



## Tetrahedron Vol. 65, No. 12, 2009

## Contents

## REPORT

## Synthetic routes toward 2-substituted 2-imidazolines

R. David Crouch

pp 2387–2397



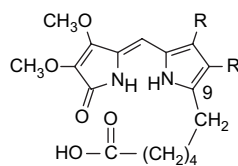
Methods for the synthesis of 2-substituted 2-imidazolines are reviewed. While older, more established methods continue to be used for the preparation of these compounds, more recent reports describe techniques that provide multiple points of diversity, making them especially useful in library development for this pharmacologically-important class of compounds.

## ARTICLES

## Amphiphilic dipyrinones: methoxylated [6]-semirubins

Sanjeev K. Dey, David A. Lightner\*

pp 2399–2407

1: R = OCH<sub>3</sub>; 2: R = CH<sub>3</sub>

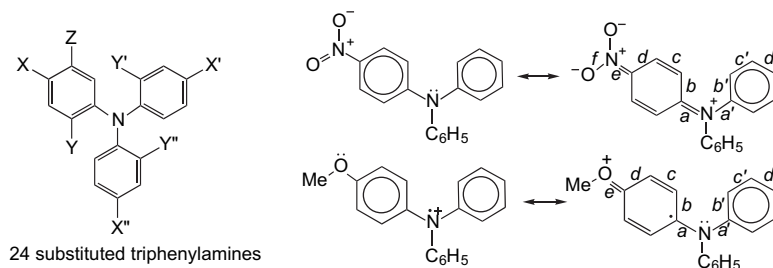
Synthesized from the corresponding 9*H*-dipyrinones, [6]-semirubins **1** and **2** were shown to be intramolecularly hydrogen-bonded in CDCl<sub>3</sub> by <sup>1</sup>H NMR and monomeric in CHCl<sub>3</sub> by vapor pressure osmometry. Yet X-ray crystallography of **1** indicates intermolecular hydrogen-bonded dimers.

**Substituent effects on the redox properties and structure of substituted triphenylamines.**

pp 2408–2414

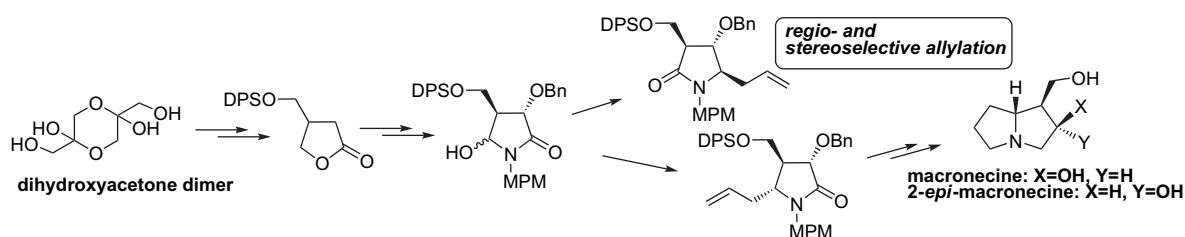
**An experimental and computational study**

Xin Wu, Anthony P. Davis, Peter C. Lambert, L. Kraig Steffen, Ozan Toy, Albert J. Fry\*

**Extremely high regio- and stereoselective C–C bond formation of substituted  $\gamma$ -hydroxylactams: synthesis of macronecines based on their structural duality**

pp 2415–2423

Tetsuya Sengoku, Takamasa Suzuki, Tatsuro Kakimoto, Masaki Takahashi, Hidemi Yoda\*

**Alkane oxidation by the  $\text{H}_2\text{O}_2$ – $\text{NaVO}_3$ – $\text{H}_2\text{SO}_4$  system in acetonitrile and water**

pp 2424–2429

Lidia S. Shul'pina, Marina V. Kirillova, Armando J.L. Pombeiro\*, Georgiy B. Shul'pin\*

