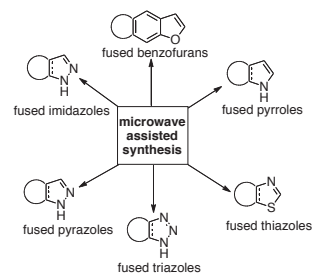


## ■ REVIEWS

**2451 Microwave Assisted Synthesis of Fused Heterocyclic Compounds**

Kumar V. Srinivasan,\* Pratip K. Chaskar, Satish Dighe, Dhanashri S. Rane, Pranav V. Khade, and Kishor S. Jain

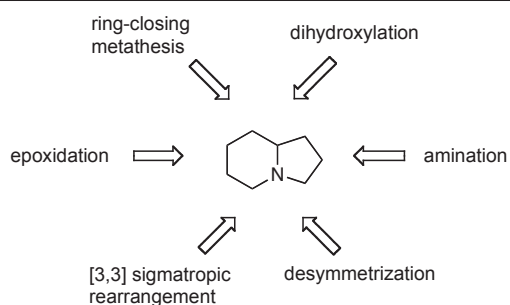


Graphical Representation of Microwave Assisted Synthesis of Five Membered Fused Heterocyclic Compounds Reviewed

Microwave Assisted Synthesis    Five Membered Fused Heterocycle

**2489 Recent Advances in the Total Synthesis of Indolizidine Iminosugars**

In Su Kim\* and Young Hoon Jung\*

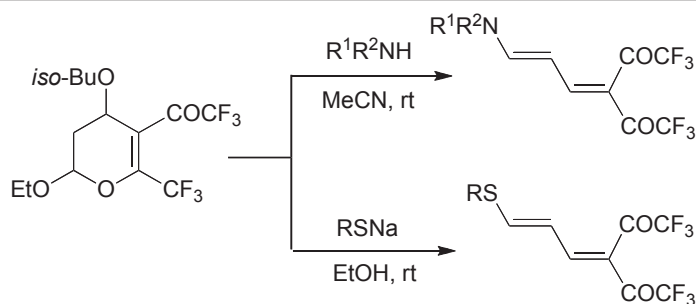


Iminosugar    Indolizidine    Alkaloid    Methodology    Synthesis

## ■ PAPERS

**2509 A Molecular Orbital Calculation Study on Ring-Opening Reactions of Fluorine-Containing 3,4-Dihydro-2H-pyrans with Amines and Thiols**

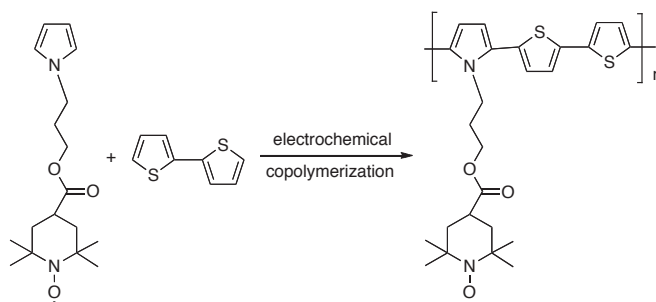
Norio Ota, Yasuhiro Kamitori,\* Yusuke Tamai, Guo Feng, Mizuki Hatakenaka, and Etsuji Okada\*



Fluorine-Containing Heterocycle    Dihydropyran    1,3-Butadienylamine    1,3-Butadienyl Sulfide    Molecular Orbital Calculation

**2517 Voltammetric Behavior of Mediator-Modified Electrode by Electrochemical Copolymerization of Nitroxyl Radical Precursor Containing Pyrrole Side Chain and Thiophenes**

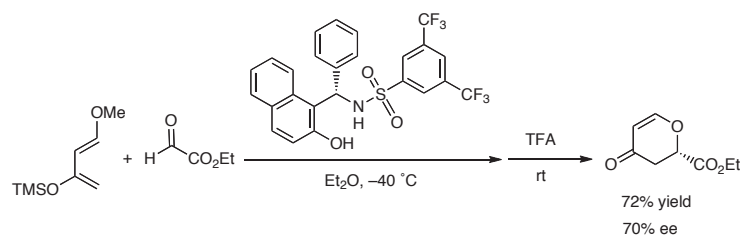
Yoshitomo Kashiwagi,\* Makiko Tsunoda, and Tetsuya Ono



Electrochemical Copolymerization    Pyrrole    2,2'-Bithiophene    Nitroxyl Radical    Electrocatalysis

