

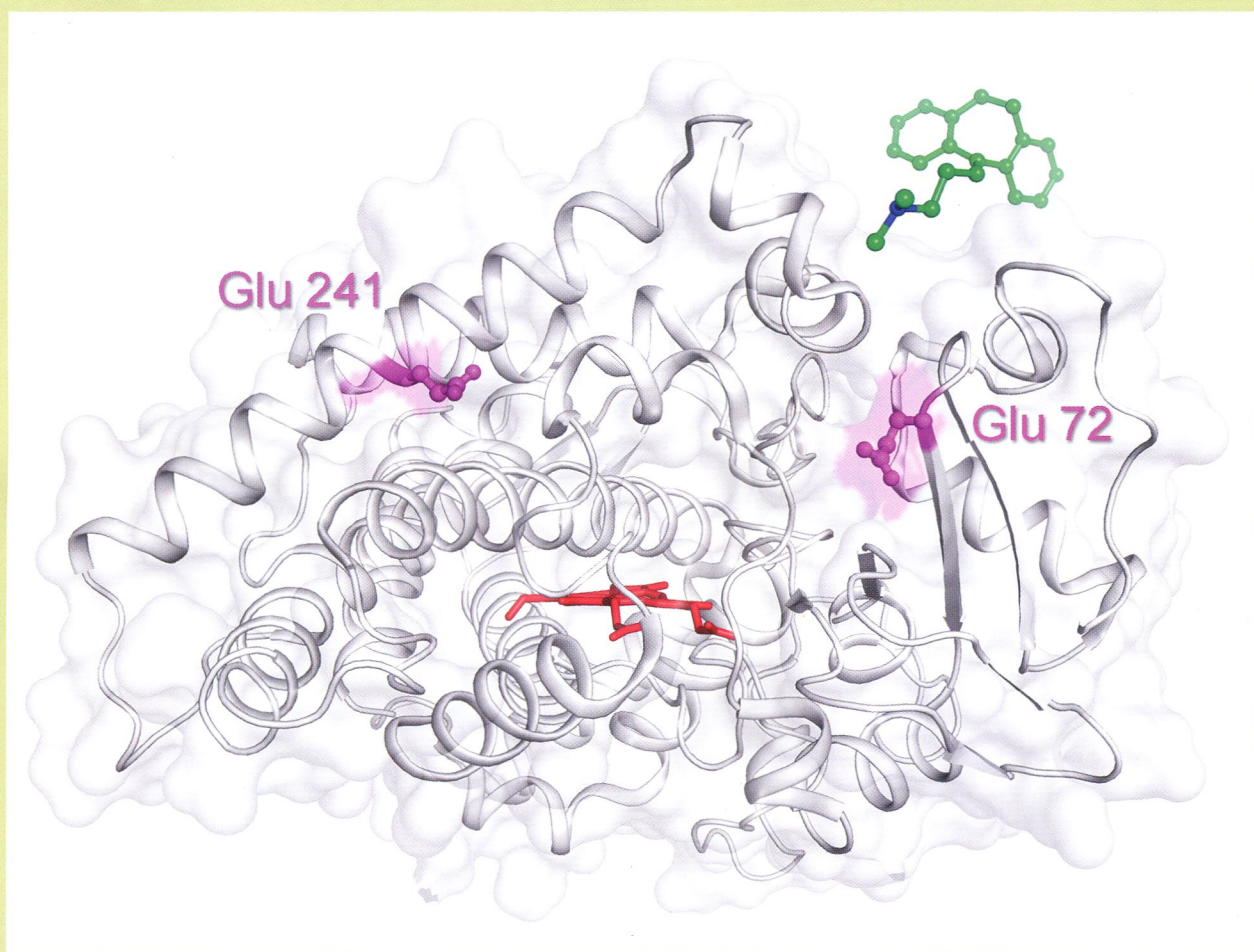
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Effect of Cytochrome P450 2C19 and 2C9 Amino Acid Residues 72 and 241 on
Metabolism of Tricyclic Antidepressant Drugs

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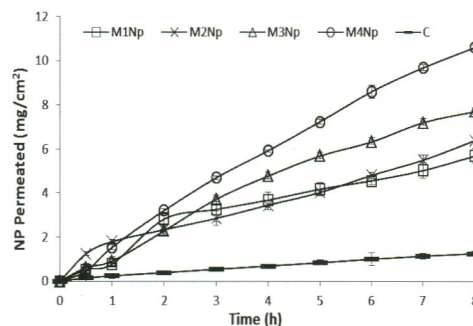
THE PHARMACEUTICAL SOCIETY OF JAPAN

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Regular Articles

Preparation and Evaluation of Microemulsion Formulations of Naproxen for Dermal Delivery

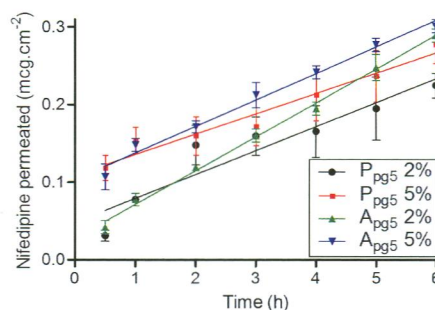
N. Üstündağ Okur, A. Yavaşoğlu, and H. Y. Karasulu



