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In situ protection

*Shortcut to
Less Reactive Function*

In Situ Protection Methodology in Carbonyl Chemistry

pp. 1-11



THE PHARMACEUTICAL SOCIETY OF JAPAN

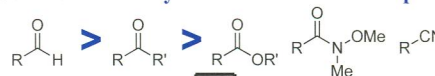
<http://cpb.pharm.or.jp>

Review

In Situ Protection Methodology in Carbonyl Chemistry

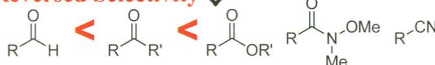
K. Yahata and H. Fujioka

General Reactivity Order Towards Nucleophile



In Situ Protection Method

Reversed Selectivity

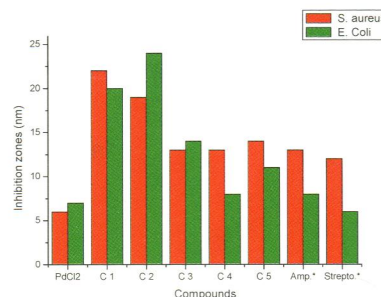


pp. 1–11

Regular Articles

Antibacterial Activity of Pd(II) Complexes with Salicylaldehyde-Amino Acids Schiff Bases Ligands

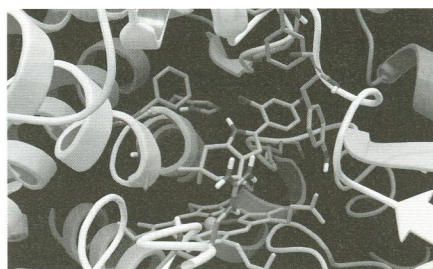
C. Rîmbu, R. Danac, and A. Pui



pp. 12–15

De Novo Design of Non-coordinating Indolones as Potential Inhibitors for Lanosterol 14- α -Demethylase (CYP51)

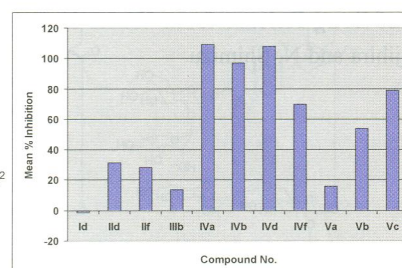
R. González-Chávez, R. Martínez, M. E. Torre-Bouscoulet, M. Gallo, and M. M. González-Chávez



pp. 16–24

Diarylureas and Diarylamides with Pyrrolo[2,3-*d*]-pyrimidine Scaffold as Broad-Spectrum Anticancer Agents

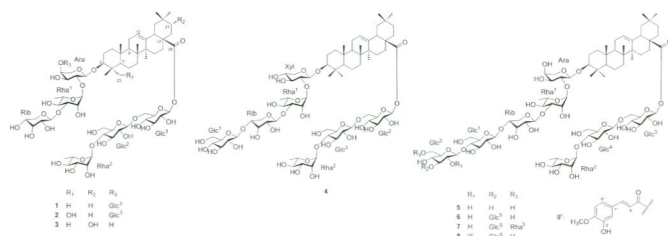
M. I. El-Gamal and C.-H. Oh



pp. 25–34

Triterpenoid Saponins from the Roots of *Clematis uncinata*

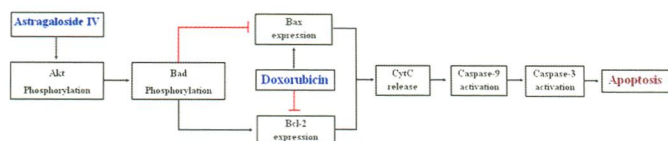
S.-G. Li, X.-J. Huang, M.-M. Li, M. Wang, R.-B. Feng, W. Zhang, Y.-L. Li, Y. Wang, and W.-C. Ye



pp. 35–44

Astragaloside IV Inhibits Doxorubicin-Induced Cardiomyocyte Apoptosis Mediated by Mitochondrial Apoptotic Pathway via Activating the PI3K/Akt Pathway

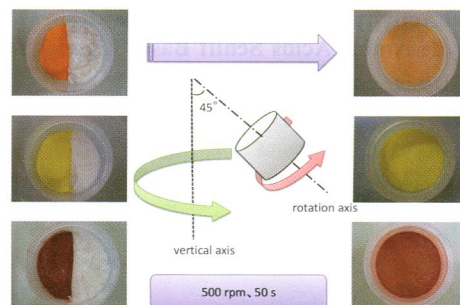
Y. Jia, D. Zuo, Z. Li, H. Liu, Z. Dai, J. Cai, L. Pang, and Y. Wu



pp. 45–53

A Novel Blending Method for Dispensing Powdered Medicine

Y. Miyazaki, K. Miyawaki, T. Uchino, and Y. Kagawa

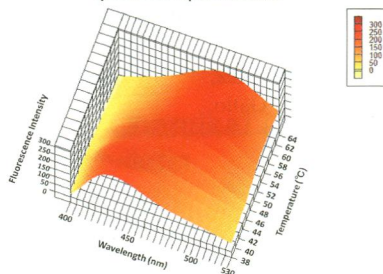


pp. 54–57

Thermotropic Phase Behavior of Hydrogenated Soybean Phosphatidylcholine–Cholesterol Binary Liposome Membrane

