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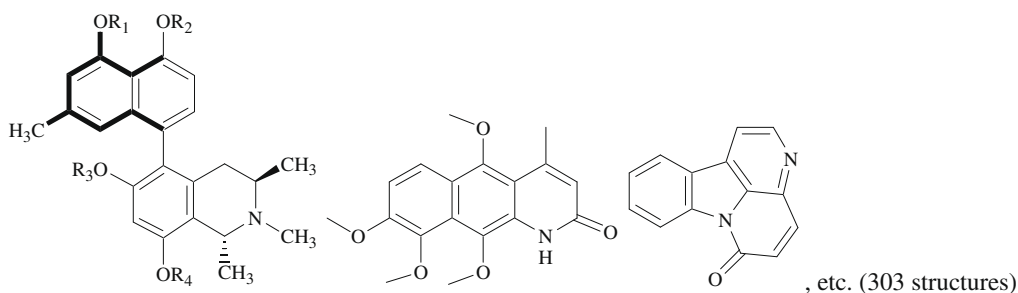
Contents

REVIEW

Antimalarials from nature

pp 3229–3256

Kirandeep Kaur, Meenakshi Jain, Tarandeep Kaur, Rahul Jain *

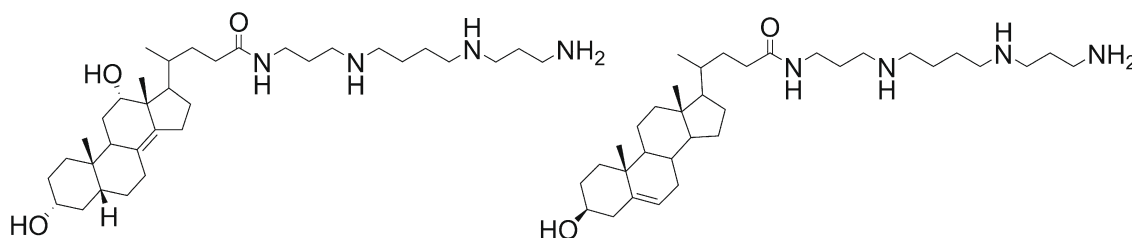


ARTICLES

A series of cationic sterol lipids with gene transfer and bactericidal activity

pp 3257–3265

R. A. S. Randazzo, R. Bucki, P. A. Janmey, S. L. Diamond *



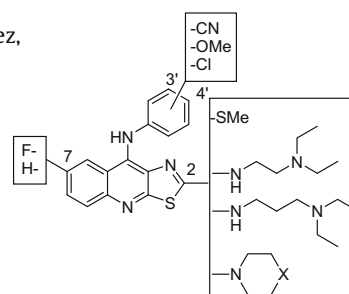
A family of cationic lipids was synthesized and evaluated as plasmid transfection reagents and antibacterials. Double bond incorporation in the sterol moiety significantly enhanced transfection efficiency but not bactericidal activity.

Synthesis, cytotoxic activity, DNA topoisomerase-II inhibition, molecular modeling and structure–activity relationship of 9-anilinothiazolo[5,4-*b*]quinoline derivatives

pp 3266–3277

Marco A. Loza-Mejía, Susana Olvera-Vázquez, Karina Maldonado-Hernández, Teresita Guadarrama-Salgado, Ignacio González-Sánchez, Fernando Rodríguez-Hernández, José D. Solano, Rogelio Rodríguez-Sotres, Alfonso Lira-Rocha *

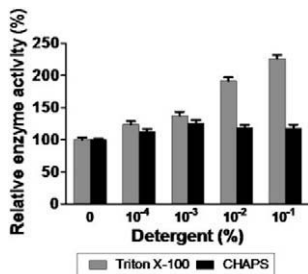
Different substituents were attached to the tricyclic nucleus of 9-anilinothiazolo[5,4-*b*]quinoline. The ability to pass through biological membranes and the nature of substituents at the aniline ring are important factors for cytotoxic activity.



