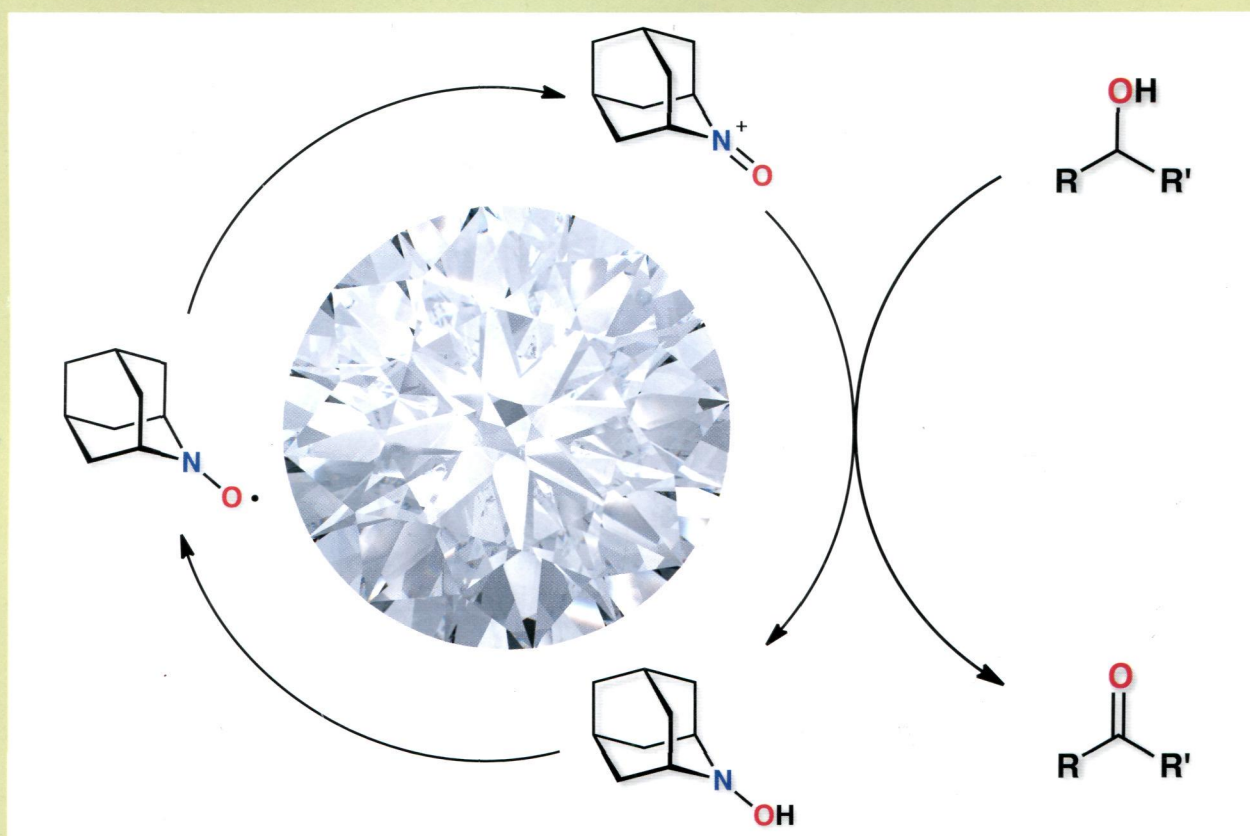


# Chemical and Pharmaceutical Bulletin

December 2013

CPBTAL 61 (12) 1197-1328 (2013)

Vol. 61 No. 12



Discovery and Exploitation of AZADO: The Highly Active Catalyst for Alcohol Oxidation

