

■ PREFACES

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**1 FIFTIETH VOLUME OF HETEROCYCLES: PREFACE**

Alan R. Katritzky\*

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**3 PREFACE**

Koji Nakanishi\*

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**5 PREFACE for the Special 50th Volume of Heterocycles**

Edward C. Taylor\*

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**7 PREFACE: IS HETEROCYCLIC CHEMISTRY BORING?**

Rolf Huisgen\*

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**EDITOR'S REMARK**

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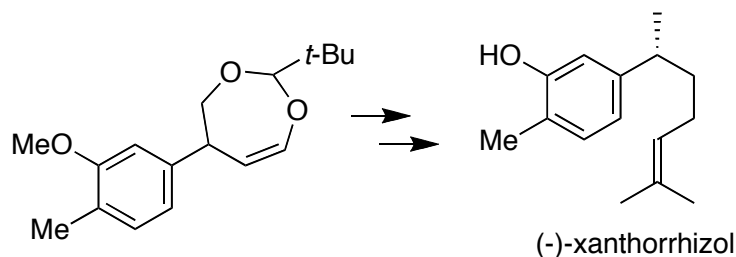
**9 Editor's Remark**

Keiichiro Fukumoto\*

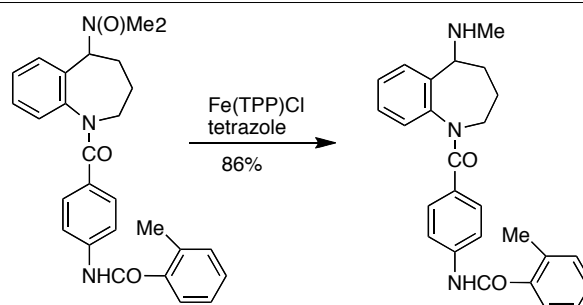
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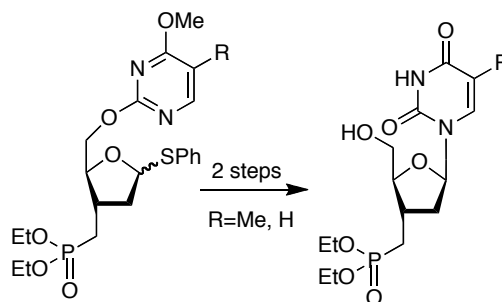
## ■ COMMUNICATIONS

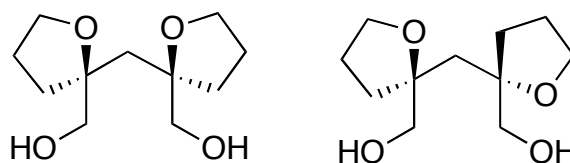
## 11 An Enantiocontrolled Total Synthesis of (-)-Xanthorrhizol

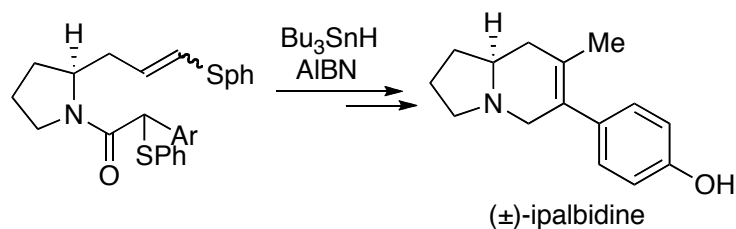
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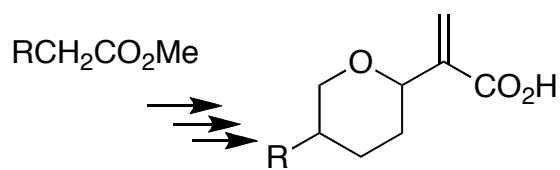
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**35 Asymmetric Synthesis of Rhopaloic Acid A Analogues and Their Biological Properties**

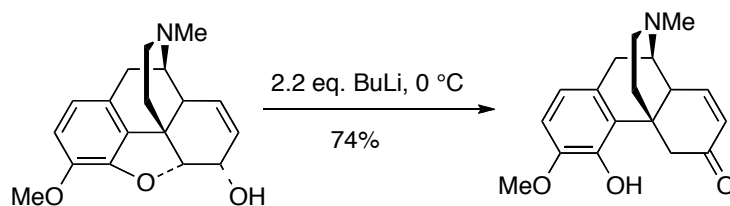
Munetaka Tokumasu, Asami Sasaoka, Hiroko Nishitani, and Katsuo Ohkata\*



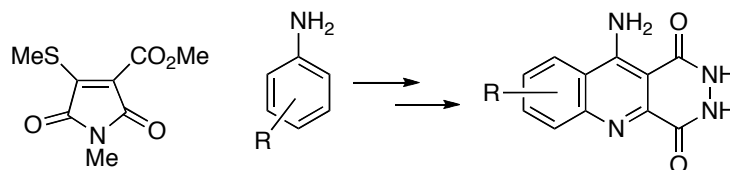
(2*S*,5*S*)-derivative: R = geranyl  
 (2*R*,5*R*)-derivative: R = geranyl  
 racemic *trans*-derivative: R = n-C<sub>14</sub>H<sub>29</sub>

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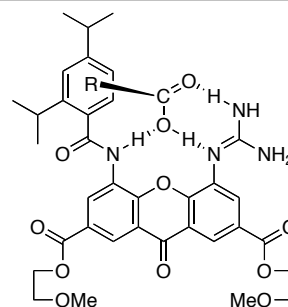
Andrew Coop and Kenner C. Rice\*


**43 Synthesis and Chemiluminescence of 10-Hydroxy- and 10-Aminopyridazino[4,5-*b*]quinoline-1,4(2*H*,3*H*)-diones**

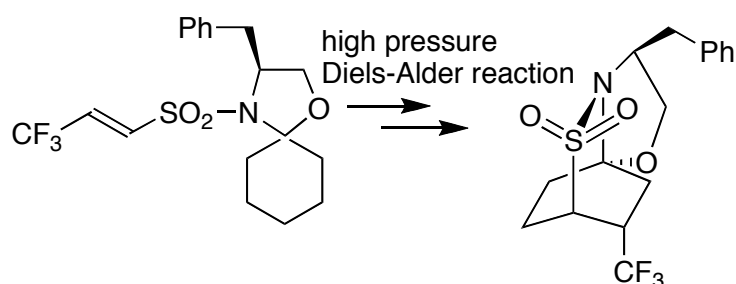
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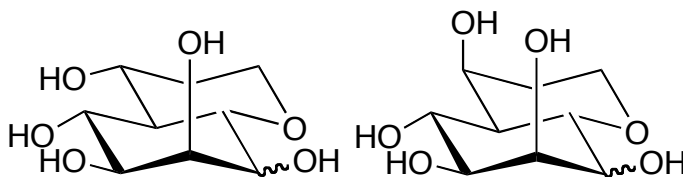

