

■ CELEBRATION OF PROF. DR. DR. *h.c.* LUTZ F. TIETZE

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- 1 Preface to Heterocycles Issue  
Honoring the 75th Birthday of Prof. Dr. *h.c.* Lutz F. Tietze  
Daniel B. Werz\*
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■ CURRICULUM VITAE

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- 7 Curriculum Vitae  
Lutz F. Tietze\*
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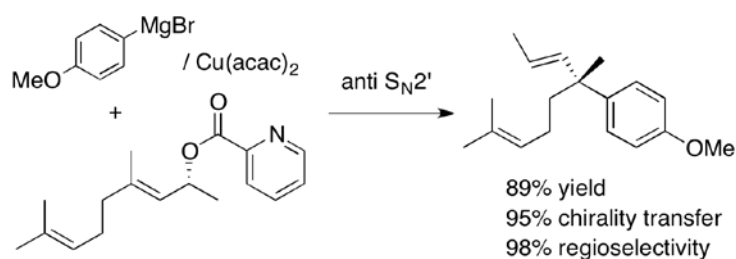
■ PUBLICATIONS

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- 9 List of Publications (Prof. Dr. Dr. *h.c.* Lutz F. Tietze)  
Lutz F. Tietze\*
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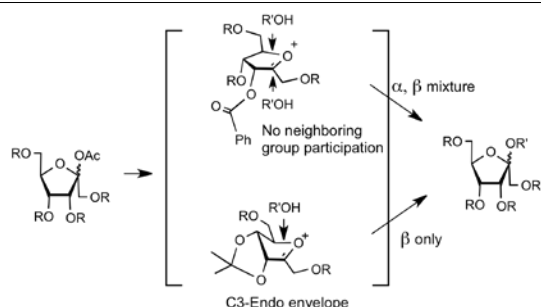
## ■ COMMUNICATIONS

- 47 **Synthesis of (*S*)- and (*R*)-Sporochinol by Using the Allylic Substitution of the Secondary Allylic Picolinate**  
 Yuichi Kobayashi,\* Yusuke Sugihara, Toshifumi Tojo, and Takuri Ozaki



Allylic Substitution Reaction    Picolinate    Pd-Catalyzed Methylation    Trisubstituted Allylic Alcohol    Sporochinol

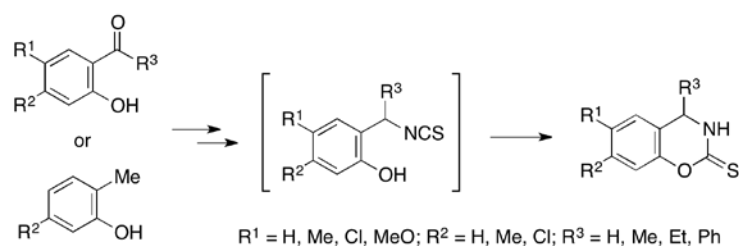
- 55 **Stereoselectivity of D-Psicofuranosylation Influenced by Protecting Groups of Psicofuranosyl Donors**  
 Takashi Yamanoi,\* Yoshiki Oda, Toshiaki Ishiyama, and Mikio Watanabe



Psicofuranosylation    Neighboring Group Participation    Fructofuranosylation    Glycosyl Oxocarbenium Ion Intermediate    Protecting Group

## ■ PAPERS

- 63 **Synthesis of 3,4-Dihydro-2*H*-1,3-benzoxazine-2-thiones via Cyclization of 2-(1-Isothiocyanatoalkyl)phenols**  
 Kazuhiro Kobayashi,\* Hiroki Inouchi, Naoki Matsumoto, and Yuuki Chikazawa



3,4-Dihydro-2*H*-1,3-benzoxazine-2-thione    2-(1-Isothiocyanatoalkyl)phenol    Leuckart Reaction    Staudinger Reaction    Azide

