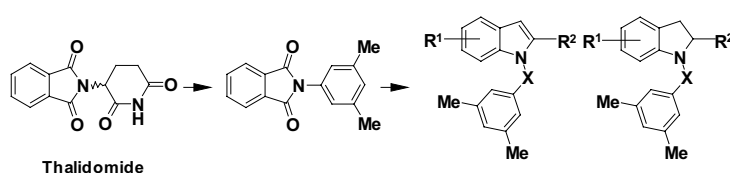


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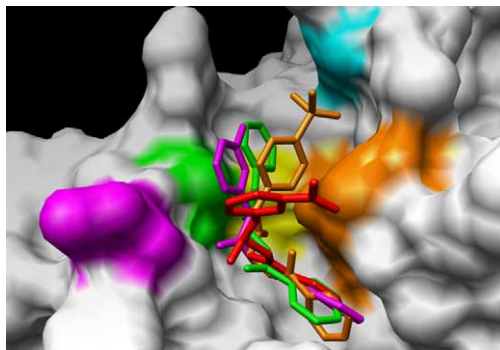
### ARTICLES

- Design and synthesis of subtype-selective cyclooxygenase (COX) inhibitors derived from thalidomide** pp 3079–3091  
Hiroko Sano, Tomomi Noguchi, Aya Tanatani, Yuichi Hashimoto and Hiroyuki Miyachi\*

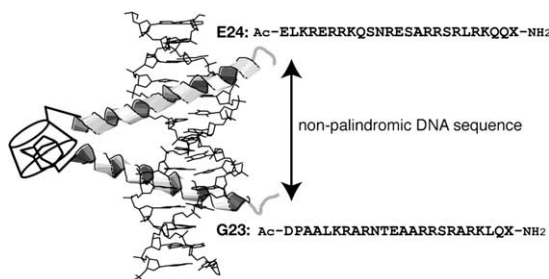


A series of substituted indoline and indole derivatives with cyclooxygenase (COX)-inhibitory activity was prepared during our structural development studies based on thalidomide as a multi-template lead compound.

- Connecting traditional QSAR and molecular simulations of papain hydrolysis—importance of charge transfer** pp 3093–3105  
Zsolt Lepp and Hiroshi Chuman\*



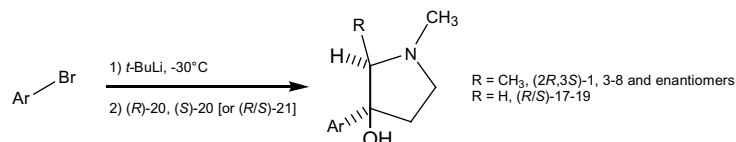
- Dual DNA recognition codes of a short peptide derived from the basic leucine zipper protein EmBP1** pp 3107–3116  
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**Chiral arylpyrrolidinols: preparation and biological profile**

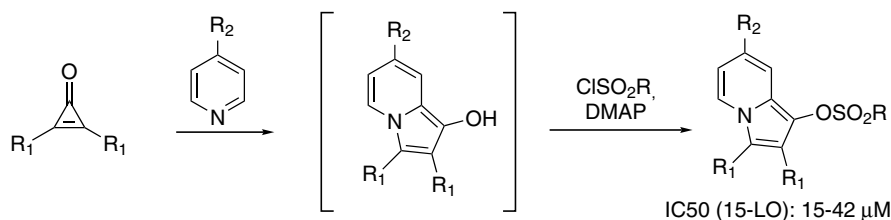
pp 3117–3126

Simona Collina,\* Daniela Rossi, Guya Loddo, Annalisa Barbieri, Enrica Lanza, Laura Linati, Stefano Alcaro, Andrea Gallelli and Ornella Azzolina

**Indolizine 1-sulfonates as potent inhibitors of 15-lipoxygenase from soybeans**

pp 3127–3139

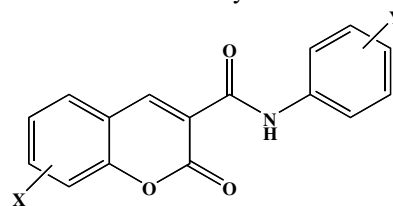
Solomon Teklu, Lise-Lotte Gundersen,\* Tove Larsen, Karl E. Malterud and Frode Rise

**Novel coumarin-3-(N-aryl)carboxamides arrest breast cancer cell growth by inhibiting ErbB-2 and ERK1**

pp 3141–3147

Natala Srinivasa Reddy, Kiranmai Gumireddy, Muralidhar R. Mallireddigari, Stephen C. Cosenza, Padmavathi Venkatapuram, Stanley C. Bell, E. Premkumar Reddy and M. V. Ramana Reddy\*

The synthesis of a series of new coumarin-3-(N-aryl)carboxamides and their cytotoxic and in vitro kinase inhibition activities are presented.