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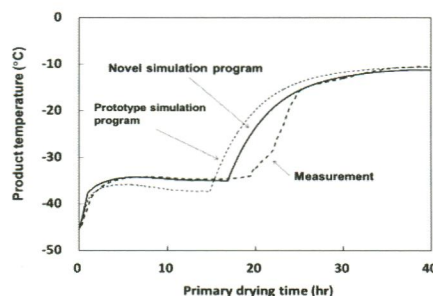
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Optimization of Primary Drying Condition for Pharmaceutical Lyophilization Using a Novel Simulation Program with a Predictive Model for Dry Layer Resistance

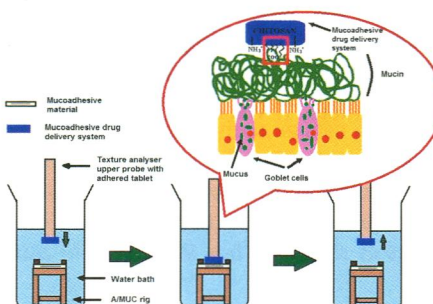
T. Kodama, H. Sawada, H. Hosomi, M. Takeuchi, N. Wakiyama, E. Yonemochi, and K. Terada



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Vaginal Chitosan Tablets with Clotrimazole—Design and Evaluation of Mucoadhesive Properties Using Porcine Vaginal Mucosa, Mucin and Gelatine

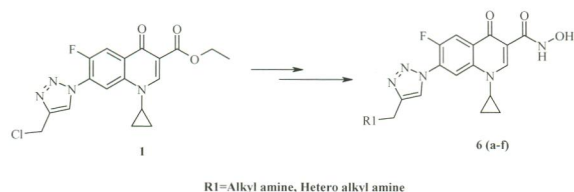
E. Szymańska, K. Winnicka, A. Amelian, and U. Cwalina



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New Hydroxamic Acid Derivatives of Fluoroquinolones: Synthesis and Evaluation of Antibacterial and Anticancer Properties

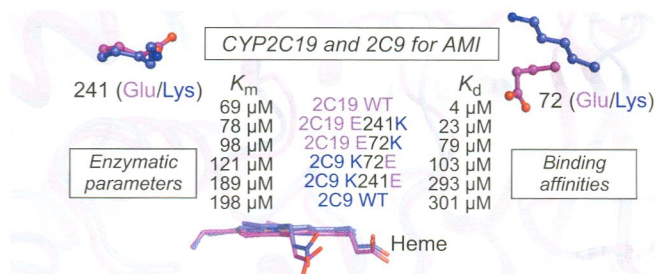
G. Govinda Rajulu, H. S. Bhojya Naik, A. Viswanadhan, J. Thiruvengadam, K. Rajesh, S. Ganesh, H. Jagadheshan, and P. K. Kesavana



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Effect of Cytochrome P450 2C19 and 2C9 Amino Acid Residues 72 and 241 on Metabolism of Tricyclic Antidepressant Drugs

T. Z. Attia, T. Yamashita, M. A. Hammad, A. Hayasaki, T. Sato, M. Miyamoto, Y. Yasuhara, T. Nakamura, Y. Kagawa, H. Tsujino, M. A. Omar, O. H. Abdelmageed, S. M. Derayea, and T. Uno



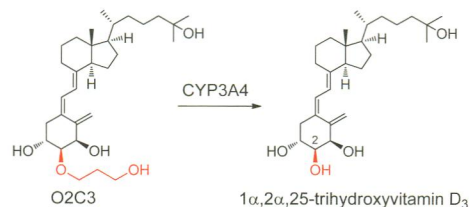
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Notes

Synthesis and Biological Activity of $1\alpha,2\alpha,25$ -Trihydroxyvitamin D_3 : Active Metabolite of 2α -(3-Hydroxypropoxy)- $1\alpha,25$ -dihydroxyvitamin D_3 by Human CYP3A4

M. Takano, S. Ohya, K. Yasuda, M. Nishikawa, A. Takeuchi, D. Sawada, T. Sakaki, and A. Kittaka

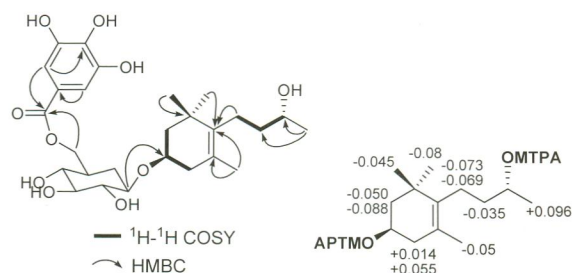
Synthesis and potent HL-60 cell differentiation activity of $1\alpha,2\alpha,25$ -trihydroxyvitamin D_3 , which is an active metabolite of O2C3 by hCYP3A4, are reported.