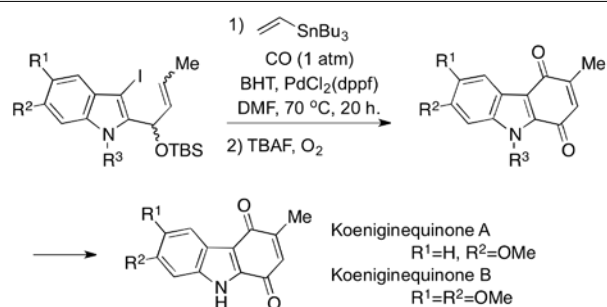
- 75 **Synthesis of 2-Arylquinoxalines: Triarylstibane-Catalyzed Oxidative Cyclization of  $\alpha$ -Hydroxy Ketones with 1,2-Diamines under Aerobic Conditions**  
 Mio Matsumura, Rie Takada, Yuu Ukai, Mizuki Yamada, Yuki Murata, Naoki Kakusawa, and Shuji Yasuike\*



2-Arylquinoxaline    Oxidative Cyclization    Triarylstibane     $\alpha$ -Hydroxy Ketone    1,2-Diamine

**84 Total Synthesis of Carbazole-1,4-quinone Alkaloid Koeniginequinones A and B Based on a One-Pot Cyclocarbonylation Procedure from 2-Alkenyl-3-iodoindole**

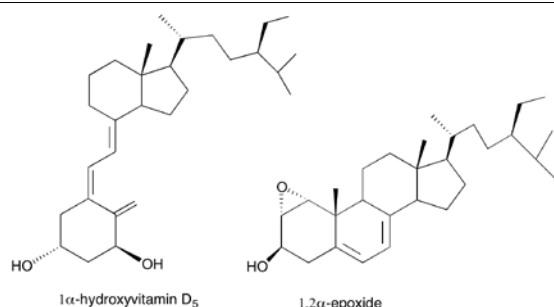
Takashi Nishiyama, Nanase Satsuki, Satoshi Hibino,\* Mami Fujii, Takumi Abe, Minoru Ishikura, and Tominari Choshi\*



Koeniginequinone A    Koeniginequinone B    Carbazole-1,4-quinone    Cyclocarbonylation Reaction    One-Pot Reaction

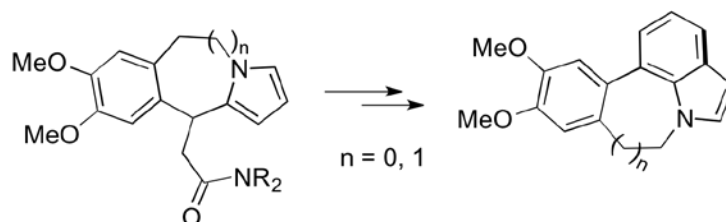
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Michiyasu Takahashi, Seiya Hosokawa, Yuuya Ono, and Noboru Kubodera\*


 1 $\alpha$ -Hydroxyvitamin D<sub>5</sub>    1,2 $\alpha$ -Epoxide    Vitamin D<sub>5</sub>    Stigmasterol    Vitamin D

**114 Access to Apoerysopine and Pratosine Skeletons via Intramolecular Carbolithiation and Palladium-Catalyzed Alkenylation Reactions**

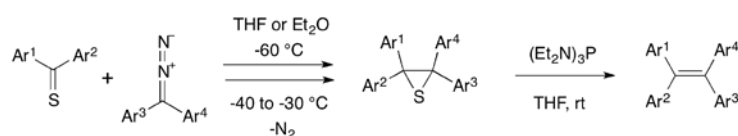
Estíbaliz Coya, Esther Lete, and Nuria Sotomayor\*



Carbolithiation Reaction    C-H Alkenylation Reaction    Pyrrolobenzazepine    Erythrine

**127 New Applications of Hetaryl Thioketones for the Synthesis of Hetaryl-Substituted Ethenes via 'Two-Fold Extrusion Reaction'**