H. Kitayama, Y. Takechi, N. Tamai, H. Matsuki, C. Yomota, and H. Saito

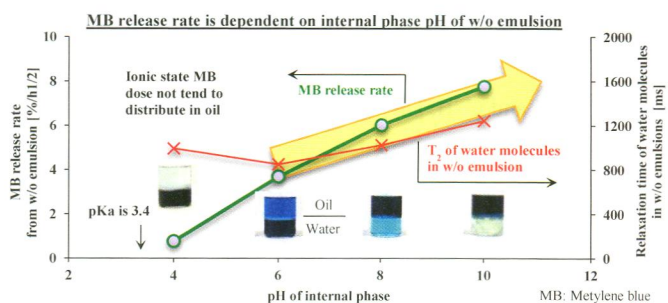
3-D Image for Temperature Dependence of Prodan Fluorescence Emission Spectra in HSPC Liposome Membrane



pp. 58–63

The Effects of Internal and Receptor pH on the Rate of Drug Release from Water-in-Oil Emulsions

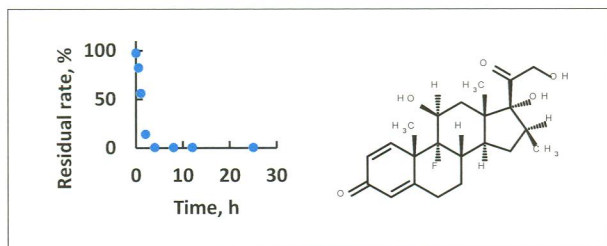
A. Fujihira and N. Shimizu



pp. 64–71

Degradation of Corticosteroids during Activated Sludge Processing

A. Miyamoto, Y. Kitaichi, and K. Uchikura



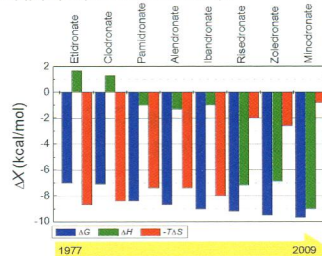
Degradation profile of Betametasone by activated sludge.

pp. 72–76

Thermodynamic Evaluation of the Binding of Bisphosphonates to Human Farnesyl Pyrophosphate Synthase

Y. Kawasaki, M. Sekiguchi, M. Kawasaki, and Y. Hirakura

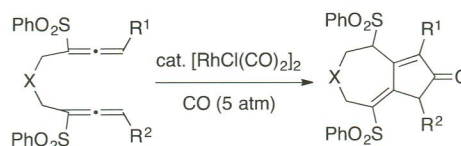
Enthalpic and entropic contributions to the binding affinity of bisphosphonates against target farnesyl pyrophosphate synthase are listed in order of launch year



pp. 77–83

Rh(I)-Catalyzed Intramolecular Carbonylative [2+2+1] Cycloaddition Reaction: Preparation of Bicyclo[5.3.0]decadienones with Substituted Cyclopentenone Frameworks

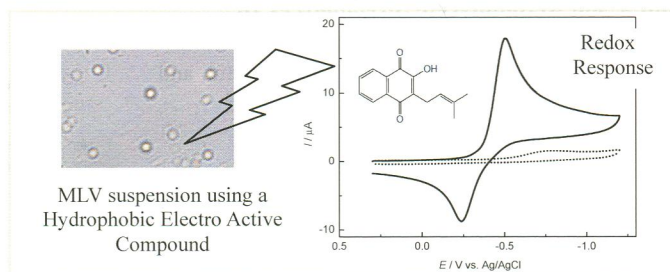
C. Mukai, Y. Takahashi, K. Ogawa, Y. Hayashi, and F. Inagaki



pp. 84–87

Notes**Electrochemical Analysis in a Liposome Suspension Using Lapachol as a Hydrophobic Electro Active Species**

