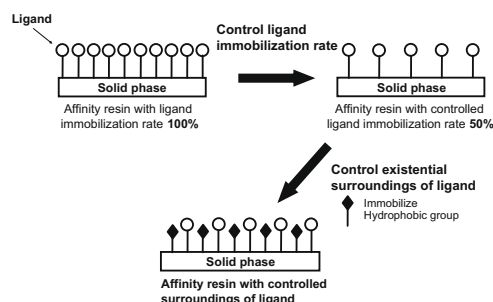


In this study, new derivatives of 1,4-dihydropyridines were synthesized by a modified Hantzsch reaction using procedure reported by Meyer. The in vitro anti-tubercular activity of compounds against *Mycobacterium tuberculosis* was evaluated.

Importance of surface properties of affinity resin for capturing a target protein, Cyclooxygenase-1

pp 1587–1599

Tomoko Mori*, Takuya Kubo, Kunimitsu Kaya, Ken Hosoya*

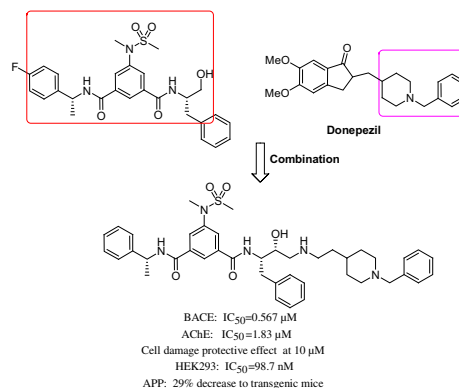


Design, synthesis and biological evaluation of novel dual inhibitors of acetylcholinesterase and β -secretase

pp 1600–1613

Yiping Zhu, Kun Xiao, Lanping Ma, Bin Xiong, Yan Fu, Haiping Yu, Wei Wang, Xin Wang, Dingyu Hu, Hongli Peng, Jingya Li, Qi Gong, Qian Chai, Xican Tang, Haiyan Zhang*, Jia Li*, Jingkang Shen*

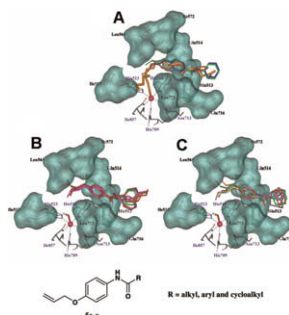
Novel dual inhibitors of acetylcholinesterase and β -secretase were design, synthesis and biological evaluation. Among them, compound **28** exhibited good dual potency in enzyme inhibitory potency assay (BACE-1: $IC_{50} = 0.567 \mu M$; AChE: $IC_{50} = 1.83 \mu M$), and also showed excellent inhibitory effects on $A\beta$ production of APP transfected HEK293 cells ($IC_{50} = 98.7 nM$) and mild protective effect against hydrogen peroxide (H_2O_2)-induced PC12 cell injury. Encouragingly, intracerebroventricular injection of **28** into amyloid precursor protein (APP) transgenic mice caused a 29% reduction of $A\beta_{1-40}$ production.



Design, synthesis and SAR studies of 4-allyloxyaniline amides as potent 15-lipoxygenase inhibitors

pp 1614–1622

Seyed Mohammad Seyedi*, Zeinab Jafari, Neda Attaran, Hamid Sadeghian, Mohammad Reza Saberi, Mohammad Mahdi Riazi

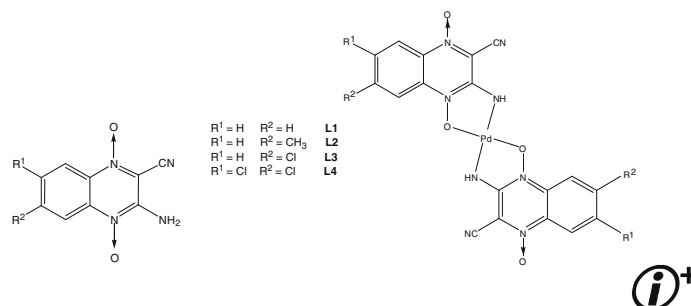


Cytotoxic palladium complexes of bioelective quinoxaline N^1,N^4 -dioxide prodrugs

pp 1623–1629

Carolina Urquiola, Marisol Vieites, María H. Torre, Mauricio Cabrera, María Laura Lavaggi, Hugo Cerecetto, Mercedes González, Adela López de Cerain, Antonio Monge, Pablo Smircich, Beatriz Garat, Dinorah Gambino *