Effects of detergents on the West Nile virus protease activity

pp 3278–3282

Manolya D. Ezgimen, Niklaus H. Mueller, Tadahisa Teramoto, R. Padmanabhan *

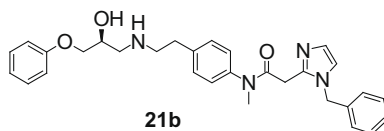


Triton X-100, used to identify non-specific inhibitors in high throughput screens, enhances WNV protease activity and reverses inhibition of a lead compound. However, CHAPS is an excellent substitute.

Synthesis and evaluation of novel phenoxypropanolamine derivatives containing acetanilides as potent and selective β_3 -adrenergic receptor agonists

pp 3283–3294

Tatsuya Maruyama *, Kenichi Onda, Masahiko Hayakawa, Norio Seki, Takumi Takahashi, Hiroyuki Moritomo, Takayuki Suzuki, Tetsuo Matsui, Toshiyuki Takasu, Itsuro Nagase, Mitsuaki Ohta

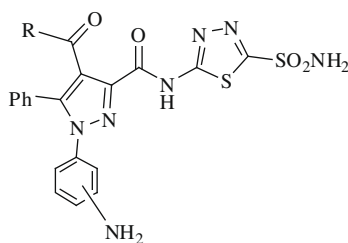


Among a novel series of phenoxypropanolamine derivatives containing acetanilide synthesized and evaluated for agonistic activities at the human β -ARs, compound **21b** was found to be the most potent and selective β_3 -AR agonist.

Effects of new 5-amino-1,3,4-thiadiazole-2-sulfonamide derivatives on human carbonic anhydrase isozymes

pp 3295–3301

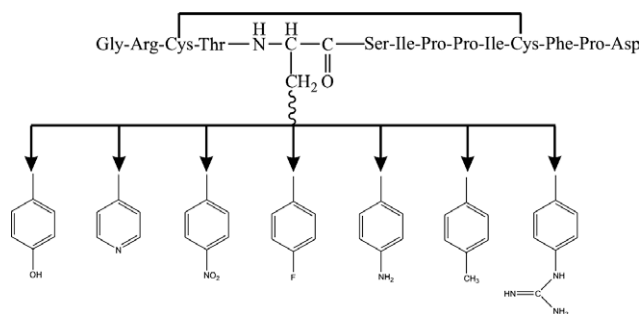
Rahmi Kasımoğulları *, Metin Bülbül, Hatice Günhan, Hülya Gülerüz



Introduction of non-natural amino acid residues into the substrate-specific P₁ position of trypsin inhibitor SFTI-1 yields potent chymotrypsin and cathepsin G inhibitors

pp 3302–3307

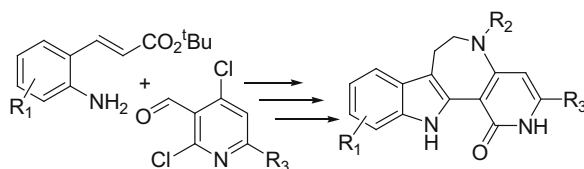
Anna Łęgowska *, Dawid Dębowski, Adam Lesner, Magdalena Wysocka, Krzysztof Rolka



Design and synthesis of a novel tyrosine kinase inhibitor template

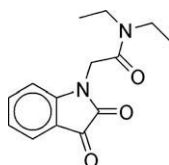
pp 3308–3316

P. Jake Slavish, Qin Jiang, Xiaoli Cui, Stephan W. Morris, Thomas R. Webb *

**Identification of inhibitors of *N*⁵-carboxyaminoimidazole ribonucleotide synthetase by high-throughput screening**

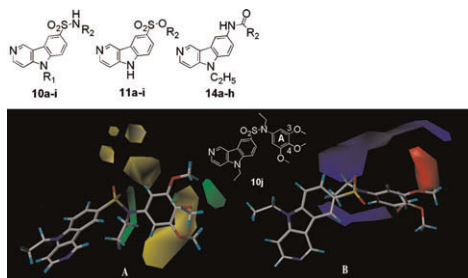
pp 3317–3323

Steven M. Firestone *, Hanumantharao Paritala, Jane E. McDonnell, James B. Thoden, Hazel M. Holden