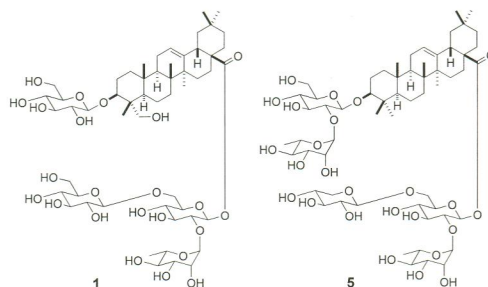
N. Okumura, S. Wakamatsu, and B. Uno



pp. 88–91

Triterpene Glycosides from the Stems and Leaves of *Lonicera japonica*

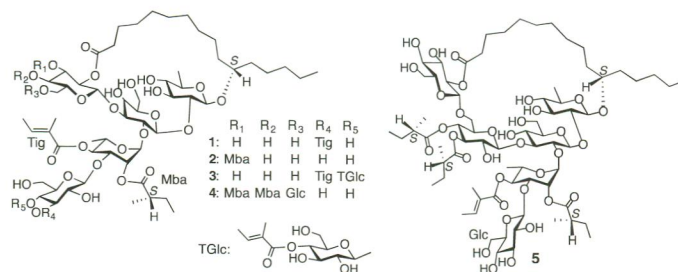
M. Kuroda, T. Shizume, and Y. Mimaki



pp. 92–96

Calysolins V–IX, Resin Glycosides from *Calystegia soldanella* and Their Antiviral Activity toward Herpes

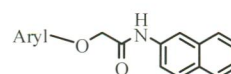
M. Ono, A. Takigawa, Y. Kanemaru, G. Kawakami, K. Kabata, M. Okawa, J. Kinjo, K. Yokomizo, H. Yoshimitsu, and T. Nohara



pp. 97–105

Synthesis and Antiproliferative Evaluation of Amide-Containing Anthraquinone, Xanthone, and Carbazole

L.-C. Chen, S.-H. Juang, K.-M. Chang, C.-C. Tzeng, J.-J. Chen, I.-L. Chen, and T.-C. Wang

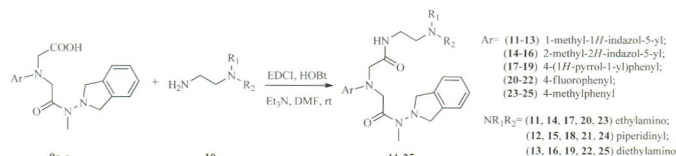


Aryl = Anthraquinone, Xanthone, Carbazole

pp. 106–111

Design and Synthesis of Amide Derivatives as *S*-Adenosyl-L-Homocysteine Hydrolase Inhibitors

X. Tan, P. Wang, S. Nian, and G. Wang

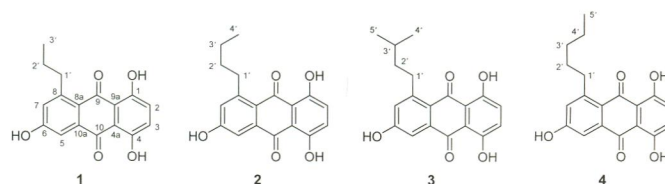


Compound 14 displayed significant SAHase inhibitory activity.

pp. 112–117

New Cytotoxic Alkylated Anthraquinone Analogues from a Soil Actinomycete *Streptomyces* sp. WS-13394

Z.-Y. Wu, W. Fang, L.-Q. Shi, Z.-Y. Wan, Y. Min, and K.-M. Wang

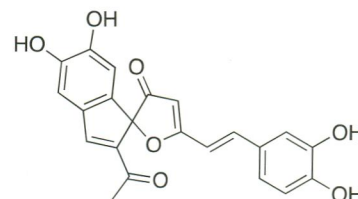


Structures of Compounds 1–4

pp. 118–121

A New Spiroindene Pigment from the Medicinal Fungus *Phellinus ribis*

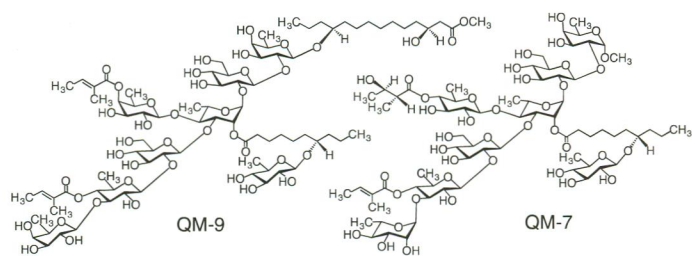
M. Kubo, Y. Liu, M. Ishida, K. Harada, and Y. Fukuyama



pp. 122–124

Five New Resin Glycoside Derivatives Isolated from the Convolvulin Fraction of Seeds of *Quamoclit pennata* after Treatment with Indium(III) Chloride in Methanol

K. Akiyama, K. Yamamoto, T. Mineno, M. Okawa, J. Kinjo, H. Yoshimitsu, T. Nohara, and M. Ono



pp. 125–133

About the cover: This review discusses *in situ* protection techniques on carbonyl chemistry. In general, intrusive multistep protection-deprotection detour is required to transform less reactive functions selectively in the presence of more reactive ones. *In situ* protection methodologies are useful and powerful one-pot techniques which enable to shortcut to the transformation of less reactive functions. In the present paper, various methodologies for selective transformation of carbonyl groups accomplishing reversed selectivity, such as a selective alkylation of ketones and esters in the presence of aldehydes, are reviewed. See the review by Yahata and Fujioka on page 1 of this issue.