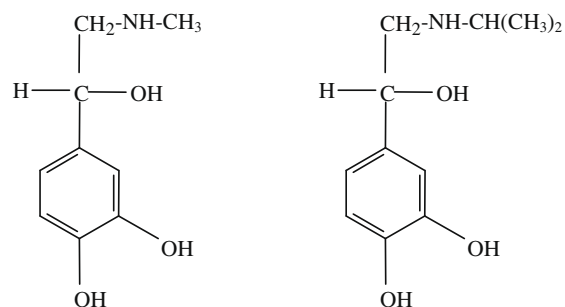
Four new palladium complexes with quinoxaline dioxide hypoxia selective cytotoxins were synthesized. Pd(L3)₂ resulted in vitro more potent cytotoxin in hypoxia ($P = 5.0 \mu\text{M}$) than the corresponding free ligand ($P = 9.0 \mu\text{M}$) and Tirapazamine ($P = 30.0 \mu\text{M}$) and showed a very good selective cytotoxicity in hypoxic conditions, being non cytotoxic in normoxia.

**Interaction study of bioactive molecules with fibrinogen and human platelets determined by ^1H NMR relaxation experiments**

pp 1630–1635

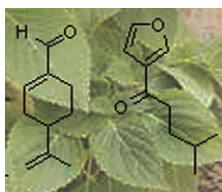
Claudia Bonechi *, Silvia Martini, Claudio Rossi

The main purpose of this study is to investigate the interaction processes occurring between isoproterenol and fibrinogen and compare the results to those obtained using epinephrine as a ligand. The second objective was to extend this approach to more complex biological systems, that is, human platelets.

**Taste-guided identification of high potency TRPA1 agonists from *Perilla frutescens***

pp 1636–1639

Angela Bassoli *, Gigliola Borghonovo, Sara Caimi, Leonardo Scaglioni, Gabriella Morini, Aniello Schiano Moriello, Vincenzo Di Marzo, Luciano De Petrocellis

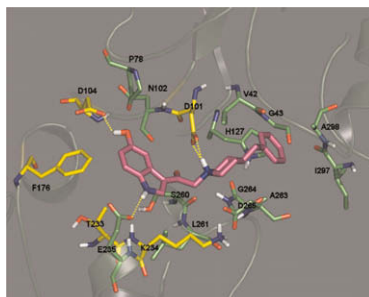


High potency TRPA1 active compounds have been identified in Korean kaennip (*Perilla frutescens*); these compounds are responsible for the interesting chemesthetic properties of this food plant.

Development of 3-substituted-1*H*-indole derivatives as NR2B/NMDA receptor antagonists

pp 1640–1647

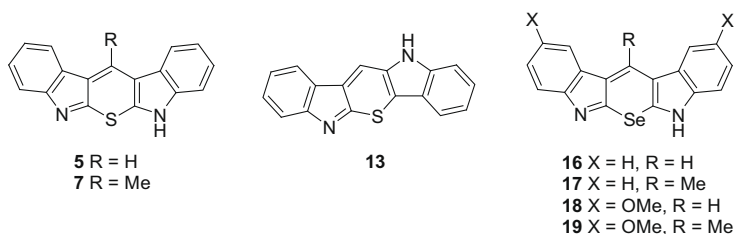
Rosaria Gitto *, Laura De Luca, Stefania Ferro, Rita Citraro, Giovambattista De Sarro, Lara Costa, Lucia Ciranna, Alba Chimirri



Synthesis and biological evaluation of fused thio- and selenopyrans as new indolocarbazole analogues with aryl hydrocarbon receptor affinity

pp 1648–1653

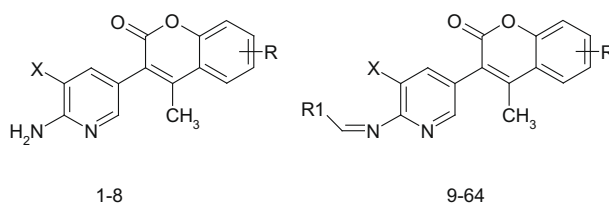
Emma Wincent, Hamid Shirani, Jan Bergman, Ulf Rannug*, Tomasz Janosik*