**Design, synthesis, and quantitative structure–activity relationship of cytotoxic γ -carboline derivatives**

pp 3324–3331

Jing Chen, Xiaowu Dong, Tao Liu, Jianshu Lou, Chaoyi Jiang, Wenhai Huang, Qiaojun He, Bo Yang, Yongzhou Hu *

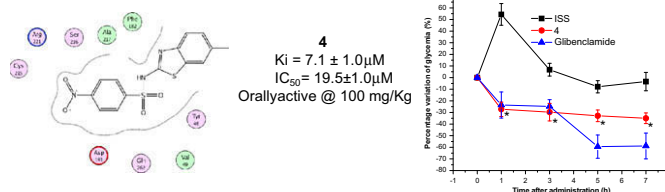


Three series of γ -carboline derivatives were designed, synthesized and tested for their cytotoxic activities in vitro against several human tumor cell lines. CoMFA analysis was carried out, and a statistically reliable QSAR model ($r^2 = 0.936$, $q^2 = 0.581$) was established.

Synthesis, in vitro and computational studies of protein tyrosine phosphatase 1B inhibition of a small library of 2-arylsulfonylaminobenzothiazoles with antihyperglycemic activity

pp 3332–3341

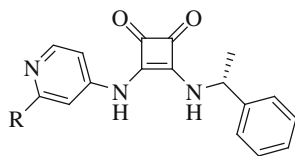
Gabriel Navarrete-Vazquez *, Paolo Paoli *, Ismael León-Rivera, Rafael Villalobos-Molina, Jose Luis Medina-Franco, Rolffy Ortiz-Andrade, Samuel Estrada-Soto, Guido Camici, Daniel Diaz-Coutiño, Itzell Gallardo-Ortiz, Karina Martinez-Mayorga, Hermenegilda Moreno-Díaz



Compound **4** was found as inhibitor against PTP-1B, acting as rapid reversible (mixed-type) inhibitor. Docking results indicate potential hydrogen bond interactions between the nitro group and the catalytic amino acid residues Arg 221 and Ser 216. In a T2DM rat model, **4** shown significant lowering of plasma glucose concentration.

Identification and SAR of squarate inhibitors of mitogen activated protein kinase-activated protein kinase 2 (MK-2) pp 3342–3351

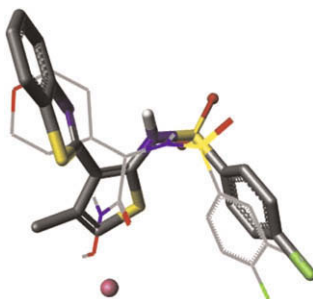
Frank Lovering*, Steve Kirincich, Weiheng Wang, Kerry Combs, Lynn Resnick, Joan E. Sabalski, John Butera, Julie Liu, Kevin Parris, J. B. Telliez



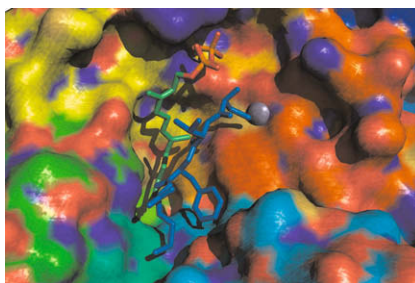
A novel series of inhibitors for mitogen activated protein kinase-activated protein kinase 2 (MK-2) are reported. An MK-2 co-structure was obtained and a structure based approach was followed to optimize potency and selectivity.