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Hiroshi Kimoto, Shoji Eguchi, Tomoyuki Nagai, and Takashi Okano\*



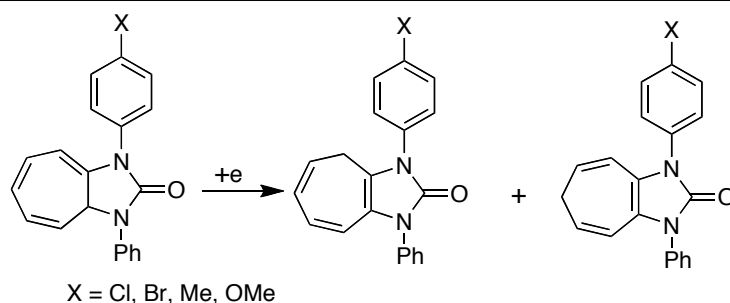
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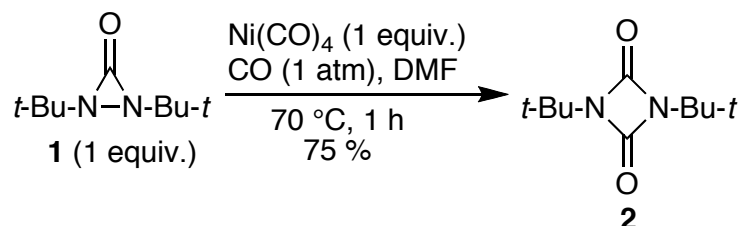
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Satoru Kondo, Takayasu Ido, and Katsuhiro Saito\*



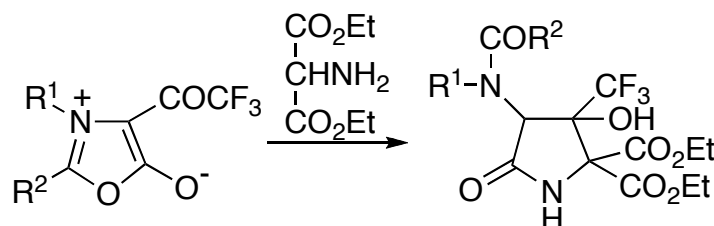
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Yoshiki Ohshiro, Satoshi Minakata, Satoshi Tamabuchi, and Mitsuo Komatsu\*



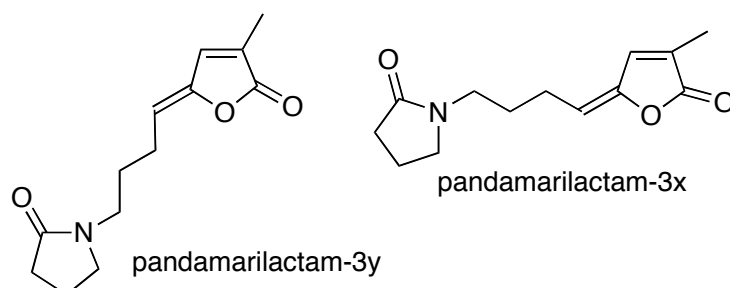
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Setsuo Saito, Hiroshi Miyamae, and Masami Kawase\*



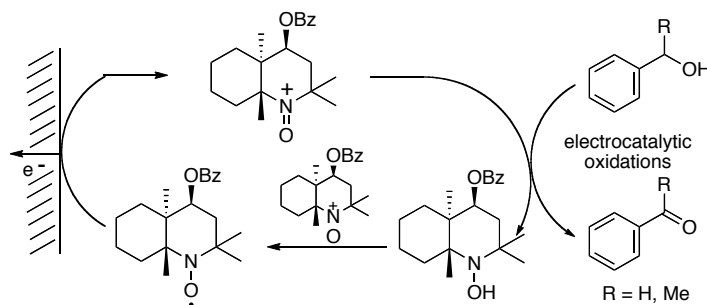
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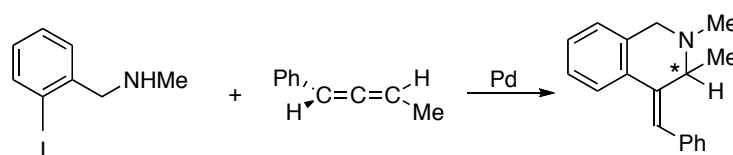
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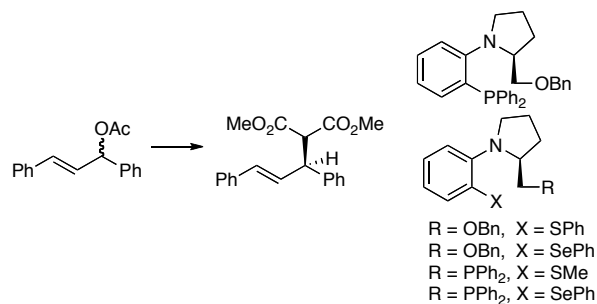
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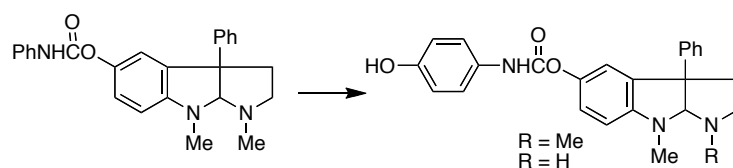
Ikuko Abe, Yoshio Suzuki, and Kunio Hiroi\*



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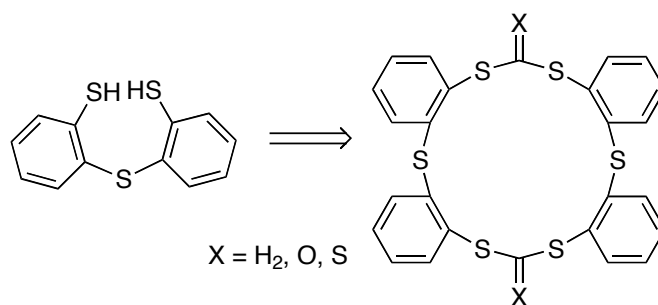
95 **4'-Hydroxyphenylcarbamates of (*3aS*)-Eseroline and (*3aS*)-*M*(1)-Noreseroline: Potential Metabolites of the Alzheimer's Anticholinesterase Drug Phenserine**