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Anti-inflammatory Compounds from the Aerial Parts of *Aceriphyllum rossii*

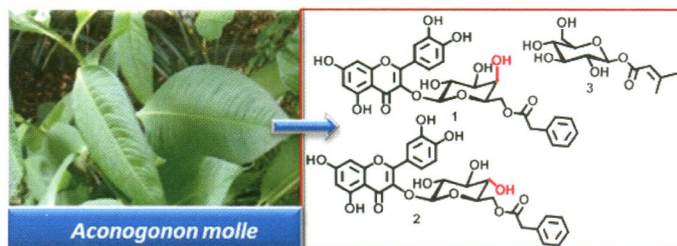
T. T. T. Trang, T. D. Cuong, T. M. Hung, J. A. Kim, J. H. Lee, M. H. Woo, J. S. Choi, H. K. Lee, and B. S. Min



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Thotneosides A, B and C: Potent Antioxidants from Nepalese Crude Drug, Leaves of *Aconogonon molle*

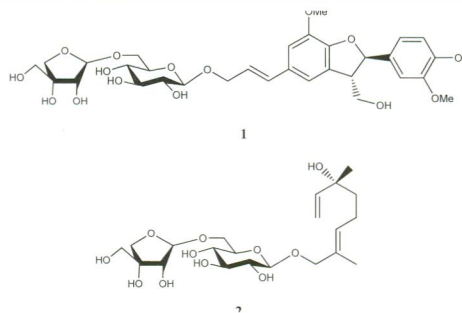
K. R. Joshi, H. P. Devkota, T. Watanabe, and S. Yahara



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NF- κ B Inhibitory Activities of Glycosides and Alkaloids from *Zanthoxylum schinifolium* Stems

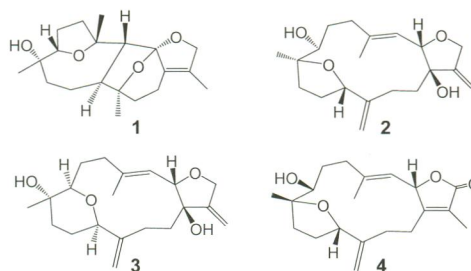
W. Li, S. Y. Yang, X. T. Yan, Y. N. Sun, S. B. Song, H. K. Kang, and Y. H. Kim



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Cembranoid Diterpenes from the Soft Coral *Lobophytum crassum* and Their Anti-inflammatory Activities

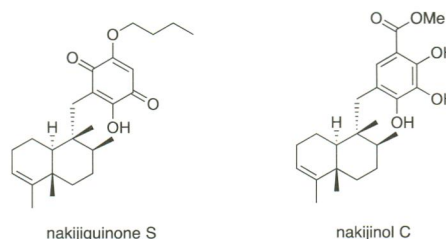
N. X. Cuong, N. P. Thao, B. T. T. Luyen, N. T. T. Ngan, D. T. T. Thuy, S. B. Song, N. H. Nam, P. V. Kiem, Y. H. Kim, and C. V. Minh



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Nakijiquinone S and Nakijinol C, New Meroterpenoids from a Marine Sponge of the Family Spongiidae

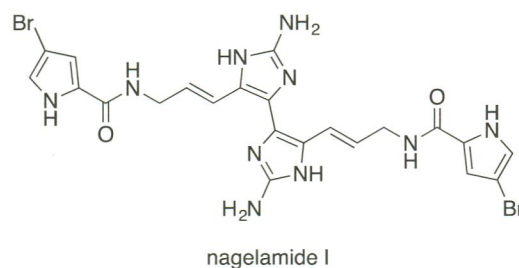
H. Suzuki, T. Kubota, A. Takahashi-Nakaguchi, J. Fromont, T. Gono, and J. Kobayashi



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Nagelamide I and 2,2'-Didebromonagelamide B, New Dimeric Bromopyrrole–Imidazole Alkaloids from a Marine Sponge *Agelas* sp.

T. Iwai, T. Kubota, J. Fromont, and J. Kobayashi



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About the cover: Cytochrome P450s (CYPs) comprise a superfamily of heme-containing enzymes that are mainly responsible for oxidative transformation of xenobiotics in human, animals, plants, and bacteria. CYP2C9 and 2C19 are well conserved and metabolize numerous clinically important drugs. Although distinct substrate specificities have been reported between CYP2C9 and 2C19, the isoforms share 91% amino acid to be identical in a total of 490 residues. Here, we show a crystal structure of CYP2C19 (pdb: 4gqs). Two investigated residues (magenta) and a heme (red) are represented as a stick model. One of the investigated drugs, amitriptyline, is also depicted as a ball-and-stick model, and carbon and nitrogen atoms are colored in green and blue, respectively. Reciprocal mutants for both CYP2C19 and 2C9 were produced, and their metabolic activities and spectroscopic properties were examined using three tricyclic antidepressant (TCA) drugs. Consequently, we concluded that amino acid residue 72 plays a key role in TCA drug metabolism by limiting the binding affinities of CYP2C19 and CYP2C9. See the article by Attia *et al.* on page 176 of this issue.