**A new synthesis of benzo[b]thiophenes utilizing an interrupted Pummerer reaction**

pp 2430–2435

Kazuhiro Kobayashi\*, Mai Horiuchi, Shuhei Fukamachi, Hisatoshi Konishi

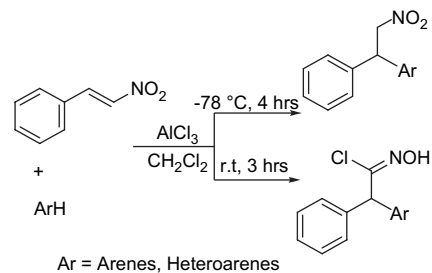


### An efficient method for the synthesis of $\alpha$ -arylated nitroalkanes and $\alpha$ -arylated hydroximoyl chlorides mediated by $\text{AlCl}_3$

pp 2436–2442

Zhijay Tu, B. Rama Raju, Tzuo-Rung Liou, Veerababurao Kavala, Chun-Wei Kuo, Yaochung Jang, Yu-Hsuan Shih, Chun-Chao Wang, Ching-Fa Yao\*

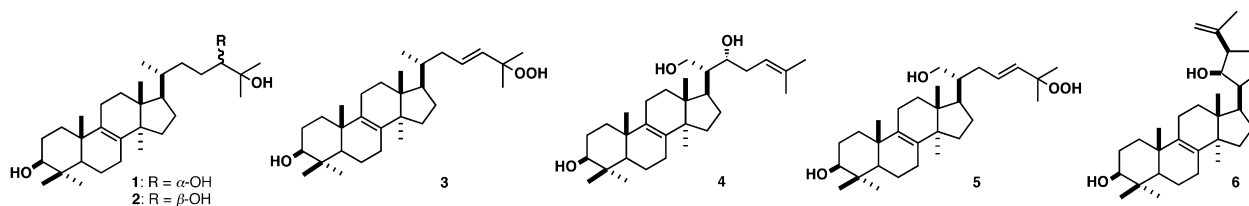
Friedel–Crafts alkylation of various arenes/heteroarenes to  $\beta$ -nitrostyrenes mediated by aluminum chloride is described. The interesting feature of this methodology pertain the formation of different products by tuning the reaction temperature.  $\alpha$ -Arylated nitroalkanes were formed predominately at  $-78^\circ\text{C}$ , whereas  $\alpha$ -arylated hydroximoyl chlorides were obtained at room temperature without any side products in high yields.



### Absolute stereostructures of inoterpenes A–F from sclerotia of *Inonotus obliquus*

pp 2443–2450

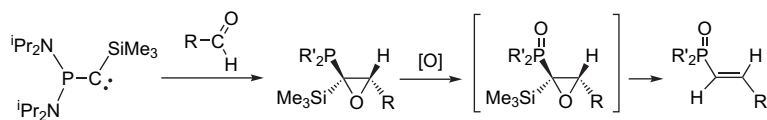
Seikou Nakamura, Junko Iwami, Hisashi Matsuda, Shuichi Mizuno, Masayuki Yoshikawa\*



### A stereoselective synthetic entry to $\beta$ -substituted $\alpha$ -[(*trans*)-vinyl] phosphonamides

pp 2451–2454

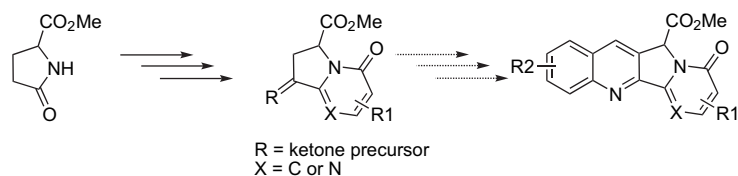
Ona Illa, Sergio Celis, Aimée El-Kazzi, Heinz Gornitzka, Antoine Baceiredo, Vicenç Branchadell, Rosa M. Ortuño\*



### Toward new camptothecins. Part 5: On the synthesis of precursors for the crucial Friedländer reaction

pp 2455–2466

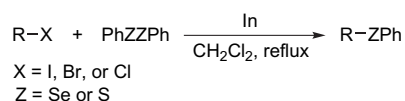
Thomas Boisse, Laurent Gavara, Jean-Pierre Hénochart, Benoît Rigo\*, Philippe Gautret\*