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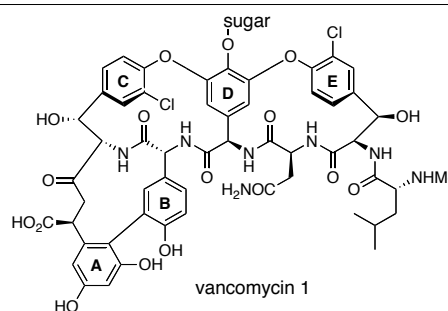


**103 Synthesis with Bis(*o*-mercapto)phenyl Sulfide: An Easy Access to Sulfurcontaining 16-Membered Heterocycles**

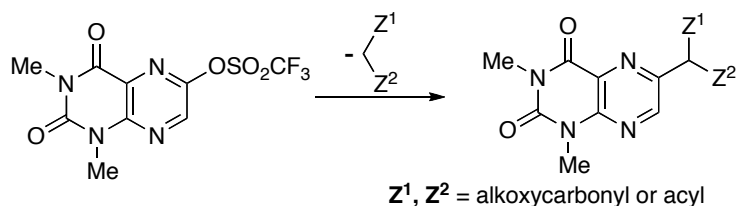
Akihiko Ishii, Yoshiaki Sugihara, Sanae Tanaka, and Juzo Nakayama\*


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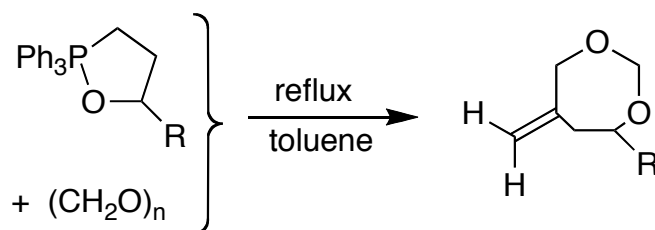
Debendra K. Mohapatra, Shashwati Pal, and Mukund K. Gurjar\*


**117 A Novel Method for Introduction of Carbon Substituents into Pteridine**

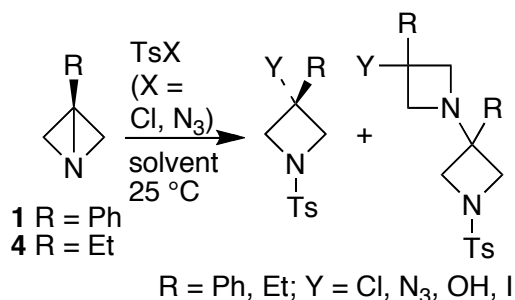
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Kosei Shioji, Ichiro Shuzui, Yuichiro Tanaka, and Kentaro Okuma\*

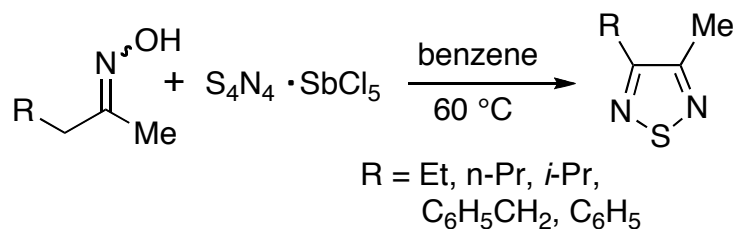

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Grzegorz Mloston, Romuald Bartnik, Sulejman Alihodzic, and Alan P. Marchand\*



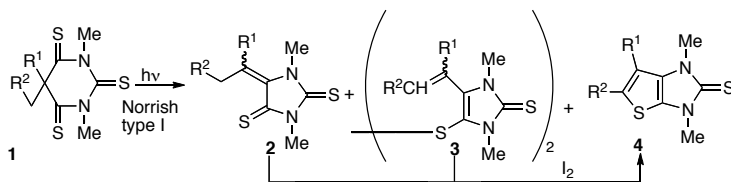
- 147 **Reactions of Alkyl Methyl Ketoximes with Tetrasulfur Tetranitride Antimony Pentachloride Complex ( $S_4N_4 \cdot SbCl_5$ ): A Regioselective Formation of 3-Alkyl-4-methyl-1,2,5-thiadiazoles and Their Mechanism of Formation**

Kil Joong Kim and Kyongtae Kim\*



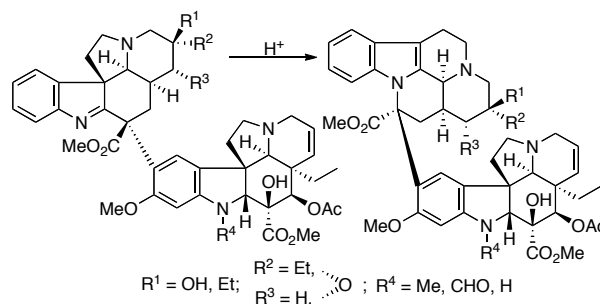
- 159 **Photochemical Transformation of Trithiobarbiturate into Thiohydantoin and Imidazolinothiophene Derivatives**

Minoru Machida, Hajime Takahashi, and Haruko Takechi\*



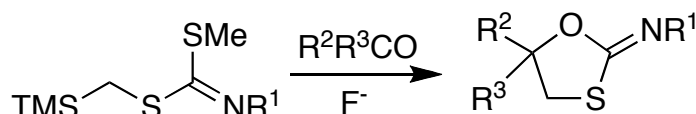
- 169 **Synthesis of Vinca Alkaloids and Related Compounds. Part XCIII. Skeletal Rearrangement of Cyclovinblastine Derivatives: Formation of a Novel Bisindole System**

Pál Kolonits, Miklós Hollósi, Csaba Szántay Jr.,  
Ádám Demeter, Katalin Honaty, and Csaba Szántay\*



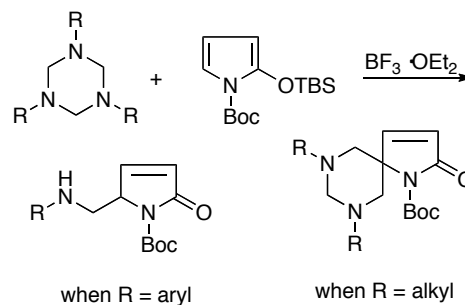
- 195 **Synthesis and Reaction of *S*-Trimethylsilylmethyl Carbonimidodithioate Derivatives: Synthetic Equivalent of Thiocarbonyl Ylide**