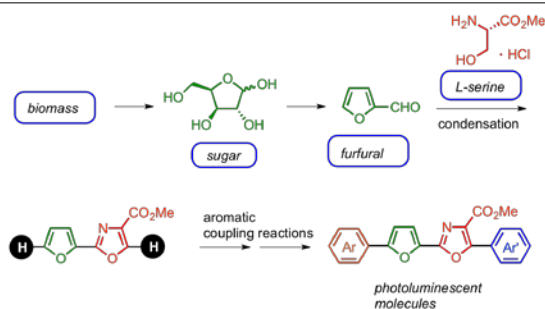
Grzegorz Młostoń, Katarzyna Urbaniak, Aneta Pawlak, and Heinz Heimgartner\*



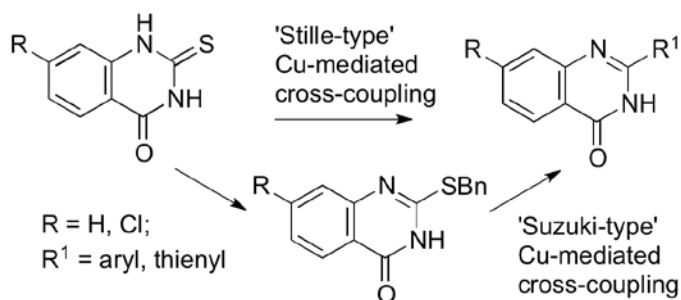
Thioketone    Thiirane    Hetaryl-Substituted Ethene    [2+3] Cycloaddition Reaction    Two-Fold Extrusion Reaction

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Yuki Murase, Kana Ashida, Shota Tanaka, Kentaro Okano, and Atsunori Mori\*

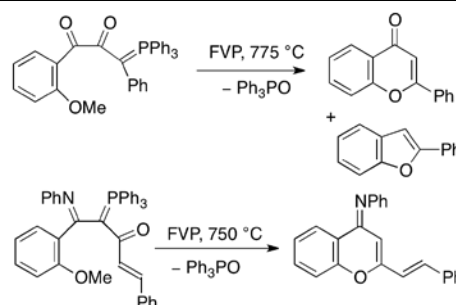

 Furfural    L-Serine    Cross-Coupling Reaction     $\pi$ -Conjugation    Photoluminescence

- 150** Conversion of 2-Thioxo-2,3-dihydroquinazolin-4(1*H*)-ones to *N*(3)-Unsubstituted 2-(Het)Arylquinazolin-4(3*H*)-ones by Copper-Mediated Pd-Catalysed Cross-Coupling Reactions  
 Vilija Kriščiūnienė, Gita Matulevičiūtė, Osvaldas Paliulis, Patrick Rollin, and Algirdas Šačkus\*



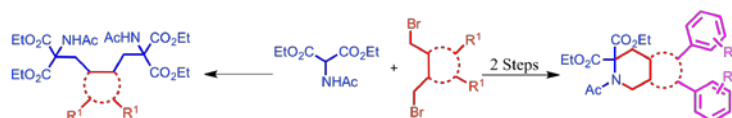
Quinazolin-4(3*H*)-one    2-Thioxo-2,3-dihydroquinazolinone    Cross-Coupling Reaction    Liebeskind-Srogl Reaction

- 164** New Gas-Phase Domino Processes Leading to Benzopyranones and Benzofurans  
 R. Alan Aitken\* and Da Chang



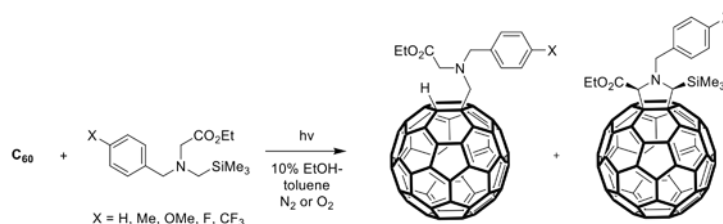
Benzopyranone    Phosphorus Ylide    Benzofuran    Pyrolysis    Flavone