### Indium-mediated cleavage of diphenyl diselenide and diphenyl disulfide: efficient one-pot synthesis of unsymmetrical diorganyl selenides, sulfides, and selenoesters

pp 2467–2471

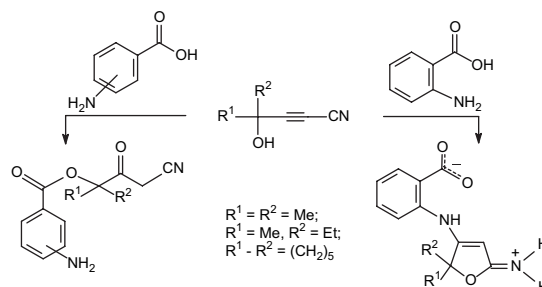
Wanida Munbunjong, Eun Hwa Lee, Poonlarp Ngermaneerat, Sung Jun Kim, Gurpinder Singh, Warinthorn Chavasiri\*, Doo Ok Jang\*



### Reactions of aminobenzoic acids with $\alpha,\beta$ -acetylenic $\gamma$ -hydroxy nitriles: synthesis of functionalized amino acids and unusually facile esterification and acetylene hydration

pp 2472–2477

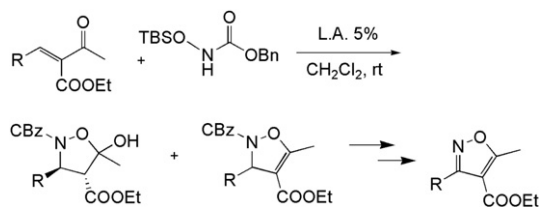
Boris A. Trofimov\*, Anastasiya G. Mal'kina, Olesya A. Shemyakina, Valentina V. Nosyreva, Angela P. Borisova, Alexander I. Albanov, Olga N. Kazheva, Grigori G. Alexandrov, Anatolii N. Chekhlov, Oleg A. Dyachenko



### A convenient synthesis of functionalized isoxazolines and related 5-hydroxyisoxazolidine-4-carboxylates

pp 2478–2483

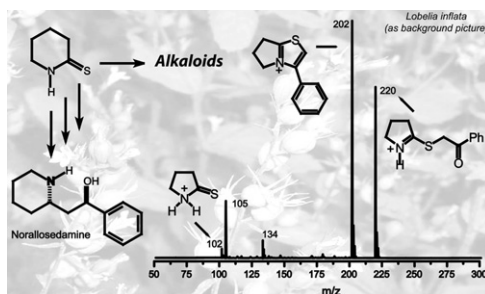
Fides Benfatti, Giuliana Cardillo\*, Simone Contaldi, Luca Gentilucci, Elisa Mosconi, Alessandra Tolomelli\*, Eusebio Juaristi, Gloria Reyes-Rangel



### Studies on the Eschenmoser coupling reaction and insights on its mechanism. Application in the synthesis of Norallosedamine and other alkaloids

pp 2484–2496

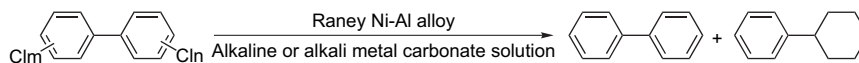
Brenno A.D. Neto\*, Alexandre A.M. Lapis, Alinne B. Bernd, Dennis Russowsky\*



### A facile method for the dechlorination of mono- and dichlorobiphenyls using Raney Ni–Al alloy in dilute aqueous solutions of alkali hydroxides or alkali metal carbonates

Guo-Bin Liu\*, Masashi Tashiro, Thies Thiemann\*

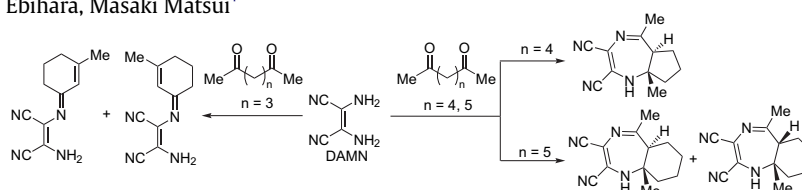
pp 2497–2505



### Reaction of 2,3-diaminomaleonitrile with diones

Yasuhiro Kubota\*, Toshihiro Shibata, Emi Babamoto-Horiguchi, Jun Uehara, Kazumasa Funabiki, Shinya Matsumoto, Masahiro Ebihara, Masaki Matsui\*