Chiharu Roppongi, Masahiro Yoshihara, Makoto Oba,  
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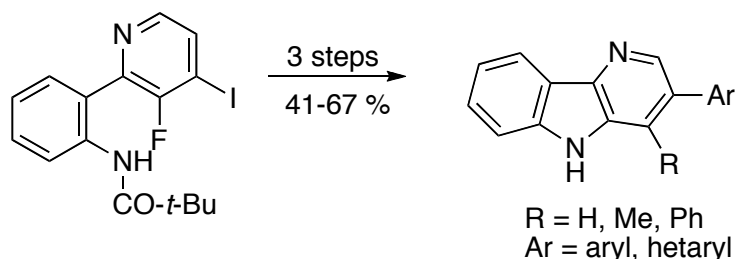
- 203 **Addition of 1-Boc-2-tert-butylidimethylsilyloxyppyrrrole to *N*-Methyleneamine Equivalents: Synthesis of 1-Boc-5-aminomethyl-2,5-dihydropyrrol-2-ones and 1-Boc-2-oxo-1,7,9-triazaspiro[4,5]dec-3-enes**

Hoseop Yun, Yongkwan Dong, Young-Gil Ahn,  
Jang-Min Suh, and Hyun-Joon Ha\*

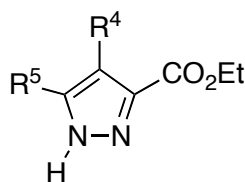


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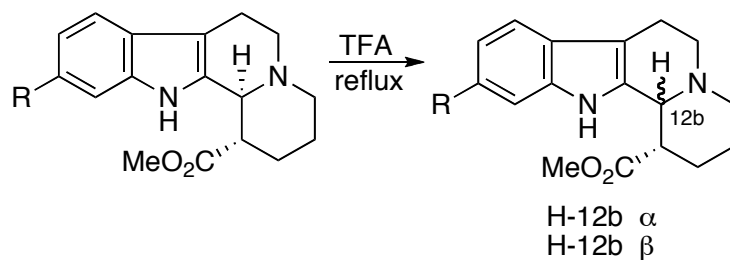
Nadine Jagerovic, Concepción López, Rosa M. Claramunt, Concepción Foces-Foces, Lourdes Infantes, and José Elguero\*



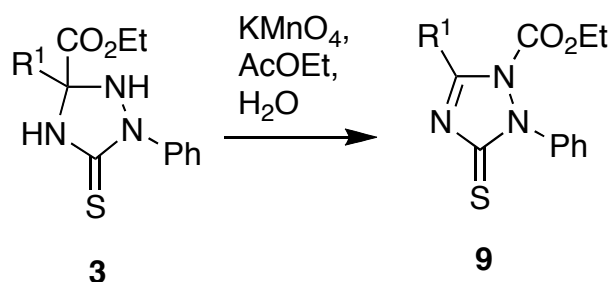
- 1 R<sup>4</sup>=R<sup>5</sup>=H
- 2 R<sup>4</sup>=H; R<sup>5</sup>=Me
- 3 R<sup>4</sup>=Me; R<sup>5</sup>=H
- 4 R<sup>4</sup>=H; R<sup>5</sup>=Ph
- 5 R<sup>4</sup>=Ph; R<sup>5</sup>=H
- 6 R<sup>4</sup>=Br; R<sup>5</sup>=H
- 7 R<sup>4</sup>=Br; R<sup>5</sup>=Me
- 8 R<sup>4</sup>=Br; R<sup>5</sup>=Ph

**243 Substituent Effects on the Rate of Acid-catalysed Epimerization of Indolo[2,3-*a*]quinolizidines**

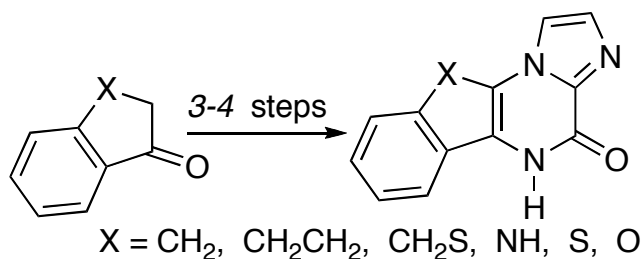
Arto Tolvanen, Mathias Berner, and Mauri Lounasmaa\*


**251 Oxidation and Rearrangement of 5-Substituted 5-Ethoxycarbonyl[1,2,4]triazolidine-3-thiones**

Klaus Wurst, Sergius Lang, and Joachim G. Schantl\*


**259 An Efficient Preparative Route to Fused Imidazo-[1,2-*a*]pyrazin-4-one Derivatives**

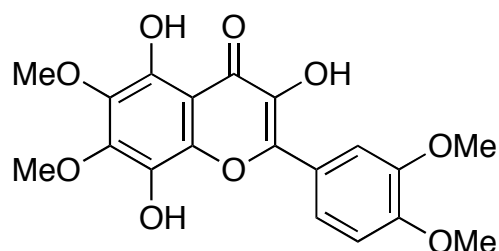
Marc Vuilhorgne, Yves Ribeill, Jean-Pierre Leconte, Patrick Jimonet, Arielle Genevois-Borella, Michel Barreau, Jean-Claude Aloup, Dominique Damour, and Serge Mignani\*





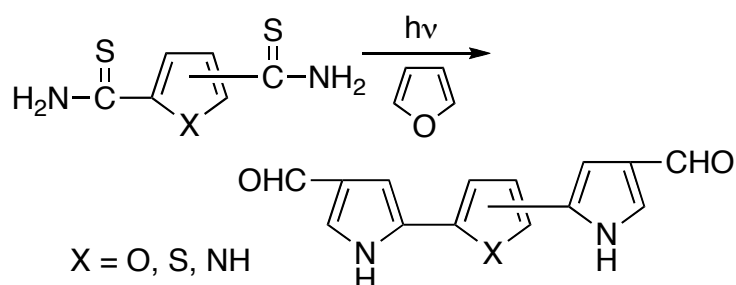
- 269 **A New Flavonol from *Murraya paniculata* var. *omphalocarpa*:  $^{13}\text{C}$ -NMR as a Useful Tool for Structure Elucidation of Polyoxyflavones**