- 185** Diversity-Oriented Approach to 1,2,3,4-Tetrahydroisoquinoline-3-carboxylic Acid (Tic) Derivatives  
 Sambasivarao Kotha,\* Shilpi Misra, Nimita Gopal Krishna, Vijayalakshmi Bandi, Mohammad Saifuddin, and Nagaraju Devunuri



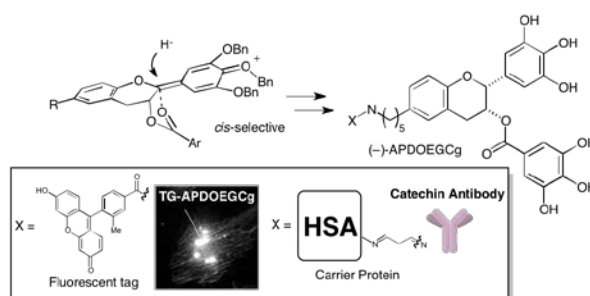
Tic Derivative    *bis*-Armed-Amino Acid Derivative    Suzuki–Miyaura Cross-Coupling Reaction

- 202** Synthesis of Functionalized Fullerenes by Photoaddition of *N*- $\alpha$ -Trimethylsilyl-*N*-carboxymethyl-*N*-benzylamines to  $C_{60}$   
 Suk Hyun Lim, Dae Won Cho,\* and Patrick S. Mariano\*



Photochemistry    Fullerene    Aminomethyl-1,2-dihydrofullerene    Fulleropyrrolidine    SET

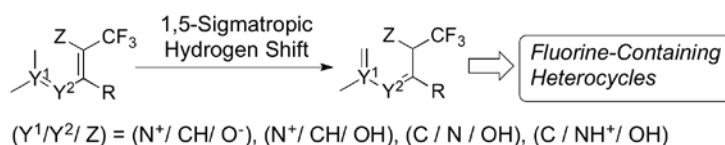
- 218** Synthesis of Chemical-Biology Tools Enabling *in vivo* Imaging and Analysis of Epigallocatechin Gallate  
 Tomohiro Asakawa,\* Atsushi Yoshida, Yasuo Hirooka, Takashi Suzuki, Kunihiko Itoh, Kosuke Shimizu, Naoto Oku, Takumi Furuta, Toshiyuki Wakimoto, Makoto Inai, and Toshiyuki Kan



EGCg    Quinone Methide    Dihydrobenzopyrane    Fluorescein Probe    Catechin Antibody

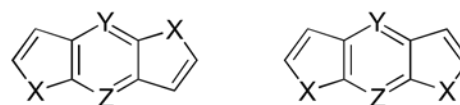
**243 Computational Study for 1,5-Sigmatropic Hydrogen Shift on Trifluoromethylazadiene Derivatives - The Key Step in the Synthesis of Fluorine-Containing Oxazines -**

Norio Ota, Yasuhiro Kamitori,\* Takashi Okuda, and Etsuji Okada


 DFT Calculation    3,6-Dihydro-2*H*-1,3-oxazine    Azadiene    1,5-Sigmatropic Hydrogen Shift

**250 A DFT Investigation of the *anti*- and *syn*-Fused Isomers of Difuropyridines, Difuropyrazines, and Their Dithieno Analogues**

Naoto Hayashi,\* Naoki Okamoto, Naho Sasaki, Miho Ito, Junro Yoshino, and Hiroyuki Higuchi

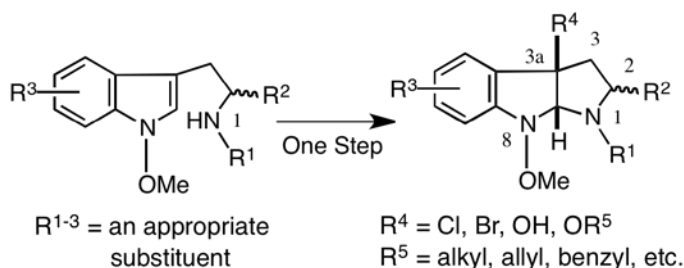


X = O, S  
 (Y, Z) = (CH, CH), (CH, N), (N, CH), (N, N)