pp 2506–2511



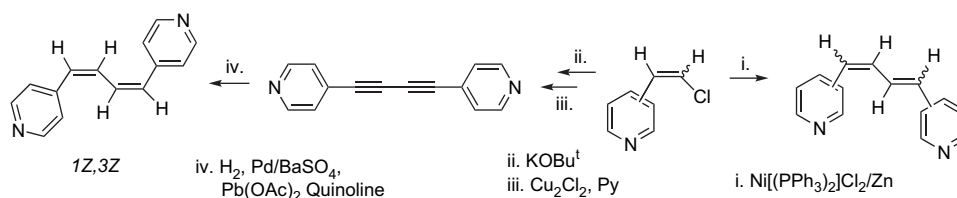
2,3-Diaminomaleonitrile (DAMN) was allowed to react with 2,6-heptanedione to produce (2*Z*)-2-amino-3-[(1*E*)-3-methylcyclohex-2-enylideneamino]but-2-enedinitrile and (2*Z*)-2-amino-3-[(1*Z*)-3-methylcyclohex-2-enylideneamino]but-2-enedinitrile. The reaction of DAMN with 2,7-octanedione yielded *trans*-5,8a-dimethyl-1,5a,6,7,8,8a-hexahydrocyclopenta[*e*]-1,4-diazepine-2,3-dicarbonitrile. DAMN reacted with 2,8-nonanedione to afford *trans*- and *cis*-5,9a-dimethyl-5a,6,7,8,9,9a-hexahydro-1*H*-benzo[*e*]-1,4-diazepine-2,3-dicarbonitrile.



### Synthesis of conjugated (1*E*,3*E*)- and (1*Z*,3*Z*)-1,4-di(*n*-pyridyl) (or *n*-quinolyl)-1,3-butadienes from *n*-(2'-chloroethenyl)pyridine (or quinoline)

J.G. Rodríguez\*, Cristina Díaz-Oliva

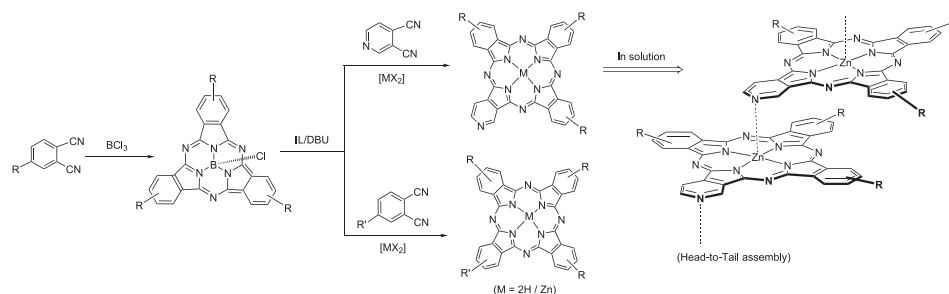
pp 2512–2517



### Synthesis of unsymmetrical benzoporphyrazines in functional ionic liquids and formation of self-aggregates of zinc(II) pyridino[3,4]tribenzoporphyrazines in solutions

S.M.S. Chauhan\*, Pratibha Kumari

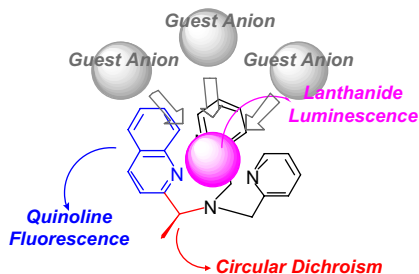
pp 2518–2524



**Chiral tripode approach toward multiple anion sensing with lanthanide complexes**

pp 2525–2530

Miyuki Eiraku Masaki, Dharam Paul, Rie Nakamura, Yumiko Kataoka, Satoshi Shinoda, Hiroshi Tsukube\*

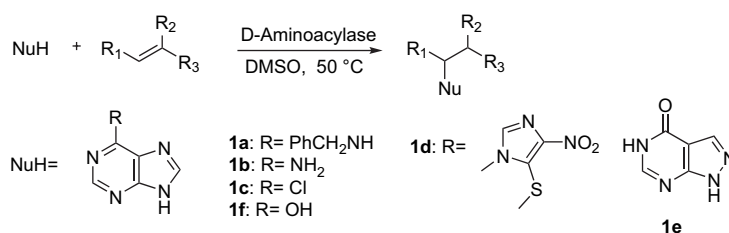


The chiral tripode–lanthanide complexes exhibited anion-responsive fluorescence, luminescence, and circular dichroism spectral characteristics as multiple anion-sensing probes.