Takeshi Kinoshita\*



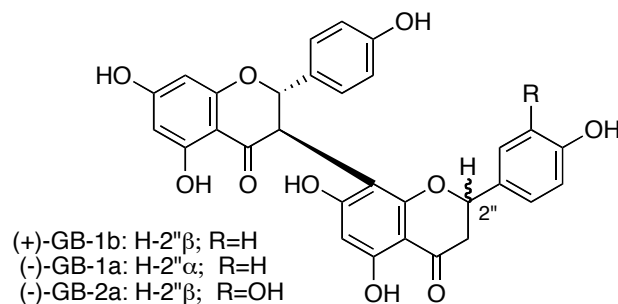
- 277 **Photoreaction of Arenecarbothioamides with Furan. Facile Synthesis of Pentagonal Di- and Tri-heterocyclic Compounds**

Minoru Machida, Kosei Ohno, Masayuki Sakai, and Kazuaki Oda\*



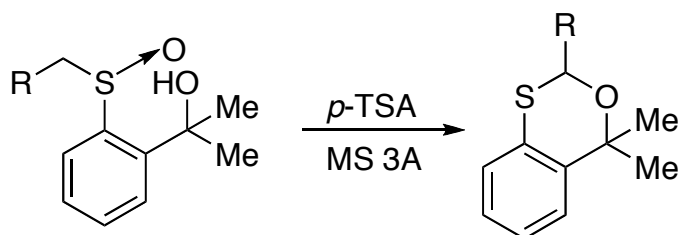
- 283 **A Study of Biflavanones from the Stems of *Garcinia kola* (Guttiferae)**

Maimuna Waziri, Mohammad Aqil, Yoshihito Kondo, Kenji Terashima, and Masatake Niwa\*



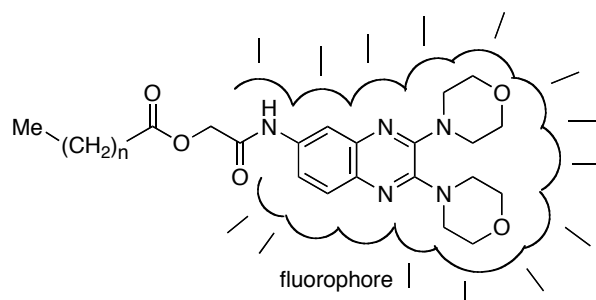
- 291 **1,3-Oxathiane Ring Formation through Intramolecular Pummerer Reaction of Alkyl *ortho*-Hydroxymethylphenyl Sulfoxides**

Teruaki Akiyama, Daisuke Tsuchida, Hiroyuki Fujii, Kentaro Shibaie, Hitoshi Abe, and Takashi Harayama\*



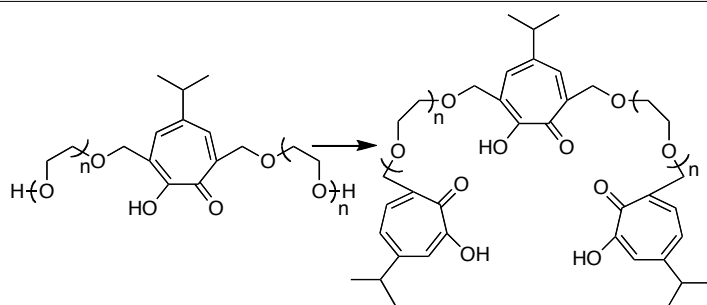
- 299 **Synthesis of 6-(Bromoacetyl)amino-2,3-dimorpholinoquinoxaline and Application to a New Fluorescence Derivatization Reagent of Fatty Acids for the High-Performance Liquid Chromatographic Analysis**

Junko Ohkanda, Motoki Takahashi, Takeshi Fujimoto, and Akira Katoh\*

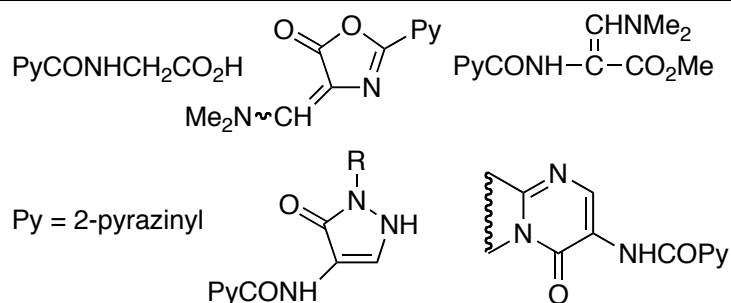


**309 Synthesis of New Podand Possessing Three Tropolonoids Connected by Two Oligoethylene Glycol Chains**

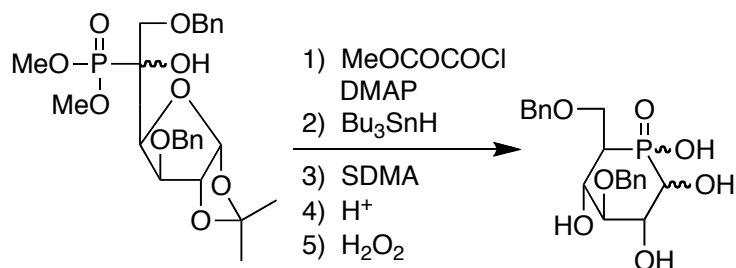
Shigeyuki Kikumoto, Yoshiko Tokuno, Takuro Kanbe, Takehisa Kato, and Tadahiro Kato\*


**315 4-Dimethylaminomethylene-2-pyrazinyl-5(4*H*)-oxazolone as a Synthon for the Synthesis of Various Pyrazoles and Fused Pyrimidines**

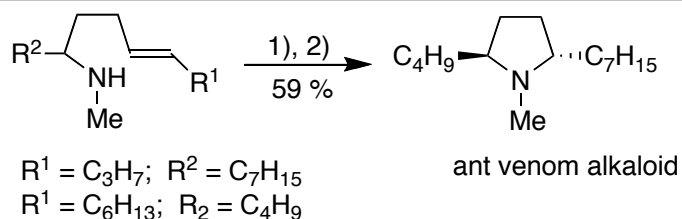
Slovenko Polanc, Viktor Kozjan, Vladimir Kepe, and Marijan Kočevar\*


**323 A New Route for Preparation of 5-Deoxy-5-hydroxy-phosphinyl-D-gluco- and L-idopyranose Derivatives**

Satoru Ikejiri, Yasushi Fujii, Tadashi Hanaya, and Hiroshi Yamamoto\*


**333 New Stereoselective Synthesis of (±)-*trans*-2-Butyl-5-heptyl-1-methylpyrrolidine, Ant Venom Alkaloid, by Aminyl Radical Cyclization**