Application quantum and physico chemical molecular descriptors utilizing principal components to study mode of anticoagulant activity of pyridyl chromen-2-one derivatives

pp 1654–1662

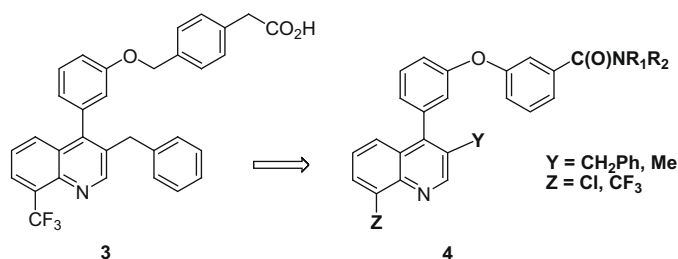
M. S. Bhatia*, K. B. Ingale, P. B. Choudhari, N. M. Bhatia, R. L. Sawant



Biarylether amide quinolines as liver X receptor agonists

pp 1663–1670

Ronald C. Bernotas*, Robert R. Singhaus, David H. Kaufman, John Ullrich, Horace Fletcher III, Elaine Quinet, Ponnal Nambi, Rayomand Unwalla, Anna Wilhelmsson, Annika Goos-Nilsson, Mathias Farnegardh, Jay Wrobel

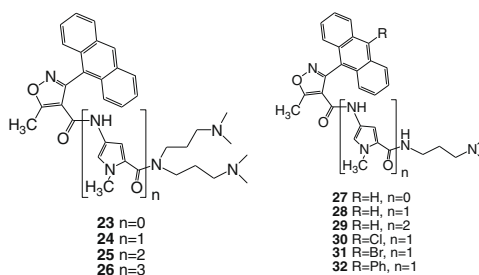
A series of biarylether amide quinolines (**4**) was prepared as LXR agonists.

Design, synthesis and biological evaluation of a novel class of anticancer agents: Anthracenylisoxazole lexitropsin conjugates

pp 1671–1680

Xiaochun Han, Chun Li, Michael D. Mosher, Kevin C. Rider, Peiwen Zhou, Ronald L. Crawford, William Fusco, Andrzej Paszczynski, Nicholas R. Natale*

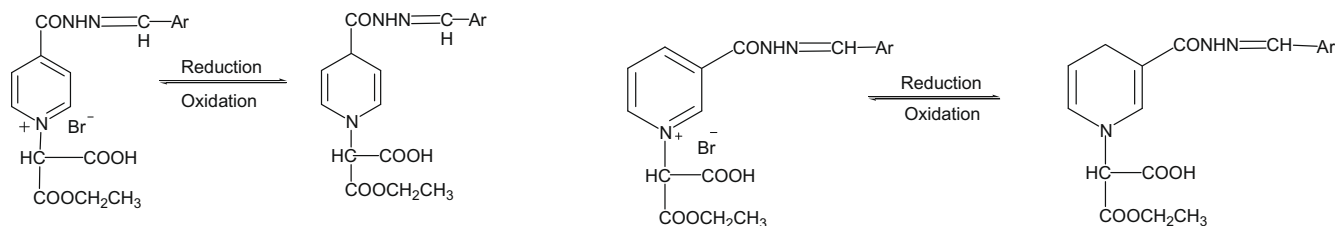
A lanthanide catalyzed modification of Weinreb's amidation was employed to prepare a series of sterically encumbered Aryl Isoxazolyl aMides (AIMs) (While not a strict acronym, the designation AIM is in honor of the memory of Professor Albert I. Meyers.), and the structure activity relationship for anticancer activity surveyed. The mean GI₅₀ against the NCI60 cell line panel for the length of the oligopyrrole moiety (n = the number of pyrroles) was observed as $1 > 0 \gg 2 > 3$ for the bis-dimethylaminopropyl series **23–26** and $1 > 2 \gg 0$ for the mono-dimethylaminopropyl series (**27–29**); and for the anthracenyl C(10) position was $\text{Ph} \approx \text{Cl} \gg \text{H} > \text{Br}$ (**28, 30–32**). Based upon preliminary experiments, a structural argument is advanced suggesting that the preliminary experiments toward understanding the Mechanism of action are more consistent with G4 stabilization than B-DNA intercalation.