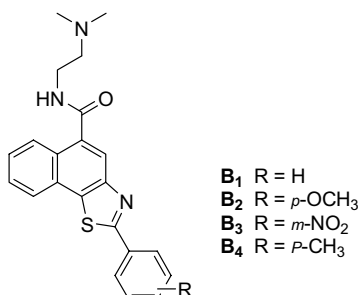


X = H, EtO, Cl, Br  
Y = Br, I, NO<sub>2</sub>, Cl, NH<sub>2</sub>

**Novel heterocyclic family of phenyl naphthothiazole carboxamides derived from naphthalimides: synthesis, antitumor evaluation, and DNA photocleavage**

pp 3149–3155

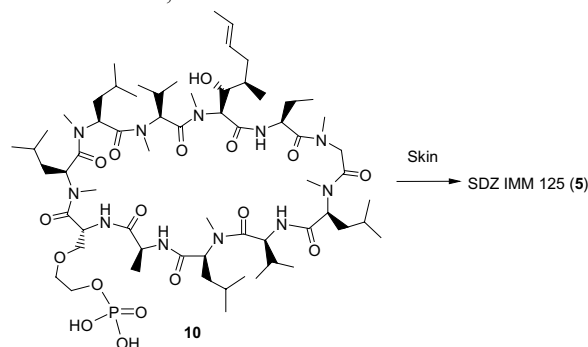
Zhigang Li, Qing Yang and Xuhong Qian\*



**Novel cyclosporin derivatives featuring enhanced skin penetration despite increased molecular weight** pp 3157–3167

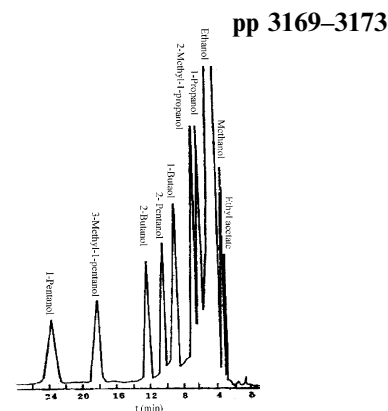
Andreas Billich,\* Hermann Vypel, Maximilian Grassberger, Fritz P. Schmook, Andrea Steck and Anton Stuetz

A phosphate prodrug of SDZ IMM 125 (**5**) shows enhanced penetration into skin as compared to active parent drug.

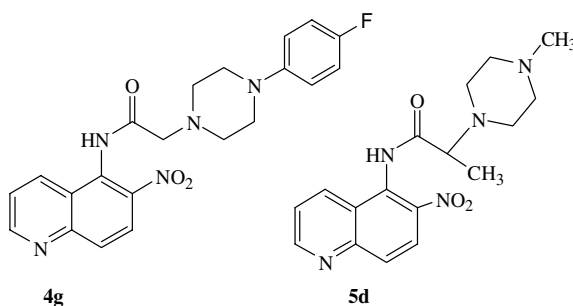
**Theoretical analysis of the retention behavior of alcohols in gas chromatography**

Yuanzhi Song,\* Jianfeng Zhou, Sanjun Zi, Jiming Xie and Yong Ye

Retention times (*t*) of 10 standard samples were determined for alcohols and ethyl acetate. An SP-2305 gas chromatograph (China) coupled with a hydrogen flame temperature detector with a (polarity stationary phase of Superox 20M:diglycerol:101 white support (0.177–0.25 mm i.d.) = 20:2:100) stainless steel column (3 m × 4 mm i.d.) was used. Nitrogen gas was used as a carrier gas at a flow rate of 50.0 mL/min. A 1 µL volume of sample (0.3 µg/µL every standard sample in mixture of ethanol and water 60:40 (v/v)) was injected in vaporizer. Temperatures of the vaporizer, the column and the detector were set at 125, 79, and 110 °C, respectively. The *t* values of alcohols and ethyl acetate on stationary phases were regressed versus each one of the descriptors, quantitative structure–retention relationship (QSRR) models for the chromatographic (GC) retention times of alcohols on Superox 20M-diglycerol polarity stationary phase have been developed.