**Promiscuous enzyme-catalyzed regioselective Michael addition of purine derivatives to  $\alpha,\beta$ -unsaturated carbonyl compounds in organic solvent**

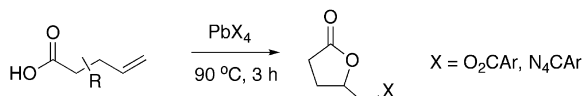
pp 2531–2536

Jun-Liang Wang, Jian-Ming Xu, Qi Wu, De-Shui Lv, Xian-Fu Lin\*

**Acyloxylactonisations mediated by lead tetracarboxylates**

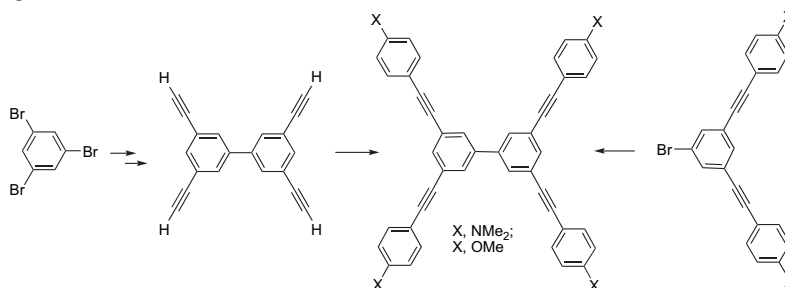
pp 2537–2550

Ian F. Cottrell, Andrew R. Cowley, Laura J. Croft, Lauren Hymns, Mark G. Moloney\*, Ewan J. Nettleton, H. Kirsty Smithies, Amber L. Thompson

**Efficient synthesis of 3,3',5,5'-tetra(*p*-X-phenylethynyl)biphenyl (X: NMe<sub>2</sub>; OMe) by homocoupling of 1-bromo-3,5-di(*p*-X-phenylethynyl)benzene or by heterocoupling of 3,3',5,5'-tetraethynylbiphenyl with *p*-X-phenylbromobenzene with nickel or palladium complexes, respectively**

pp 2551–2555

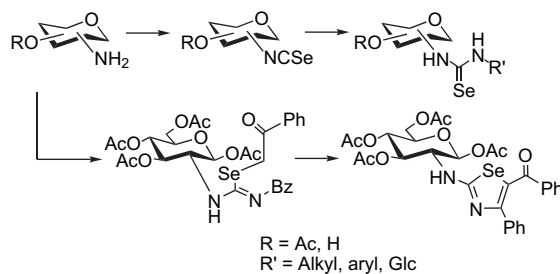
J. Gonzalo Rodríguez\*, Teresa Laparra



**Synthesis of sugar-derived isoselenocyanates, selenoureas, and selenazoles**

pp 2556–2566

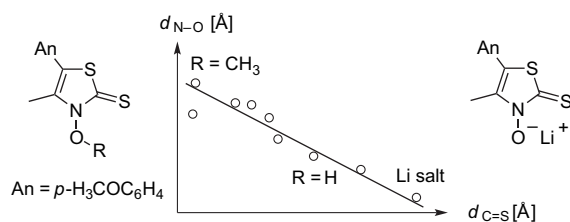
Óscar López, Susana Maza, Víctor Ulgar, Inés Maya, José G. Fernández-Bolaños\*



**Aspects of structural thiohydroxamate chemistry—on a systematic in the 5-(*p*-methoxyphenyl)-4-methylthiazole-2(3*H*)-thione series**

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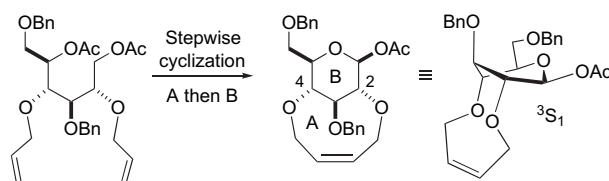
Jens Hartung\*, Uwe Bergsträsser, Kristina Daniel, Nina Schneiders, Ingrid Svoboda, Hartmut Fues