Structure–activity relationship studies of a novel series of anthrax lethal factor inhibitors pp 3352–3368

Sherida L. Johnson, Li-Hsing Chen, Elisa Barile, Aras Emdadi, Mojgan Sabet, Hongbin Yuan, Jun Wei, Donald Guiney, Maurizio Pellecchia*

**Molecular dynamics simulations on the critical states of the farnesyltransferase enzyme pp 3369–3378**

Sérgio Filipe Sousa, Pedro Alexandrino Fernandes, Maria João Ramos*



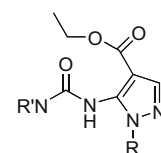
A dynamic portrait of the several stages on the catalytic mechanism of FTase is drawn integrating and complementing the most recent experimental and computational evidence on the field.

1-Methyl and 1-(2-hydroxyalkyl)-5-(3-alkyl/cycloalkyl/phenyl/naphthylureido)-1H-pyrazole-4-carboxylic acid ethyl esters as potent human neutrophil chemotaxis inhibitors pp 3379–3387

Olga Bruno*, Chiara Brullo, Francesco Bondavalli, Silvia Schenone, Susanna Spisani, Maria Sofia Falzarano, Katia Varani, Elisabetta Barocelli, Vigilio Ballabeni, Carmine Giorgio, Massimiliano Tognolini

Title compounds showed a very strong inhibition both in the fMLP-OME induced (IC_{50} in the range 0.19 nM–2 mM) and in IL8-induced (IC_{50} at pM concentration) neutrophil chemotaxis.

The 2-fluoro and 3-fluoroanilino derivatives showed anti-inflammatory activity in vivo, in the mouse model of zymosan-induced peritonitis.



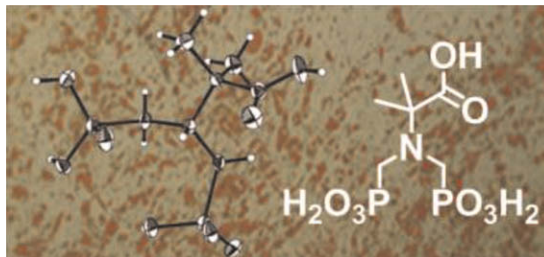
R = CH_3 , $CH_2CH(OH)CH_3$, $CH_2CH(OH)C_2H_5$,
 $CH_2CH(OH)C_3H_7$, $CH_2CH(OH)C_4H_9$

NR' = isopropylamino, benzylamino, N-benzylpiperazino
 (o,m,p)-anilino, α -naphthylamino

A one step/one pot synthesis of *N,N*-bis(phosphonomethyl)amino acids and their effects on adipogenic and osteogenic differentiation of human mesenchymal stem cells

pp 3388–3393

Johanna Kasser, Alexey A. Nazarov*, Christian G. Hartinger*, Brigitte Wdziekonski, Christian Dani, Maxim L. Kuznetsov, Vladimir B. Arion, Bernhard K. Keppler

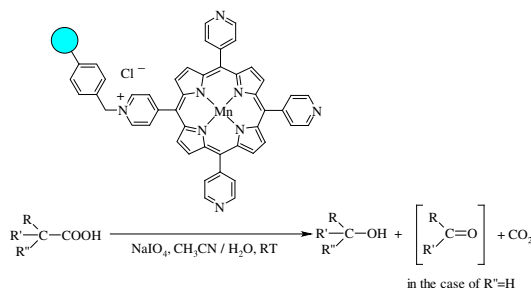


N,N-Bis(phosphonomethyl)amino acids were synthesized in a one step-one pot procedure. Biological studies on the effects on the adipogenic and the osteogenic differentiation of mesenchymal stem cells were performed.