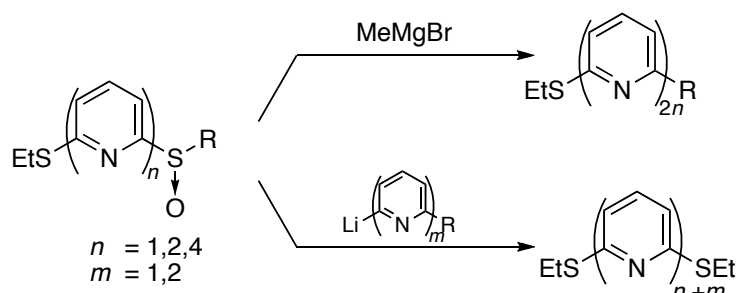
Kazuhiko Orito, Hikaru Hasegawa, Hisanori Senboku, and Masao Tokuda\*


*reagents and conditions;*

 1) NCS - toluene; 2)  $\text{Bu}_3\text{SnH}$  - AIBN - toluene, reflux

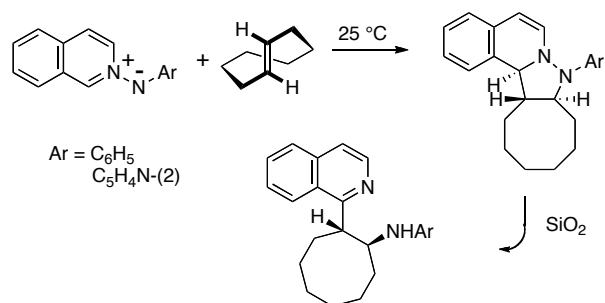
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Shigeru Oae, Osamu Yonemitsu, Shoji Wakabayashi, Takakazu Tanaka, Kenji Nishiwaki, Sin'ichiro Hata, Tetsuya Ueno, and Jun'ichi Uenishi\*

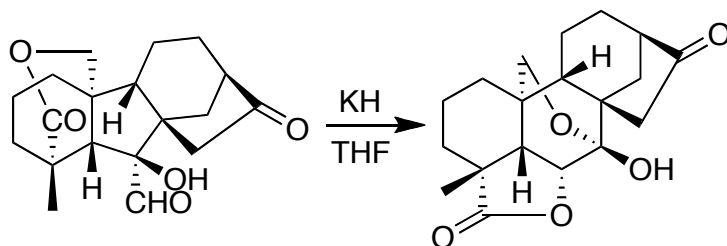


**353 Isoquinolinium *N*-Arylimides and *trans*-Cyclooctenes**

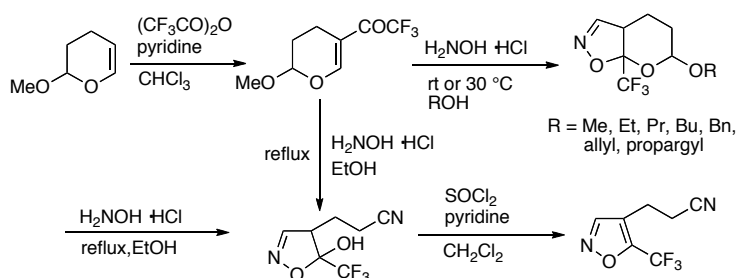
Dieter Boeckh, Kurt Polborn, Francisco Palacios-Gambra, and Rolf Huisgen\*


**365 Expansion of Ring B in the Gibberellins: Entry to the *Rabdosia* Family of Kaurenoids**

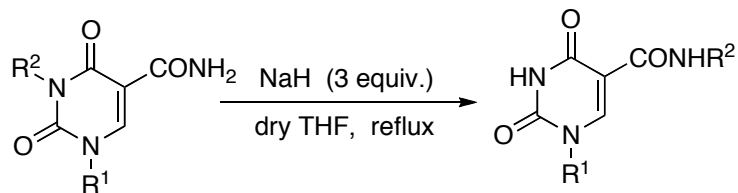
George Adamson, Lynda J. Benjamin, and Lewis N. Mander\*


**377 A Simple Synthetic Method for Fluorine-containing 4*H*-Pyrano[3,2-*d*]isoxazoles and 4-Cyanoethylisoxazoles from 5-Trifluoroacetyl-2-methoxy-3,4-dihydro-2*H*-pyran with Hydroxylamine Hydrochloride**

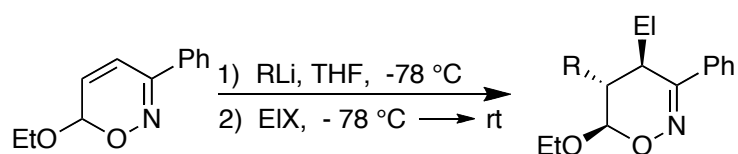
Takeshi Kitahora, Yukihiko Nishida, Hiroshi Okumura, and Etsuji Okada\*


**385 Diversity of Rearrangement of 3-Substituted 5-Carbamoyl-1-phenyluracil Derivatives**

Itaru Niimoto, Yoshiaki Fujita, Hironao Sajiki, and Kosaku Hirota\*

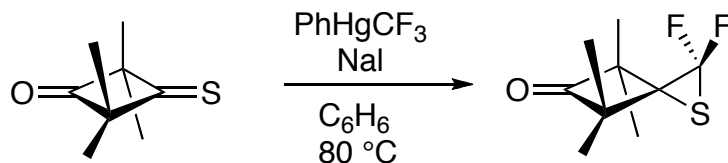

**393 1,4-Addition of Organolithium Compounds to 6-Ethoxy-3-phenyl-6*H*-1,2-oxazine**

Florian Hiller, Reinhold Zimmer, and Hans-Ulrich Reissig\*

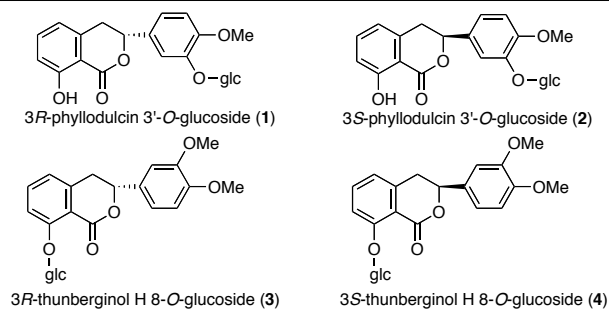


**403 First Synthesis of *gem*-Difluorothiiranes from Cycloaliphatic Thioketones and Difluorocarbene**

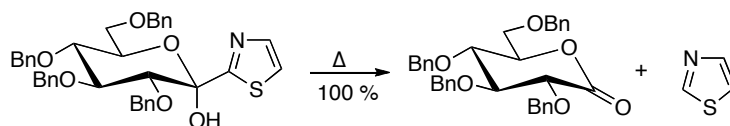
Jaroslaw Romanski, Grzegorz Mloston, and Heinz Heimgartner\*