pp. 1197-1213



THE PHARMACEUTICAL SOCIETY OF JAPAN

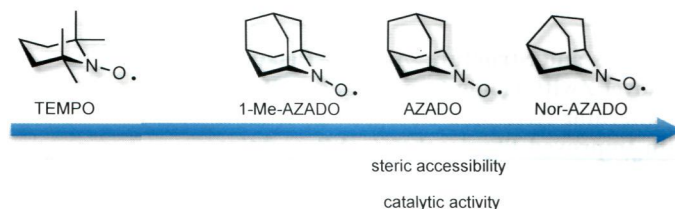
<http://cpb.pharm.or.jp>

## Contents

### Review

#### Discovery and Exploitation of AZADO: The Highly Active Catalyst for Alcohol Oxidation

Y. Iwabuchi

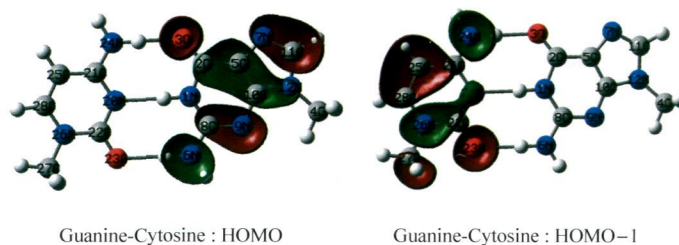


pp. 1197–1213

### Communication to the Editor

#### Quantum Chemical Study for Radical-Induced DNA Effects and Damage

T. Niiya, M. Kimura, H. Tsutsumi, T. Ishizu, and N. Ono

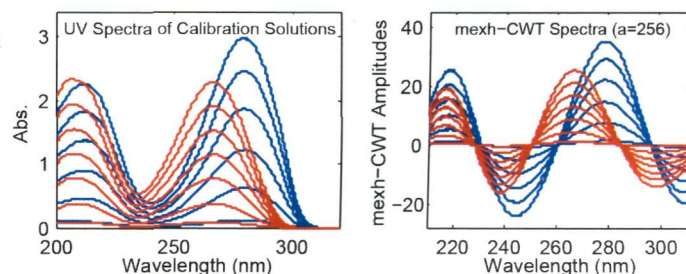


pp. 1214–1219

### Regular Articles

#### Continuous Wavelet Transforms for the Simultaneous Quantitative Analysis and Dissolution Testing of Lamivudine–Zidovudine Tablets

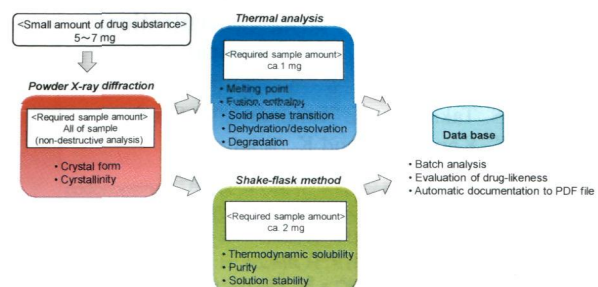
E. Dinç, N. Özdemir, Ö. Üstündağ, and M. G. Tilkan



pp. 1220–1227

#### Impact of Physicochemical Profiling for Rational Approach on Drug Discovery

S. Nakashima, K. Yamamoto, Y. Arai, and Y. Ikeda

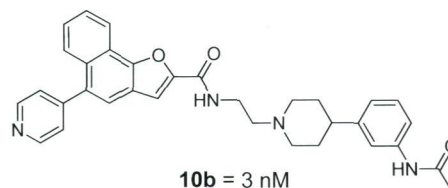


pp. 1228–1238



### Synthesis and Structure–Activity Relationship of Naphtho[1,2-*b*]furan-2-carboxamide Derivatives as Melanin Concentrating Hormone Receptor 1 Antagonists

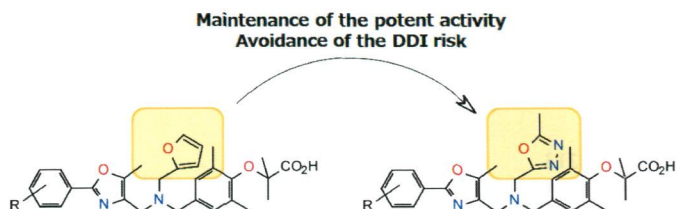
C. J. Lim, J. Y. Choi, B. H. Lee, K.-S. Oh, and K. Y. Yi



pp. 1239–1247

### Synthesis and Structure–Activity Relationships of Novel Zwitterionic Compounds as Peroxisome Proliferator Activated Receptor $\alpha/\gamma$ Dual Agonists with Improved Physicochemical Properties

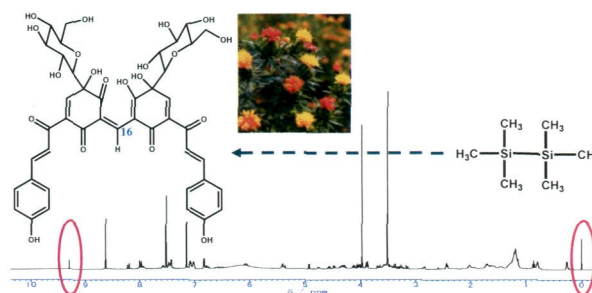
Y. Shibata, K. Kagechika, M. Yamaguchi, K. Yoshikawa, K. Chiba, H. Takano, C. Akiyama, M. Ono, M. Nishi, H. Kubo, Y. Kobayashi, and H. Usui