Polystyrene-bound Mn(T4PyP): A highly efficient and reusable catalyst for biomimetic oxidative decarboxylation of carboxylic acids with sodium periodate

pp 3394–3398

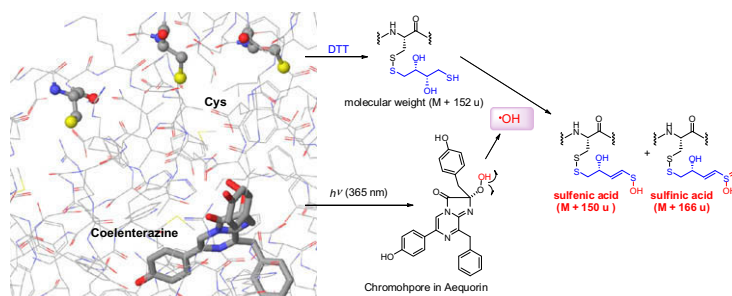
Majid Moghadam*, Shahram Tangestaninejad, Valiollah Mirkhani, Iraj Mohammadpoor-baltork, Narges Sirjanian, Somayeh Parand



Selective protein modification by the hydroperoxide intermediate in a photoprotein, aequorin

pp 3399–3404

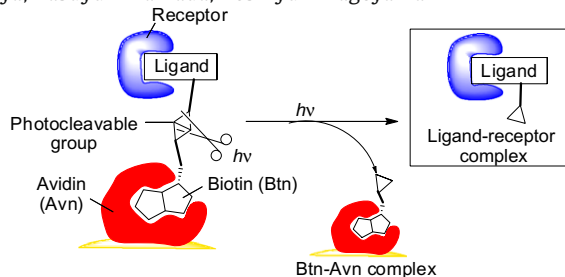
Issei Doi, Masaki Kuse, Toshio Nishikawa, Minoru Isobe*



Design and synthesis of a photocleavable biotin-linker for the photoisolation of ligand–receptor complexes based on the photolysis of 8-quinolinyl sulfonates in aqueous solution

pp 3405–3413

Shin Aoki*, Nanako Matsuo, Kengo Hanaya, Yasuyuki Yamada, Yoshiyuki Kageyama

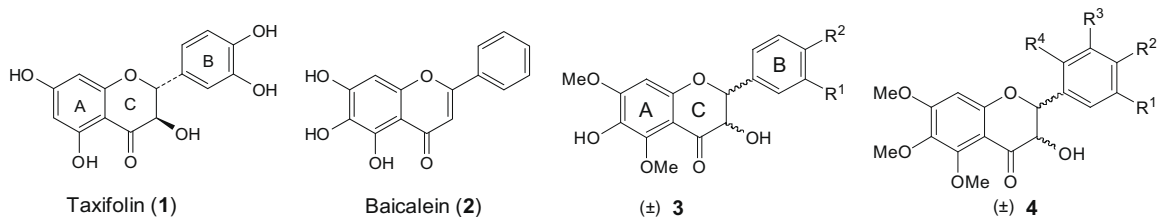


The design and synthesis of a biotinylated dopamine containing a new photolabile 8-quinolinyl benzenesulfonate linker are reported. The photorelease of a dopamine–anti-dopamine antibody complex will be presented, as confirmed by ELISA and Western blot.



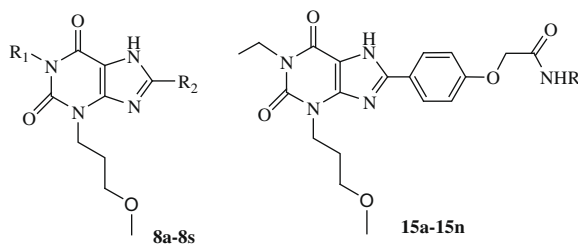
Preparation of two sets of 5,6,7-trioxygenated dihydroflavonol derivatives as free radical scavengers and neuronal cell protectors to oxidative damage pp 3414–3425

Jingxu Gong, Kexin Huang, Feng Wang, Leixiang Yang, Yubing Feng, Haibo Li, Xiaokun Li*, Su Zeng, Xiumei Wu, Joachim Stöckigt, Yu Zhao*, Jia Qu