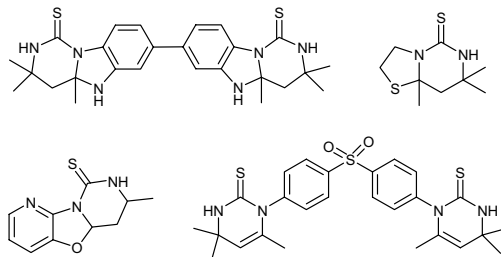
**Synthesis and biological evaluation of novel 6-nitro-5-substituted aminoquinolines as local anesthetic and anti-arrhythmic agents: molecular modeling study** pp 3175–3183

Fatma E. Goda,\* Alaa A.-M. Abdel-Aziz and Hamdy A. Ghoneim

**Synthesis and biological evaluation of 2-thiopyrimidine derivatives**

Sham M. Sondhi,\* Rajendra N. Goyal, Anand M. Lahoti, Nirupma Singh, Rakesh Shukla and Ram Raghubir

pp 3185–3195

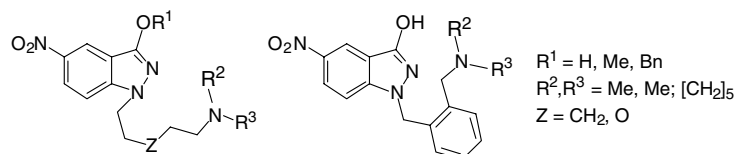


Various 2-thiopyrimidine derivatives have been synthesized by condensation of functionalized amines with β-isothiocyanatoketones. Some compounds showed moderate to good activities for anti-inflammatory, analgesic, and protein kinase (CDK-1) inhibition.

**Synthesis and biological properties of new 5-nitroindazole derivatives**

pp 3197–3207

Vicente J. Arán,\* Carmen Ochoa, Lucía Boiani, Pablo Buccino, Hugo Cerecetto, Alejandra Gerpe, Mercedes González, David Montero, Juan José Nogal, Alicia Gómez-Barrio, Amaya Azqueta, Adela López de Ceráin, Oscar E. Piro and Eduardo E. Castellano



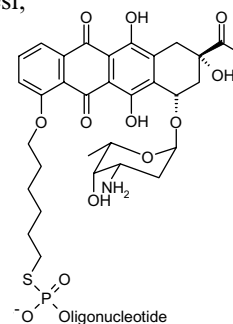
A series of new 3-alkoxy- or 3-hydroxy-1-[ω-(dialkylamino)alkyl]-5-nitroindazoles were synthesized and their trichomonacidal, antichagasic and antineoplastic activities studied. QSAR studies were carried out.


**Improved synthesis of daunomycin conjugates with triplex-forming oligonucleotides.  
 The polypurine tract of HIV-1 as a target**

pp 3209–3218

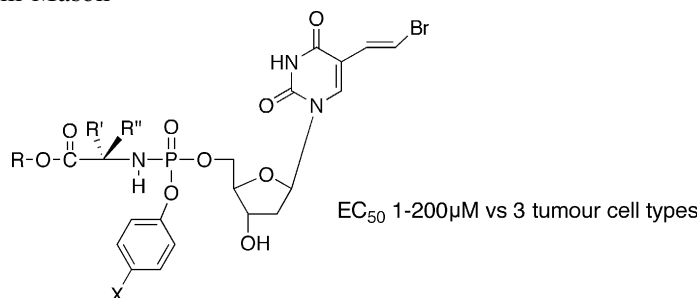
Massimo L. Capobianco,\* Marcella De Champdoré, Federico Arcamone, Anna Garbesi, Dominique Guianvarc'h and Paola B. Arimondo

Synthesis and hybridisation properties of daunomycin–oligonucleotide conjugates designed to bind the polypurine tract of HIV. The conjugation enhances the binding affinity of the oligonucleotide for its DNA target, and expands the number of tools that can be used, in the triplex approach, to selectively switch-off genes.