pp. 1248–1263

### Quantitative Determination of Carthamin in Carthamus Red by $^1\text{H-NMR}$ Spectroscopy

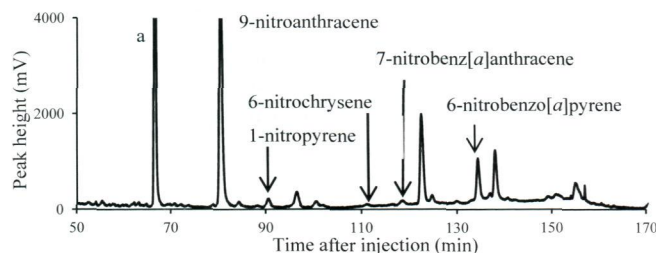
T. Yoshida, K. Terasaka, S. Kato, F. Bai, N. Sugimoto, H. Akiyama, T. Yamazaki, and H. Mizukami



pp. 1264–1268

### Determination of Selected Nitropolycyclic Aromatic Hydrocarbons in Water Samples

Y. Chondo, Y. Li, F. Makino, N. Tang, A. Toriba, T. Kameda, and K. Hayakawa

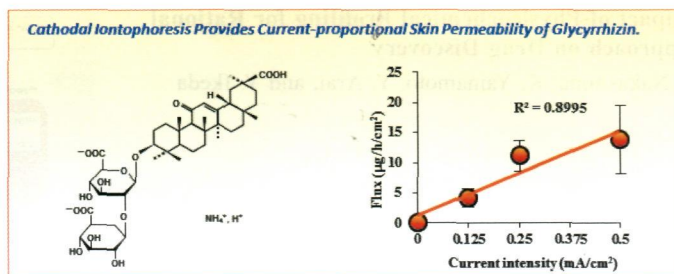


Chromatograms of river water sample  
Asano river sample (1.5L): (a) 2-fluoro-7-nitrofluorene (FNF, internal standard)

pp. 1269–1274

### Iontophoretic Transdermal Delivery of Glycyrrhizin: Effects of pH, Drug Concentration, Co-ions, Current Intensity, and Chemical Enhancers

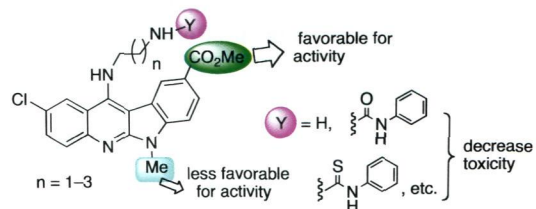
R. Yamamoto, S. Takasuga, K. Kominami, C. Sutoh, M. Kinoshita, K. Kanamura, and K. Takayama



pp. 1275–1281

**Synthesis and *in Vitro* Testing of Antimalarial Activity of Non-natural-Type Neocryptolepines: Structure–Activity Relationship Study of 2,11- and 9,11-Disubstituted 6-Methylindolo[2,3-*b*]quinolines**

N. Wang, K. J. Wicht, L. Wang, W.-J. Lu, R. Misumi, M. Wang, A. A. A. El Gokha, M. Kaiser, I. E. T. El Sayed, T. J. Egan, and T. Inokuchi

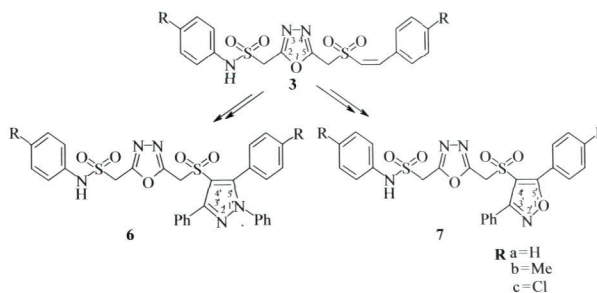


3-Aminopropylamino group at C11 increased antimalarial activity and its urea and thiourea improved the cytotoxicity against normal cell. Five compounds showed  $\beta$ HIC<sub>50</sub> values below 30  $\mu$ M.