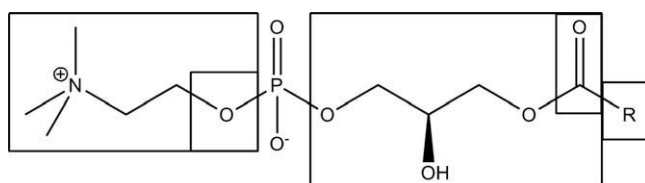
Synthesis of novel 1-alkyl-8-substituted-3-(3-methoxypropyl) xanthines as putative A_{2B} receptor antagonists pp 3426–3432

María Isabel Nieto, María Carmen Baló, José Brea, Olga Caamaño, María Isabel Cadavid, Franco Fernández*, Xerardo García Mera, Carmen López, José Enrique Rodríguez-Borges



Autotaxin structure–activity relationships revealed through lysophosphatidylcholine analogs pp 3433–3442

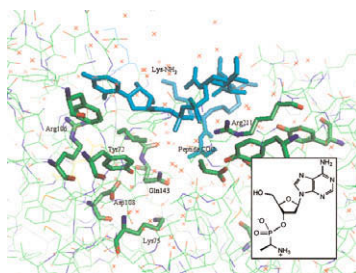
E. Jeffrey North, Daniel A. Osborne, Peter K. Bridson, Daniel L. Baker*, Abby L. Parrill*



Lysophosphatidylcholine analogs were synthesized and evaluated for autotaxin substrate recognition. The boxed functional groups were modified to investigate the structure–activity relationship of autotaxin substrates.

Inhibition of tRNA-dependent ligase MurM from *Streptococcus pneumoniae* by phosphonate and sulfonamide inhibitors pp 3443–3455

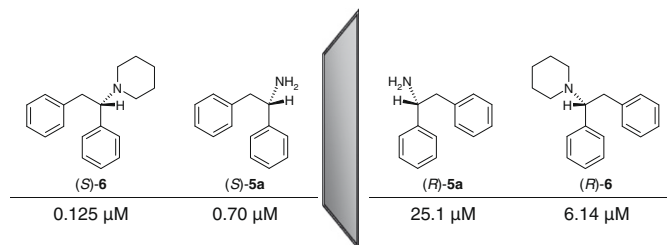
Elena Cressina, Adrian J. Lloyd, Gianfranco De Pascale, B. James Mok, Stephen Caddick, David I. Roper, Christopher G. Dowson, Timothy D. H. Bugg*



NMDA receptor affinities of 1,2-diphenylethylamine and 1-(1,2-diphenylethyl)piperidine enantiomers and of related compounds

pp 3456–3462

Michael L. Berger*, Anna Schweifer, Patrick Rebernik, Friedrich Hammerschmidt

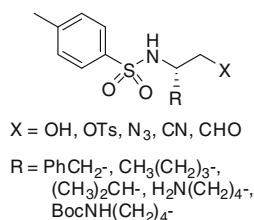


Open-chain analogues of the prominent NMDA channel blocker MK-801 exhibit a high degree of stereoselectivity, inhibiting the binding of [^3H]MK-801 to rat brain membranes (K_i).

Synthesis and biological evaluation of reversible inhibitors of IdeS, a bacterial cysteine protease and virulence determinant

pp 3463–3470

Kristina Berggren, Björn Johansson, Tomas Fex, Jan Kihlberg, Lars Björck, Kristina Luthman*

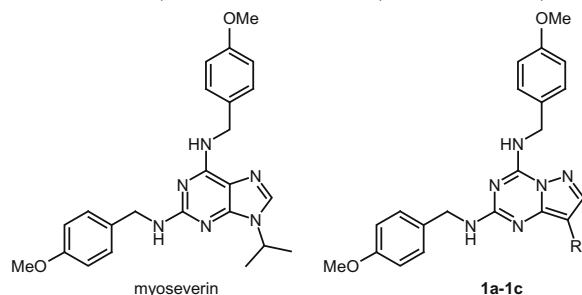


Potential inhibitors of the bacterial cysteine protease IdeS were synthesized and tested. Derivatives with azide, nitrile and aldehyde functionalities showed moderate to high inhibitory activity.