Fused Compound    DFT Calculation    Energy Level

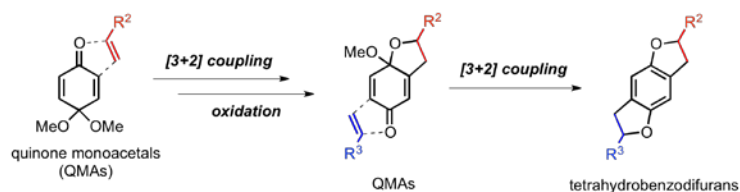
**259 Simple Synthetic Method for 1,2,3,3a,8,8a-Hexahydro-pyrrolo[2,3-*b*]indoles Having a Halogen or an Oxygen Functional Group at the 3a-Position**

Takako Iwaki, Yoshikazu Fukui, Masaki Okigawa, Fumio Yamada, Yoshiyuki Nagahama, Sachiko Ogasawara, Satomi Tanaka, Shiho Funaki, and Masanori Somei\*


 1-Methoxytryptamine    1-Methoxy-*N*b-methoxycarbonyltryptamin    1,2,3,3a,8,8a-Hexahydro-pyrrolo[2,3-*b*]indole

**295 New Synthesis of Tetrahydrobenzodifurans by Iterative Coupling of Quinone Monoacetals with Alkene Nucleophiles**

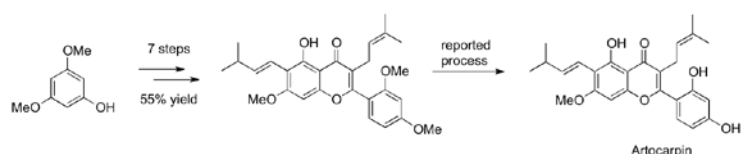
Tohru Kamitanaka, Hitoho Takamuro, Kazuyuki Shimizu, Yudai Aramaki, Toshifumi Dohi, and Yasuyuki Kita\*



Quinone Monoacetal    Benzodifuran    [3+2] Coupling Reaction    Cyclization Reaction    Alkene

**310 Formal Total Synthesis of Artocarpin**

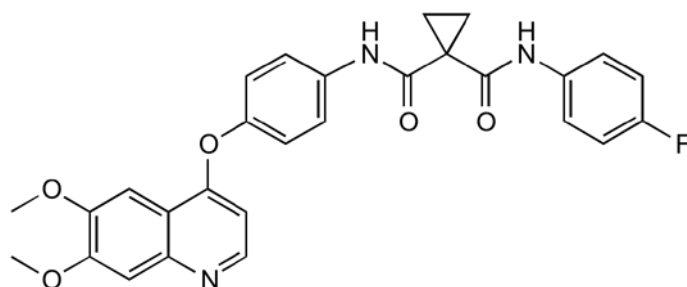
Isao Mizota, Kana Taniguchi, and Makoto Shimizu\*



Artocarpin    Flavone    Suzuki-Miyaura Coupling Reaction    Iodination Reaction    Demethylation Reaction

**323 Crystal Structures of Intermediates in a New Synthesis of Antitumor Drug Cabozantinib**

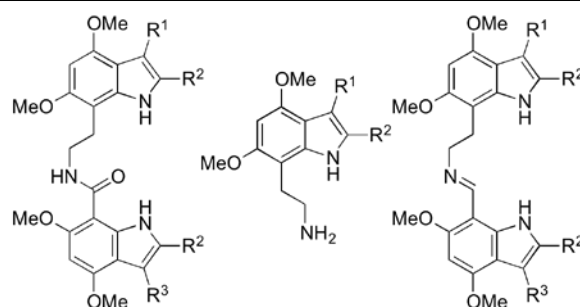
Gerhard Laus, Erwin Schreiner, Sven Nerdinger,\*  
Volker Kahlenberg, Klaus Wurst, Stefan Vergeiner,  
and Herwig Schottenberger