**411 Absolute Stereostructures of 3*S*-Phyllodulcin, 3*R*- and 3*S*-Phyllodulcin Glycosides, and 3*R*- and 3*S*-Thunberginol H Glycosides from the Leaves of *Hydrangea macrophylla* SERINGE var. *thunbergii* MAKINO**

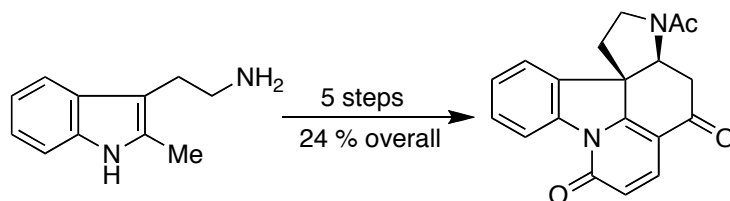
Hisashi Matsuda, Johji Yamahara, Hiroshi Shimoda, Tomohiko Ueda, Toshiyuki Murakami, and Masayuki Yoshikawa\*


**■ NOTES**
**419 Thiazole as Leaving Group. Thermal Elimination from Thiazolyketoses**

Alberto Marra and Alessandro Dondoni\*

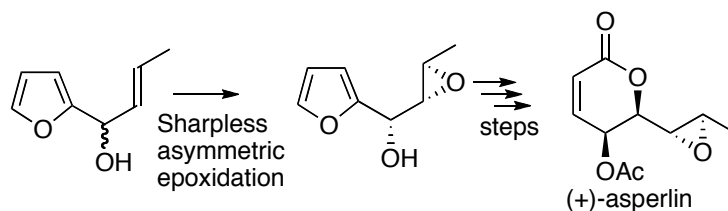

**427 A Facile Construction of the Woodward Ketone by a Zinc(II) Chloride-catalyzed Stille Coupling Reaction**

Kogyoku Shin and Kunio Ogasawara\*

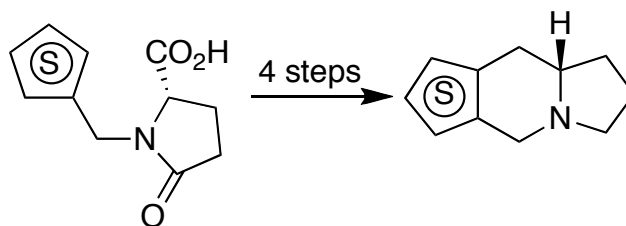


**433 Enantio- and Diastereoselective Synthesis of (+)-Asperlin by the Sharpless Asymmetric Kinetic Resolution of an Unsymmetrical Divinylcarbinol**

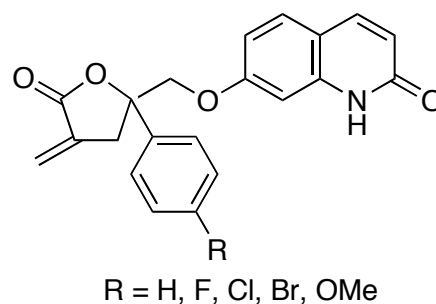
Nobuko Sano, Kazuo Kanai, and Toshio Honda\*


**445 Synthesis of Enantiopure (S)-Thieno[7]indolizidines**

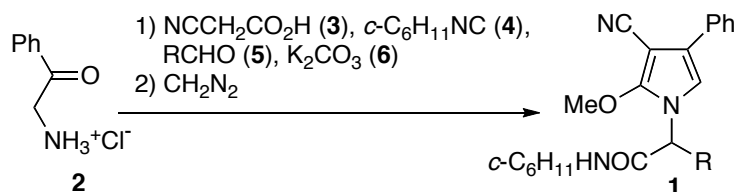
Nathalie Bar, Fridrich Szemes, Stefan Marchalin, and Bernard Decroix\*


**453 Synthesis of Certain Quinolin-2(1*H*)-one  $\alpha$ -Methylene- $\gamma$ -butyrolactones as Potential Antiplatelet Agents**

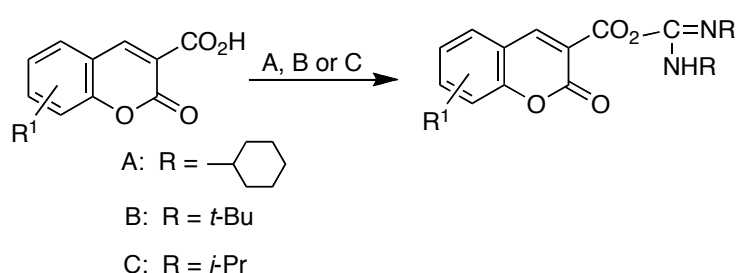
Nein-Chen Chang, Kuo-Chang Fang, Tai-Chi Wang, Yeh-Long Chen, and Cherng-Chyi Tzeng\*


**463 Studies on Isocyanides and Related Compounds. A Facile Synthesis of 1-Substituted 3-Cyano-2-methoxy-3-phenylpyrroles**

Tomás Torroba, Stefano Marcaccini, Ricardo Bossio, and Roberto Pepino\*

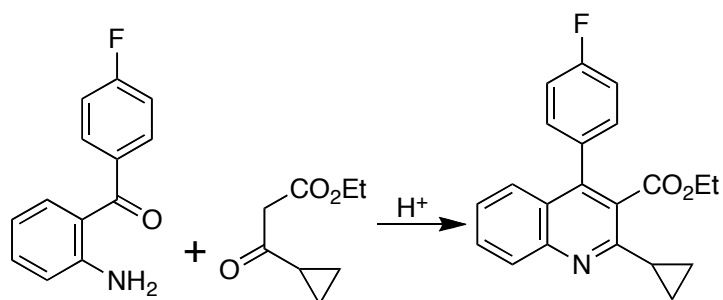

**469 Synthesis of Coumarin-3-*O*-acylisoureas by Different Carbodiimides**

Daniela Secci, Giuseppe Loy, Silvio M. Lavagna, Filippo Cottiglia, and Leonardo Bonsignore\*



479 Practical Synthesis of Quinoline Nucleus of NK-104

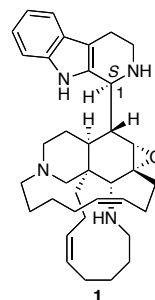
Keizo Tanikawa, Mikio Suzuki, and Ryozo Sakoda\*



485 A New Manzamine Congener from Marine Sponge

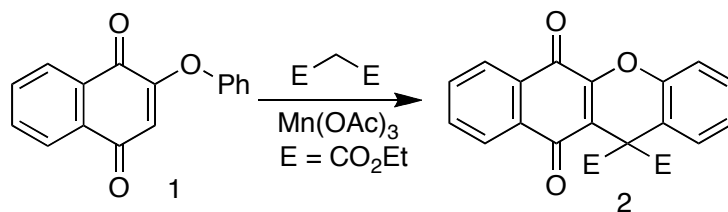
*Amphimedon* sp.