Synthesis and antiproliferative evaluation of pyrazolo[1,5-a]-1,3,5-triazine myoseverin derivatives

pp 3471–3478

Florence Popowycz, Cédric Schneider, Salvatore DeBonis, Dimitrios A. Skoufias, Frank Kozielski, Carlos M. Galmarini, Benoît Joseph*



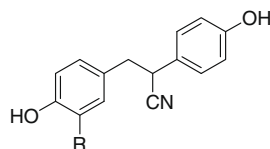
The pyrazolo[1,5-a]-1,3,5-triazine derivatives **1a–c** constitute a new series of tubulin inhibitors and displayed micromolar antiproliferative activities towards colorectal cancer cell lines.



Synthesis and evaluation of aryl-substituted diarylpropionitriles, selective ligands for estrogen receptor β , as positron-emission tomographic imaging agents

pp 3479–3488

Byung Seok Moon, Kathryn E. Carlson, John A. Katzenellenbogen, Tae Hyun Choi, Dae Yoon Chi, Jung Young Kim, Gi Jeong Cheon, Hun Yeong Koh, Kyo Chul Lee*, Gwangil An*

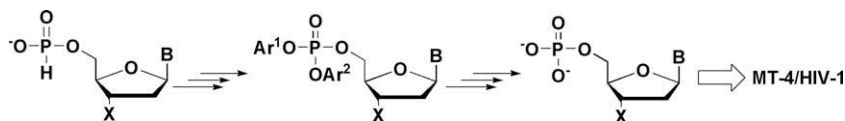


6d, R = F; RBA ER α = 0.023, ER β = 6.25, β/α = 272
11a, R = -(CH₂)₂F; RBA ER α = 0.024, ER β = 1.38, β/α = 58
11b, R = -(CH₂)₃F; RBA ER α = 0.020, ER β = 0.896, β/α = 45
13, R = I; RBA ER α = 0.021, ER β = 2.95, β/α = 140

Aryl nucleoside H-phosphonates. Part 16: Synthesis and anti-HIV-1 activity of di-aryl nucleoside phosphotriesters

pp 3489–3498

Joanna Romanowska, Agnieszka Szymańska-Michalak, Jerzy Boryski, Jacek Stawiński, Roberta Loddo, Giuseppina Sanna, Gabriella Collu, Barbara Secci, Paolo La Colla*, Adam Kraszewski*

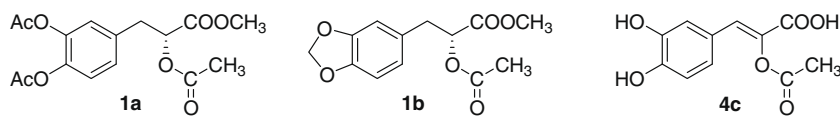


Various phosphotriesters, produced in a 'one-pot' approach from nucleosid-5'-yl H-phosphonates and phenols, exhibited significant anti HIV-1 activity, and were found to act, at least partially, as true pronucleotides.

**Asymmetric synthesis and biological evaluation of Danshensu derivatives as anti-myocardial ischemia drug candidates**

pp 3499–3507

Cunna Dong, Yang Wang*, Yi Zhun Zhu*



Two novel chiral Danshensu derivatives (**1a–b**) and their racemates have been designed and synthesized. Primary pharmacological evaluation showed that these Danshensu derivatives possessed potent cardioprotective activities by blocking oxidative stress and apoptotic pathways.

OTHER CONTENTS**Bioorganic & Medicinal Chemistry Reviews and Perspectives**

pp 3508–3510

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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