**Anti-cancer ProTides: tuning the activity of BVDU phosphoramidates related to thymectacin**

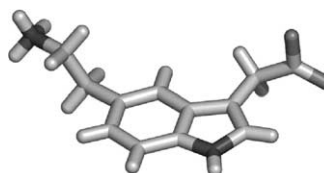
pp 3219–3227

Christopher McGuigan,\* Jean-Christophe Thiery, Felice Daverio, Wen G. Jiang, Gaynor Davies and Malcolm Mason


**Aminoethyl-substituted indole-3-acetic acids for the preparation of tagged and carrier-linked auxin**

pp 3229–3240

Nebojša Ilić, Ivan Habuš, Lana S. Barkawi, Seijin Park, Zoran Štefanić, Biserka Kojić-Prodić, Jerry D. Cohen and Volker Magnus\*

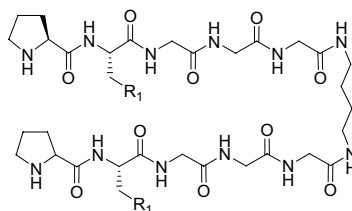


5- and 6-Aminoethyl derivatives of indole-3-acetic acid (IAA), a hormone (auxin) in plants and an important metabolite in humans, animals, and microbes, were found suitable for coupling of the IAA moiety to macromolecular carriers (example: albumin) and molecular probes (example: biotin).

**Copper-metalated peptide palindrome derived from prion octarepeat: synthesis, aggregation, and oxidative transformations**

pp 3241–3248

C. Madhavaiah and Sandeep Verma\*

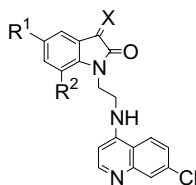


We report construction of a bis-pentapeptide conjugate containing truncated sequence from prion octarepeats. Its copper-laden derivative demonstrated a propensity to aggregate and ensuing oxidative transformations using metalated conjugate afforded facile plasmid modification and neurotransmitter oxidation.

**Design, synthesis and anti-plasmodial evaluation in vitro of new 4-aminoquinoline isatin derivatives**

pp 3249–3261

Idan Chiyanzu, Cailean Clarkson, Peter J. Smith, Julie Lehman, Jiri Gut, Philip J. Rosenthal and Kelly Chibale\*

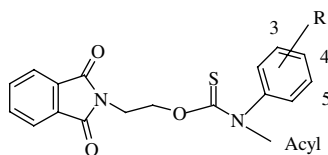


A new series of 4-aminoquinoline isatin derivatives were synthesized and screened for in vitro anti-plasmodial activity and inhibition of falcipain-2. These compounds showed  $IC_{50}$  values in the range of 0.05–2  $\mu M$  against drug resistant and sensitive strains of *P. falciparum*.

**Topological models for prediction of anti-HIV activity of acylthiocarbamates**

pp 3263–3268

Sanjay Bajaj, S. S. Sami and A. K. Madan\*



Topological models for prediction of anti-HIV activity of acylthiocarbamates have been developed. Accuracy of prediction of these models was found to be 95–98%.

**Quantitative structure–activity relationship to predict differential inhibition of aldose reductase by flavonoid compounds**

pp 3269–3277

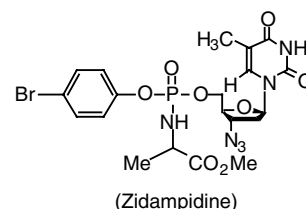
Michael Fernández, Julio Caballero, Aliuska Morales Helguera, Eduardo A. Castro and Maykel Pérez González\*



## Zidampidine, an aryl phosphate derivative of AZT: in vivo pharmacokinetics, metabolism, toxicity, and anti-viral efficacy against hemorrhagic fever caused by Lassa virus pp 3279–3288