1-Malonyl-1,4-dihydropyridine as a novel carrier for specific delivery of drugs to the brain

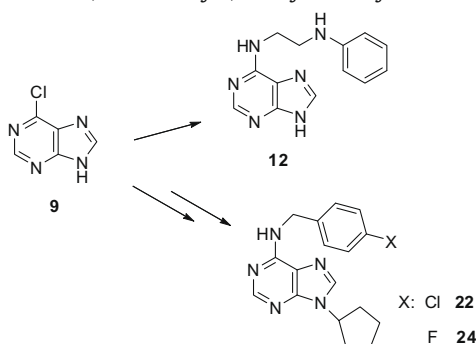
pp 1681–1692

Heba A. Hassan, Mohamed Abdel-Aziz*, Gamal El-Din A. A. Abuo-Rahma, Hassan H. Farag

**Synthesis and antimicrobial evaluation of some new substituted purine derivatives**

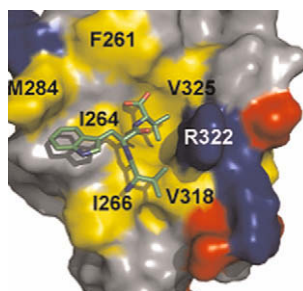
pp 1693–1700

Meral Tunçbilek*, Zeynep Ateş-Alagöz, Nurten Altanlar, Arzu Karayel, Süheyla Özbey

**Identification of tripeptides recognized by the PDZ domain of Dishevelled**

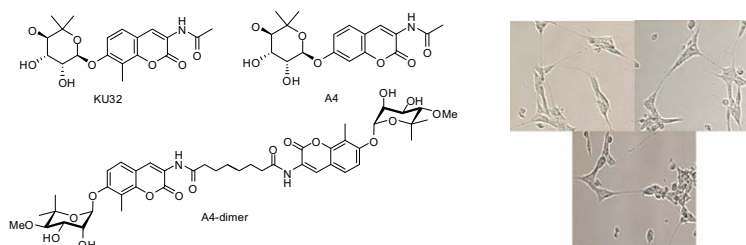
pp 1701–1708

Ho-Jin Lee, Nick X. Wang, Youming Shao, Jie J. Zheng*

**Neuroprotective activity and evaluation of Hsp90 inhibitors in an immortalized neuronal cell line**

pp 1709–1715

Yuanming Lu, Sabah Ansar, Mary L. Michaelis, Brian S. J. Blagg*

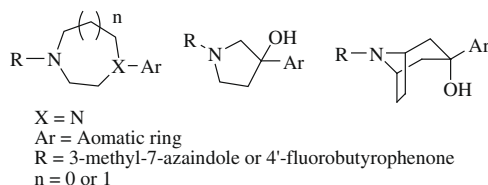


A series of novobiocin analogues, including A4, A4-dimer and KU32 from our laboratory, along with several other previously identified Hsp90 natural product inhibitors, were evaluated their ability to protect neuronal cells against A β -induced toxicity utilizing an LDH activity assay developed for high-throughput screening.

Synthesis and evaluation of ligands for D₂-like receptors: The role of common pharmacophoric groups

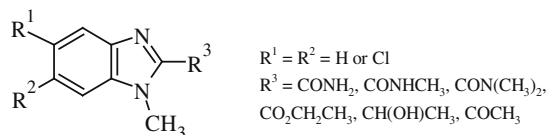
pp 1716–1723

Donald M. N. Sikazwe, Nancy T. Nkansah, Ramazan Altundas, Xue Y. Zhu, Bryan L. Roth, Vincent Setola, Seth Y. Ablordeppey*

**Synthesis and antiprotozoal activity of novel 1-methylbenzimidazole derivatives**

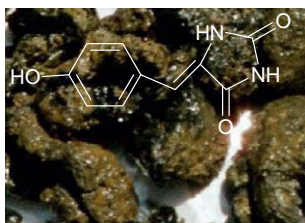
pp 1724–1730

David Valdez-Padilla, Sergio Rodríguez-Morales, Alicia Hernández-Campos, Francisco Hernández-Luis, Lilián Yépez-Mulia, Amparo Tapia-Contreras, Rafael Castillo*

**Discovery, design, and synthesis of anti-metastatic lead phenylmethylen hydantoins inspired by marine natural products**