**2525 Novel Sulfonamide Catalyzed Asymmetric Hetero-Diels-Alder Reaction of Ethyl Glyoxylate with Danishefsky's Diene**

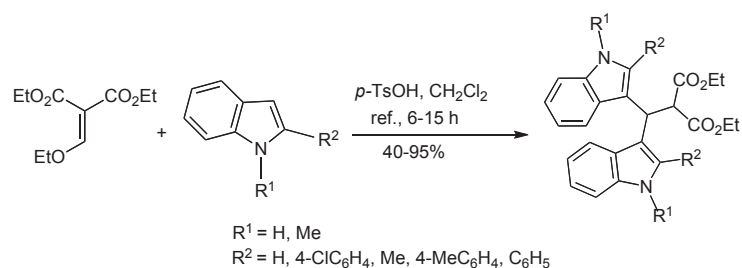
Takuya Kanemitsu, Yasufumi Asajima, Takashi Shibata, Michiko Miyazaki, Kazuhiro Nagata, and Takashi Itoh\*



Organocatalysis    Sulfonamide    Asymmetric Synthesis    Hetero-Diels-Alder Reaction    Danishefsky's Diene

**2535 Synthesis of Novel Methylene Bridge Functionalized Bis(indolyl)methanes through a Double Michael Addition**

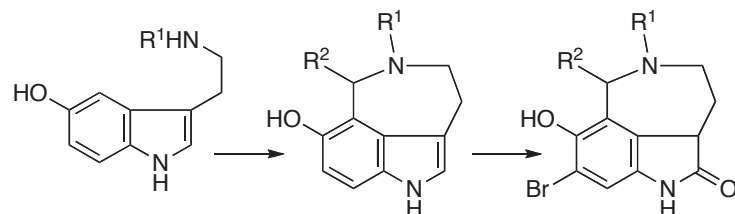
Mojgan Kargar, Rahim Hekmatshoar,\* and AbdolJalil Mostashari



Ethoxymethylenemalonate    Methylene-Bridged Bis(3-indolyl)methane    Double Michael Acceptor    Indole Trimer    Tandem Double Michael Addition

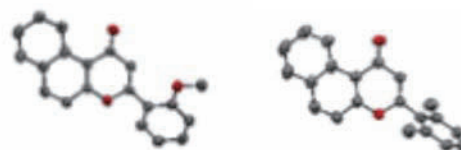
**2547 A Novel Synthesis of 3,4,5,6-Tetrahydro-7-hydroxy-1*H*-azepino[5,4,3-*cd*]indole Derivatives from Serotonin**

Koji Yamada, Sakiko Teranishi, Ayako Miyashita, Minoru Ishikura, and Masanori Somei\*


*Λb*-Acylserotonin    *Λb*-Alkylserotonin    3,4,5,6-Tetrahydro-7-hydroxy-1*H*-azepino[5,4,3-*cd*]indole    1*H*-Azepino[5,4,3-*cd*]indole-2-one    Serotonin

**2563 Confirmation of Molecular Planarity Disruption Effect on Aqueous Solubility Improvement of  $\beta$ -Naphthoflavone Analogs**

Yuji Fujita, Mitsuhiro Yonehara, Katsushi Kitahara, Jun Shimokawa, Yuichi Hashimoto, and Minoru Ishikawa\*



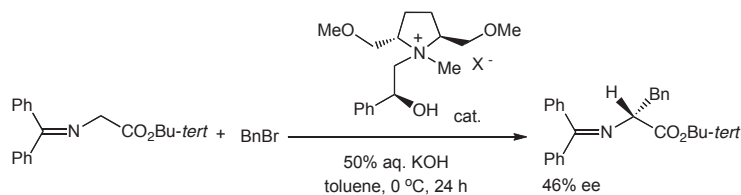
dihedral angle	31.1 °	68.4 °
UV absorption	272 nm	261 nm
crystal density	1.396 g/cm <sup>3</sup>	1.301 g/cm <sup>3</sup>
<b>solubility</b>	<b>45.8</b> μg/mL	<b>1270</b> μg/mL