F. M. Uckun,\* T. K. Venkatachalam, D. Erbeck, C. L. Chen, A. S. Petkevich and A. Vassilev

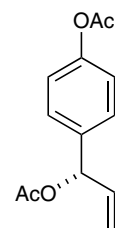
We examined the therapeutic effect of the aryl phosphate derivative of AZT, 3'-azidothymidine-5'-[*p*-bromophenyl methoxyalaninyl phosphate] (Zidampidine) in CBA mice inoculated with intracerebral injections of the Josiah strain of Lassa virus. The probability of survival following the Lassa challenge was significantly improved for Zidampidine-treated mice (25 mg/kg) (Kaplan Meier, Log-Rank *p* value  $\gg 0.0001$ ). The pharmacokinetics, metabolism, and toxicity of Zidampidine were also investigated in CD-1 mice. Zidampidine was rapidly converted to metabolite Ala-AZT-MP and AZT, both of them have been identified by NMR and LC-MS in comparison with authentic synthetic compounds.



## 1'S-1'-Acetoxychavicol acetate as a new type inhibitor of interferon- $\beta$ production in lipopolysaccharide-activated mouse peritoneal macrophages pp 3289–3294

Shin Ando, Hisashi Matsuda, Toshio Morikawa and Masayuki Yoshikawa\*

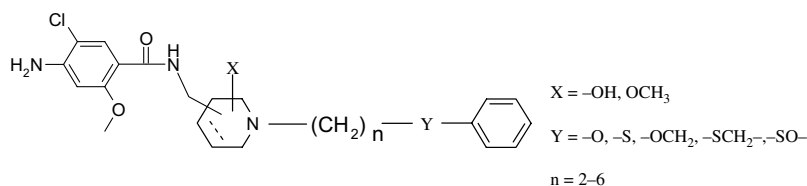
1'S-1'-Acetoxychavicol acetate from the rhizomes of *Alpinia galanga* was known to show potent inhibitory effect on the production of nitric oxide (NO) in lipopolysaccharide-activated mouse peritoneal macrophages. To clarify its mechanism of action, the effects of 1'S-1'-acetoxychavicol acetate on the expression of interferon- $\beta$  (IFN- $\beta$ ) mRNA and activation of nuclear factor- $\kappa$ B (NF- $\kappa$ B), both of which participate in the induction of inducible NO synthase, were examined in lipopolysaccharide-activated macrophages. 1'S-1'-Acetoxychavicol acetate inhibited IFN- $\beta$  mRNA expression as well as NF- $\kappa$ B activation, and two related compounds also inhibited IFN- $\beta$  mRNA expression. In addition, 1'S-1'-acetoxychavicol acetate inhibited the production of NO stimulated by poly(I:C) via Toll-like receptor 3.



1'S-1'-acetoxychavicol acetate

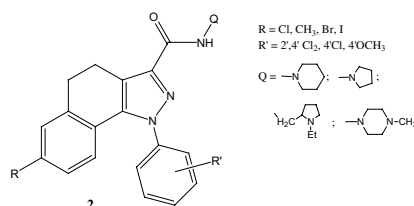
## Synthesis and pharmacological evaluation of benzamide derivatives as selective 5-HT<sub>4</sub> receptor agonists pp 3295–3308

Shuji Sonda,\* Toshio Kawahara, Kenichi Katayama, Noriko Sato and Kiyoshi Asano



## Tricyclic pyrazoles. Part 2: Synthesis and biological evaluation of novel 4,5-dihydro-1H-benzo[g]indazole-based ligands for cannabinoid receptors pp 3309–3320

Gabriele Murineddu, Stefania Rui, Jean-Mario Mussinu, Giovanni Loriga, Giuseppe E. Grella, Mauro A. M. Carai, Paolo Lazzari, Luca Pani and Gérard A. Pinna\*

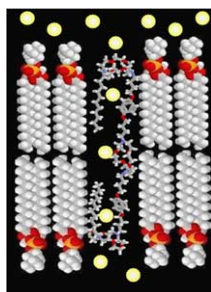


Synthesis, CB<sub>1</sub> and CB<sub>2</sub> receptor affinities of 4,5-dihydro-1H-benzo[g]indazole carboxamides (**2**) are described. For some compounds the prokinetic effect is also evaluated.

**The influence of aromatic residues in hydrophile spacer units: assay by ion selective electrode methods and in bacteria**

pp 3321–3327


Adam E. Meyer, W. Matthew Leevy, Robert Pajewski, Iwao Suzuki, Michelle E. Weber and George W. Gokel\*

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\*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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ISSN 0968-0896