Daisuke Watanabe, Masashi Tsuda, and Jun'ichi Kobayashi\*



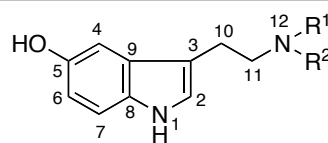
489 Manganese(III) Acetate Initiated Oxidative Free Radical Reaction between 2-Aryloxy-1,4-naphthoquinones and Dialkyl Malonates

Jia-Han Lee, Sheow-Fong Wang, and Che-Ping Chuang\*



499 Bufobutanoic Acid and Bufopyramide, Two New Indole Alkaloids from the Chinese Traditional Drug Ch'an Su

George R. Pettit, Hideji Itokawa, Koichi Takeya, Hirohumi Hashima, Toshihiko Nogawa, Ayano Kotake, Rui Takano, Hiroshi Morita, and Yoshiaki Kamano\*



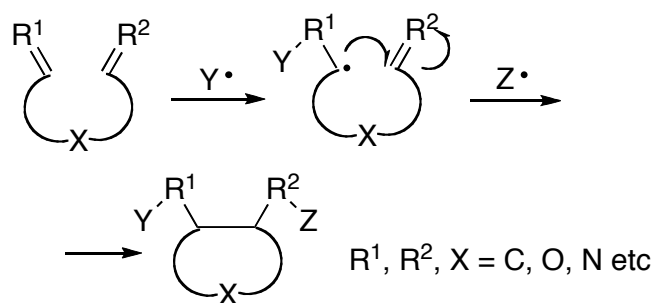
bufobutanoic acid  $R^1 = \overset{13}{\text{CO}}\overset{14}{\text{CH}_2}\overset{15}{\text{CH}_2}\overset{16}{\text{CO}_2\text{H}}$ ;  $R^2 = \text{H}$

bufopyramide  $R^1 = \overset{13}{\text{CO}}\overset{14}{\text{Me}}$ ;  $R^2 = \overset{15}{\text{CO}}\overset{16}{\text{C}}\overset{17}{\text{N}}\overset{18}{\text{H}}\overset{19}{\text{H}}\overset{20}{\text{Me}}\overset{21}{\text{H}}$

■ REVIEWS

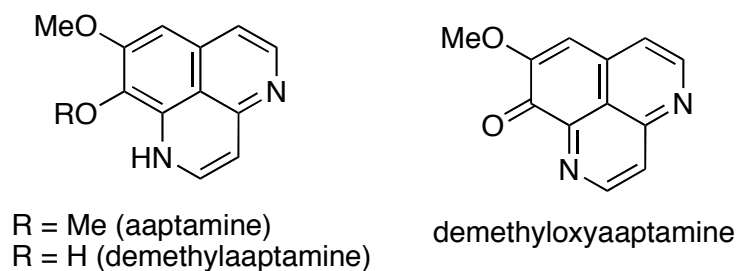
505 Heteroatom Radical Addition-Cyclization and Its Synthetic Application

Takeaki Naito\*



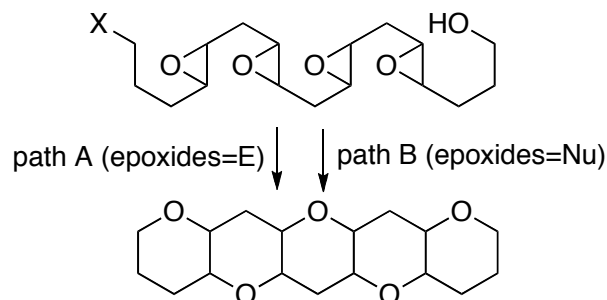
543 Progress in Total Synthesis of Marine Alkaloids, Aaptamines

Tominari Choshi, Eiichi Sugino, and Satoshi Hibino\*



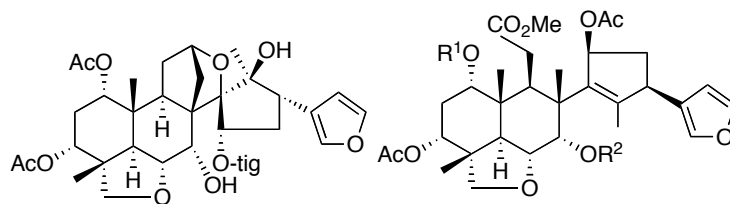
561 Chemical Realization of the Biogenetic Pathways Proposed for the Fused-polycyclic Ethers of Marine Origins

Tetsuo Tokiwano, Nobuyuki Hayashi, Kenshu Fujiwara, and Akio Murai\*



595 Limonoids from *Melia toosendan* (Meliaceae) and Their Antifeedant Activity

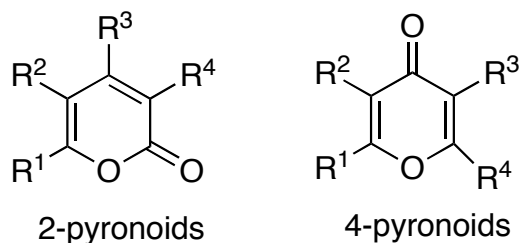
Munehiro Nakatani\*



Several types of limonoids have been discussed.

611 Synthesis and Reactivity of Pyronoids in Aqueous Medium

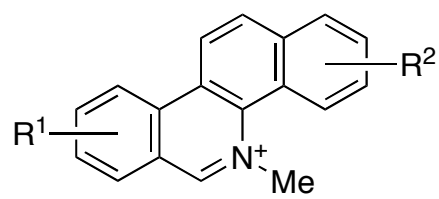
Ferdinando Pizzo, Oriana Piermatti, and Francesco Fringuelli\*



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627 **Recent Advances on Antitumor-active Benzo[*c*]-phenanthridine Alkaloids**

Hisashi Ishii and Tsutomu Ishikawa\*



benzo[*c*]phenanthridines

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