Solubility    Molecular Planarity    Naphthoflavone    Dihedral Angle    Crystal

## ■ SHORT PAPERS

**2577 C<sub>2</sub>-Symmetric Pyrrolidine-Based Chiral Ammonium Salts as a Phase-Transfer Catalyst**

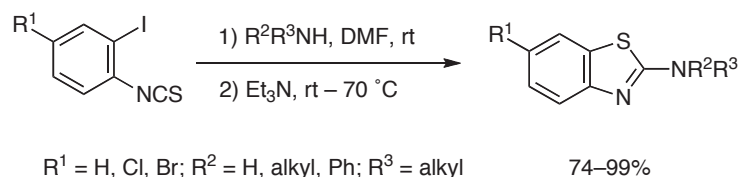
Tatsuya Ishikawa, Kazuhiro Nagata, Sachiko Kani, Mamoru Matsuo, Daisuke Sano, Takuya Kanemitsu, Michiko Miyazaki, and Takashi Itoh\*



Phase-Transfer Catalyst    Pyrrolidinium Salt    Asymmetric Alkylation    Glycinate Schiff Base    Counter Anion Effect

**2589 One-Pot Synthesis of Benzothiazol-2-amines by Cyclization of the Adducts between 2-Iodophenyl Isothiocyanates and Amines under Metal-Free Conditions**

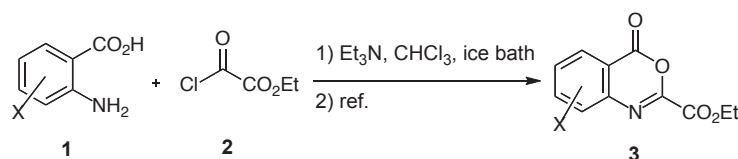
Kazuhiro Kobayashi,\* Akihiro Kobayashi, Kazuya Murahashi, and Shuhei Fukamachi



Benzothiazol-2-amine    2-Iodophenyl Isothiocyanate    Metal-Free Conditions    Thiourea    *N,N*-Bis(benzothiazol-2-yl)ethanediamine

**2597 An Efficient Approach for the One-Pot Synthesis of Ethyl 4-Oxo-4*H*-benzo[*d*][1,3]oxazine-2-carboxylates**

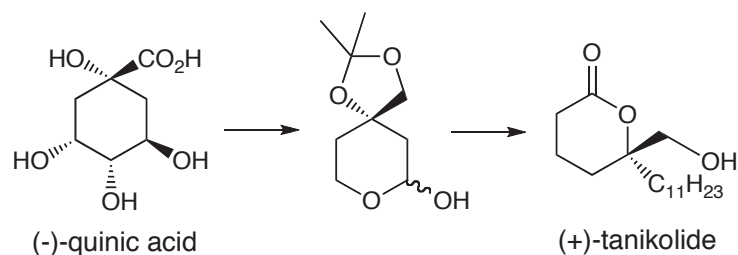
Farzad Nikpour,\* Mahnaz Sharafi-Kolkeshvandi, and Asrin Bahmani



4*H*-3,1-Benzoxazine-4-one    Anthranilic Acid    Ethyl 2-Chloro-2-oxoacetate    Cyclization Reaction    One-Pot Synthesis

**2601 Synthesis of (*R*)-(+)-Tanikolide, a Toxic and Antifungal  $\delta$ -Lactone from the Marine Cyanobacterium *Lyngbya majuscula***

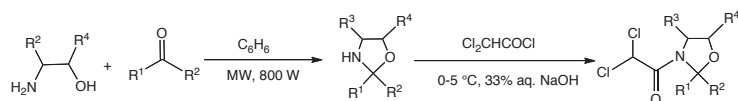
Keizo Matsuo,\* Junko Hikita, and Keiji Nishiwaki



(+)-Tanikolide    (-)-Quinic Acid    Toxic and Antifungal  $\delta$ -Lactone    *Lyngbya majuscula*

**2607 Microwave-Assisted Synthesis and Bioactivity of Novel 2,2,4,5-Tetrasubstituted 3-Dichloroacetyl-1,3-oxazolines**

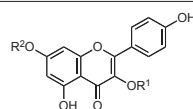
Ying Fu, Lei Yang, Fei Ye,\* and Shuang Gao



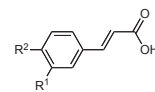
Microwave Assisted Reaction    Synthesis    Dichloroacetyloxazolidine    Bioactivity    Herbicide Safener