Cabozantinib    Antitumor Drug    Amide

**333 Synthesis of 7,7'-Linked-bis-Indoles via 7-Tryptamines**

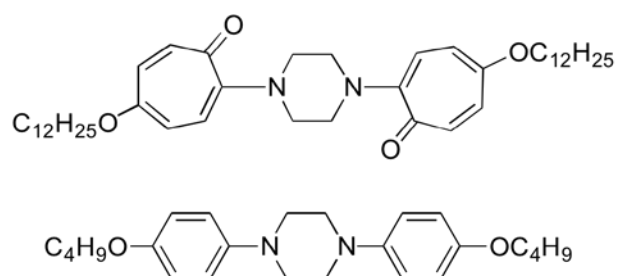
Hakan Kandemir, Ibrahim F. Sengul, Christopher R. Gardner,  
Eryn L. Werry, Melissa L. Barron, Michael Kassiou,  
Naresh Kumar, and David StC. Black\*



bis-Indole    Tryptamine    Indole    Nitrovinylindole    Indolecarbaldehyde

**SHORT PAPERS**
**347 Crystal Structures of *N,N'*-bis(5-Dodecyloxytropon-2-yl)piperazine and *N,N'*-bis(4-Butoxyphenyl)piperazine**

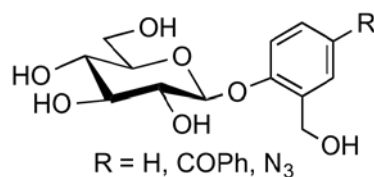
Kanji Kubo,\* Emi Yamamoto, Taisuke Matsumoto, Seiji Ujiie,  
and Akira Mori



Troponoid    Piperazine    Liquid Crystal    Crystal Structure    X-Ray Analysis

**355 Synthesis of Benzophenone and Phenylazide Derivatives of Salicin for Functional Analysis of the Bitter Taste Receptor Using Photoaffinity Labeling**

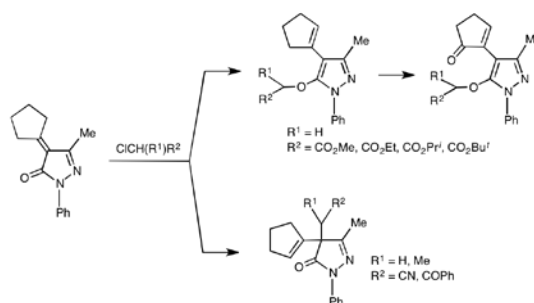
Takuma Yoshida, Yasuyuki Hashidoko, and  
Makoto Hashimoto\*



Photoaffinity Labeling    Bitter Taste Receptor    Salicin    Benzophenone    Arylazide

**362 Chemical Reactivity and Application of 4-Alkylidene-3H-pyrazol-3-ones: Synthesis and Antifungal Activity of Polysubstituted Pyrazoles**

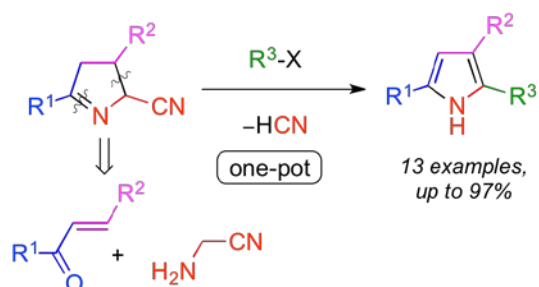
Hiroshi Maruoka,\* Masataka Hokao, Nobuhiro Kashige, Eiichi Masumoto, Fumi Okabe, Reiko Tanaka, Fumio Miake, Toshihiro Fujioka, and Kenji Yamagata