pp. 1282–1290

**Synthesis and Antioxidant Activity of Styrylsulfonylmethyl 1,3,4-Oxadiazoles, Pyrazolyl/Isoxazolyl-1,3,4-oxadiazoles**

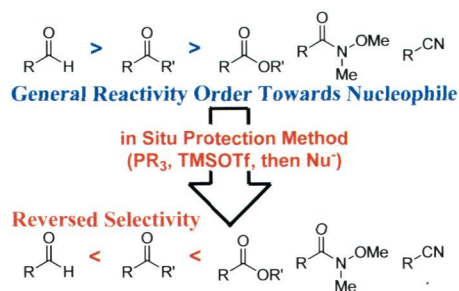
G. Mallikarjuna Reddy, A. Muralikrishna, V. Padmavathi, A. Padmaja, T. Krishna Tilak, and C. Appa Rao



pp. 1291–1297

**Methodology for *in Situ* Protection of Aldehydes and Ketones Using Trimethylsilyl Trifluoromethanesulfonate and Phosphines: Selective Alkylation and Reduction of Ketones, Esters, Amides, and Nitriles**

K. Yahata, M. Minami, Y. Yoshikawa, K. Watanabe, and H. Fujioka

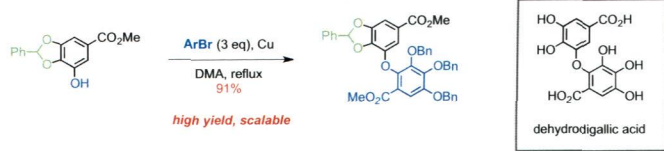


pp. 1298–1307

**Notes**

**Facile Preparation of Dehydrodigallic Acid and Its Derivative for the Synthesis of Ellagitannins**

K. Shioe, S. Ishikura, Y. Horino, and H. Abe

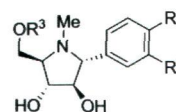


pp. 1308–1314

**Two New Pyrrolidine Alkaloids, Codonopsinol C and Codonopiloside A, Isolated from *Codonopsis pilosula***

D. Wakana, N. Kawahara, and Y. Goda

**Pyrrolidine alkaloids from *Codonopsis pilosula***

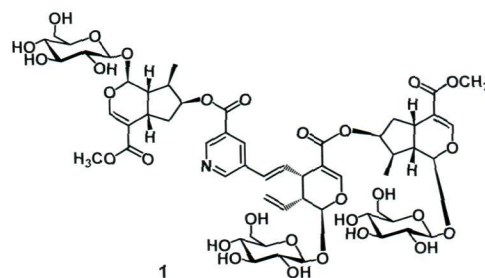


codonopsinol C (1): R<sup>1</sup> = OH, R<sup>2</sup> = H, R<sup>3</sup> = H  
codonopiloside A (2): R<sup>1</sup> = OMe, R<sup>2</sup> = H, R<sup>3</sup> = glucopyranosyl  
codonopsinol A (3): R<sup>1</sup> = OMe, R<sup>2</sup> = OH, R<sup>3</sup> = H  
codonopsinol B (4): R<sup>1</sup> = OMe, R<sup>2</sup> = H, R<sup>3</sup> = H  
codonopsinol (7): R<sup>1</sup> = OMe, R<sup>2</sup> = OMe, R<sup>3</sup> = H

pp. 1315–1317

**Dipasperoside A, a Novel Pyridine Alkaloid-Coupled Iridoid Glucoside from the Roots of *Dipsacus asper***

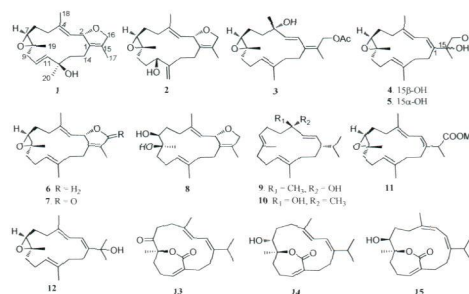
F. Li, K. Tanaka, S. Watanabe, Y. Tezuka, and I. Saiki



pp. 1318–1322

**Four New 7,8-Epoxycebranoids from a Chinese Soft Coral *Lobophytum* sp.**

M. Zhao, X. Li, F. Zhao, S. Cheng, Z. Xiang, J. Dong, K. Huang, and P. Yan



pp. 1323–1328

Index of Vol. 61. ....	vii
Keyword Index of Vol. 61 . . . . .	viii

**About the cover:** A stable class of nitroxyl radicals offers catalytic oxidation of alcohols to give synthetically useful carbonyl compounds. AZADO (2-azaadamantane *N*-oxyl) was discovered as an exceptionally active catalyst, of which the high catalytic activity is attributed to the sterically less-hindered structure and the robustness related to adamantane skeleton. See the review by Iwabuchi on page 1197 of this issue.