2615 **New Flavonol Glycosides from *Cardamine komarovii***

Il Kyun Lee, Eun-Kyung Jeong, Sang Un Choi, Jongki Hong, and Kang Ro Lee\*



- |  |   |
|--|---|
| 1 : R <sup>1</sup> = Glc                   | R <sup>2</sup> = Glc(1-6)Glc                            |
| 2 : R <sup>1</sup> = Glc(1-4)[Rha(1-6)]Glc | R <sup>2</sup> = H                                      |
| 2a : R <sup>1</sup> = H                    | R <sup>2</sup> = H                                      |
| 3 : R <sup>1</sup> = Glc(1-4)[Rha(1-6)]Glc | R <sup>2</sup> = Glc                                    |
| 4 : R <sup>1</sup> = Glc(1-4)[Rha(1-6)]Glc | R <sup>2</sup> = 2-( <i>E</i> -caffeoyl)Glc             |
| 5 : R <sup>1</sup> = Glc(1-4)[Rha(1-6)]Glc | R <sup>2</sup> = 2-( <i>E</i> -feruloyl)Glc             |
| 6 : R <sup>1</sup> = Glc(1-4)[Rha(1-6)]Glc | R <sup>2</sup> = 2-( <i>E</i> - <i>p</i> -coumaroyl)Glc |
| 7 : R <sup>1</sup> = Glc(1-4)[Rha(1-6)]Glc | R <sup>2</sup> = 4-( <i>E</i> -feruloyl)Glc             |
| 8 : R <sup>1</sup> = Glc                   | R <sup>2</sup> = H                                      |
| 9 : R <sup>1</sup> = Rha(1-6)Glc           | R <sup>2</sup> = H                                      |
| 10 : R <sup>1</sup> = Rha(1-6)Glc          | R <sup>2</sup> = Glc                                    |

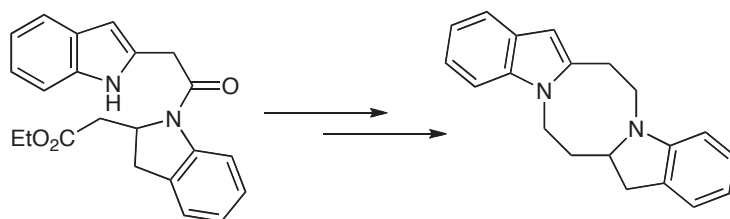


- 4a : R<sup>1</sup> = R<sup>2</sup> = OH  
 5a : R<sup>1</sup> = OMe; R<sup>2</sup> = OH  
 6a : R<sup>1</sup> = H; R<sup>2</sup> = OH

*Cardamine komarovii*    Cruciferae    Kaempferol    Kaempferol Glucopyranoside    Cytotoxicity

2627 **A New Synthetic Approach to Pentacyclic Ring, 6,7,14,15-Tetrahydro[1,5]diazocino[1,2-*α*:6,5-*α'*]-8-dihydroindole**

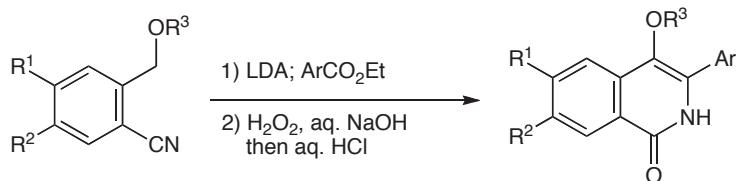
Kittisak Sripha,\* Darius Paul Zlotos, Ulrike Holzgrabe, and Somsak Ruchirawat



New Pentacyclic Ring System    Intramolecular *M*-Alkylation    *M*-Acylation    Tosylation    Cyclization

2635 **A Convenient Synthesis of 4-Alkoxy(or Aryloxy)-3-arylisoquinolin-1(2*H*)-ones from 2-[Alkoxy(or Aryloxy)methyl]benzonitriles**

Kazuhiro Kobayashi,\* Kota Matsumoto, Akihiro Kobayashi, and Miyuki Tanmatsu



R<sup>1</sup> = H, Br, OMe; R<sup>2</sup> = H, OMe; R<sup>3</sup> = alkyl, aryl

Isoquinolin-1(2*H*)-one    2-(Alkoxy)methyl)benzonitrile    2-(Lithiomethyl)benzonitrile    Benzylic Carbanion    Lithiation

■ NEW HETEROCYCLIC NATURAL PRODUCTS

- 2643 Polyketides
- 2648 Aromatics
- 2652 Terpenes
- 2666 Alkaloids
- 2673 Miscellaneous

■ TOTAL SYNTHESIS OF HETEROCYCLIC NATURAL PRODUCTS

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- 2675 Polyketides
  - 2678 Aromatics
  - 2679 Terpenes
  - 2682 Alkaloids
  - 2687 Miscellaneous
-

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2525, 2577	Kanemitsu, Takuya		
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2589, 2635	Kobayashi, Kazuhiro		
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2635	Matsumoto, Kota		
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2547	Miyashita, Ayako		
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2563	Shimokawa, Jun		