Pyrazole Alkylidenepyrazolone Epoxidation Isomerization Antifungal Activity

**378 A Short Synthesis of 2,3,5-Trisubstituted Pyrroles by an Alkylation/Dehydrocyanation Sequence**

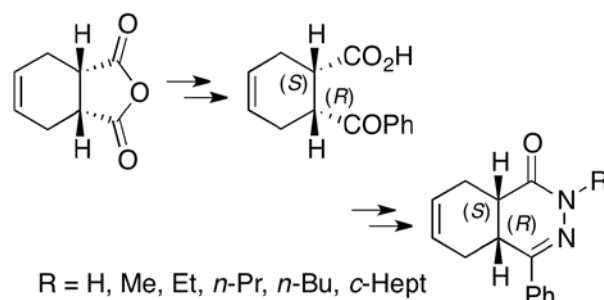
Murat Kucukdisli, Marco M. Nebe, Solveig M. Bartelt, and Till Opatz\*



Pyrrole Alkylation Reaction One-Pot Synthesis Elimination Reaction Cyclocondensation Reaction

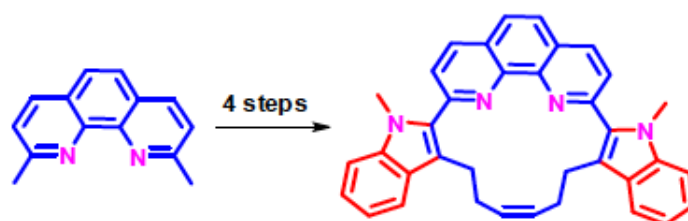
**391 Asymmetric Synthesis of *cis*-4a,5,8,8a-Tetrahydrophthalazin-1(2H)-one Derivatives Based on Organocatalytic Alcoholysis of Cyclic Dicarboxylic Anhydride**

Shigeki Sano,\* Masanori Kamura, Akihito Nakamura, Syuji Kitaike, and Michiyasu Nakao


*cis*-4a,5,8,8a-Tetrahydrophthalazin-1(2H)-one Organocatalyst Enantioselective Alcoholysis Chiral Sulfonamide Phosphodiesterase Type 4

**399 Synthesis of Phenanthroline and Indole Based Hybrid Cyclophane Derivatives via Ring-Closing Metathesis**

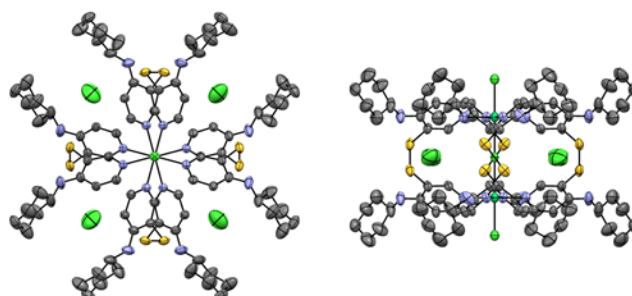
Sambasivarao Kotha,\* Mukesh E. Shirbhate, Ajay Kumar Chinnam, and Gaddamedi Sreevani



Grignard Reaction Fischer Indole Cyclization Phenanthroline Cyclophane Ring-Closing Metathesis

**406 Synthesis of a Cage-Shaped Nickel(II) Complex of bis(4-Cyclohexylamino-3-pyridyl)disulfide with  $\mu_2\text{-Cl}$  Bridging**

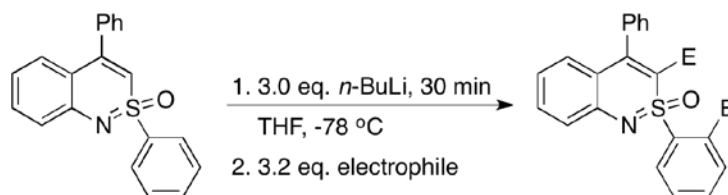
Kouzou Matsumoto,\* Naoki Kitayama, Yasukazu Hirao, Hiroyuki Kurata, and Takashi Kubo\*