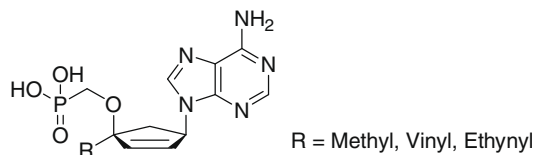
pp 1731–1738

Mudit Mudit, Mohammad Khanfar, Anbalagan Muralidharan, Shibu Thomas, Girish V. Shah, Rob W. M. van Soest, Khalid A. El Sayed*

**Design, synthesis, and anti-HIV activity of 4'-modified carbocyclic nucleoside phosphonate reverse transcriptase inhibitors**

pp 1739–1746

Constantine G. Booramra*, Jay P. Parrish, David Sperandio, Ying Gao, Oleg V. Petrakovsky, Sharon K. Lee, David Y. Markevitch, Jennifer E. Vela, Genevieve Laflamme, James M. Chen, Adrian S. Ray, Abraham C. Barron, Mark L. Sparacino, Manoj C. Desai, Choung U. Kim, Tomas Cihlar, Richard L. Mackman



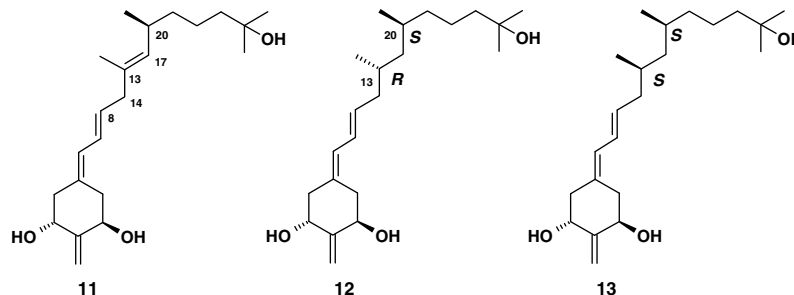
A series of 4'-modified carbocyclic nucleoside phosphonates were synthesized and found to be potent submicromolar inhibitors of HIV reverse transcriptase.



13-Methyl-substituted *des*-C,D analogs of (20S)-1 α ,25-dihydroxy-2-methylene-19-norvitamin D₃ (2MD): Synthesis and biological evaluation

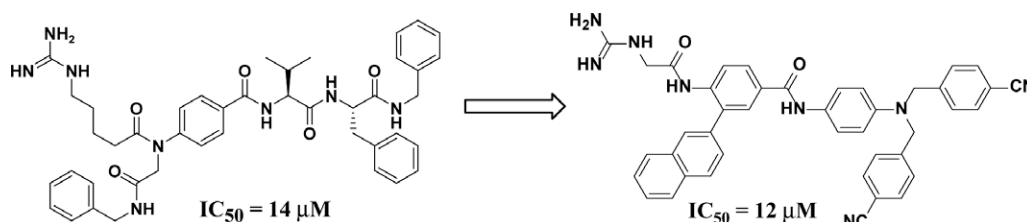
pp 1747–1763

Katarzyna Plonska-Ocypa, Rafal R. Sicinski, Lori A. Plum, Pawel Grzywacz, Jadwiga Frelek, Margaret Clagett-Dame, Hector F. DeLuca*

**Non-peptidic substrate-mimetic inhibitors of Akt as potential anti-cancer agents**

pp 1764–1771

Katherine J. Kayser-Bricker, Matthew P. Glenn, Sang Hoon Lee, Said M. Sebt, Jin Q. Cheng, Andrew D. Hamilton*



A substrate-mimetics approach is taken towards the development of peptidic and non-peptidic inhibitors of Akt (protein kinase B/PKB).

**OTHER CONTENTS****Erratum**

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Instructions to contributors

p I

*Corresponding author

Supplementary data available via ScienceDirect

COVER

An insight into biologically relevant chemical space showing the scaffolds of potential natural-product based inhibitors orbiting their target, the protein structure of protein 11-beta steroid dehydrogenase (PDB code 1xu7). Graphic produced using Pymol (<http://www.pymol.org>). [M. A. Koch, A. Schuffenhauer, M. Scheck, S. Wetzel, M. Casaulta, A. Odermatt, P. Ertl, H. Waldmann, Charting biologically relevant chemical space: A structural classification of natural products (SCONP), *PNAS* **2005**, 102, 17272–17277 and S. Wetzel, H. Waldmann, Cheminformatic analysis of natural products and their chemical space, *Chimia* **2007**, 61(6), 355–360].

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ISSN 0968-0896