Cage-Shaped Nickel Complex Cage-Shaped Complex 4-Amino-3-pyridinethiolate

**411 Dilithiation of a 2,1-Benzothiazine**

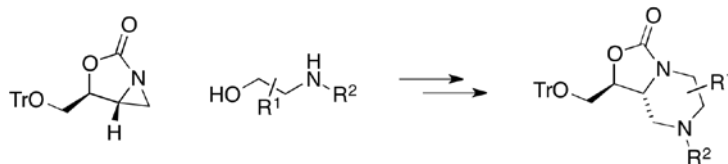
Nathan L. Calkins, Carissa S. Hampton, and Michael Harmata\*



Benzothiazine    Sulfoximine    Metalation    Lithiation

**422 A Synthesis of Hexahydro-*H*-oxazolo[3,4-*a*]pyrazin-3-ones from Fused Aziridines**

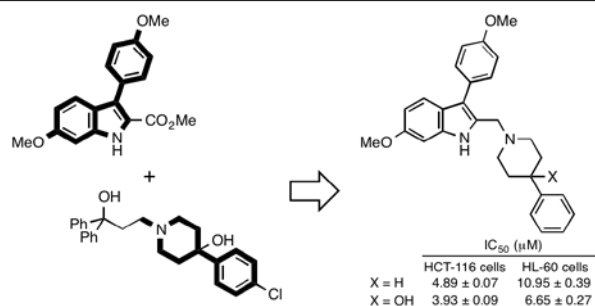
Fang Fang, Iwona Maciagiewicz, and Stephen C. Bergmeier\*



Aziridine    Piperazine    Oxazolidinone    Fused-Ring

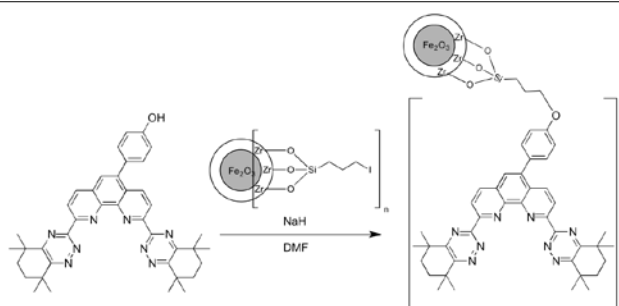
**440 Antiproliferative Activity of Hybrid Compounds between 6-Methoxy-3-(4-methoxyphenyl)-1*H*-indole and 4-Phenylpiperidine against HCT-116 and HL-60 Cells**

Noriyuki Hatae,\* Takashi Nishiyama, Shoko Tamura, Ryohei Yamamoto, Ayaka Matsui, Hiroki Shinchi, Satoshi Hibino, Chiaki Okada, Teruki Yoshimura, Tominari Choshi, and Eiko Toyota\*


 Antiproliferative Activity    6-Methoxy-3-(4-methoxyphenyl)-1*H*-indole    4-Phenylpiperidine Derivative    Density Functional Theory    Tumor Cell

**453 Comparing the Extraction of Am(III), Cm(III) and Eu(III) by CyMe<sub>4</sub>-BTPPh-Functionalized Silica and Zirconia-Coated Magnetic Nanoparticles**

James Westwood, Ashfaq Afsar, Laurence M. Harwood,\* Michael J. Hudson, Jan John, and Petr Distler


 Americium    Curium    Functionalized-Magnetic Nanoparticles (MNPs)    CyMe<sub>4</sub>-BTPPh    Zirconia



## Contributors To This Issue

- 84 Abe, Takumi  
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323	Wurst, Klaus		
259	Yamada, Fumio		
75	Yamada, Mizuki		
362	Yamagata, Kenji		
347	Yamamoto, Emi		
440	Yamamoto, Ryohei		