**A 2,4-*O*-[(*Z*)-2-butenylene]-bridged glucopyranose: efficient construction of the bicyclic skeleton and its axial-rich twist-boat conformation**

pp 2574–2578

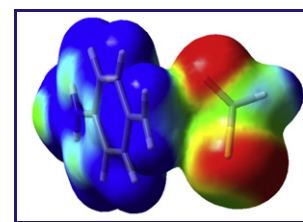
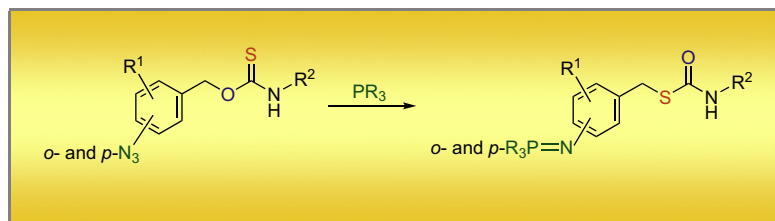
Yang Cao, Yusuke Kasai, Masafumi Bando, Mayumi Kawagoe, Hidetoshi Yamada\*



**Benzylic Newman–Kwart rearrangement of *O*-azidobenzyl thiocarbamates triggered by phosphines: pseudopericyclic [1,3] shifts via uncoupled concerted mechanisms**

pp 2579–2590

Mateo Alajarin\*, Marta Marin-Luna, Maria-Mar Ortin, Pilar Sanchez-Andrada\*, Angel Vidal\*



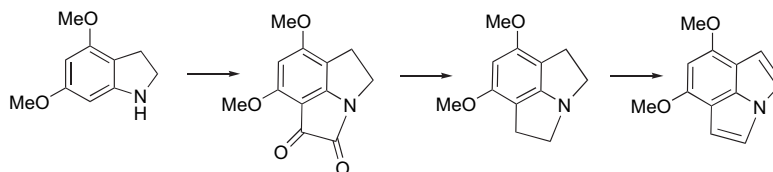
Transition state of the *O* to *S* benzyl shift



**Synthetic approaches to activated pyrrolo[3,2,1-*hi*]indoles: synthesis of 6,8-dimethoxy pyrrolo[3,2,1-*hi*]indole**

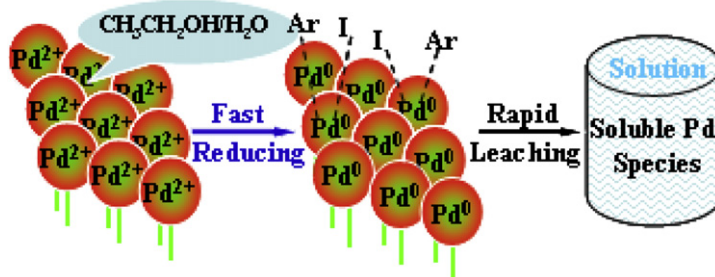
pp 2591–2598

Jumina, Naresh Kumar, David StC Black\*


**Langmuir–Blodgett films of cyclopalladated ferrocenylimine: preparation, characterization, and application in Suzuki coupling reaction**

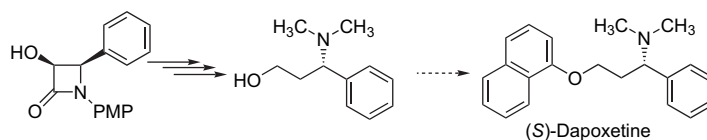
pp 2599–2604

Bing Mu, Tiesheng Li\*, Chenghuan Li, Pingping Liu, Wei Shang, Yangjie Wu\*


**An efficient formal synthesis of (*S*)-dapoxetine from enantiopure 3-hydroxy azetidin-2-one**

pp 2605–2609


Pinak M. Chincholkar, Ajaykumar S. Kale, Vikas K. Gumaste, Abdul Rakeeb A.S. Deshmukh\*





**OTHER CONTENT****Corrigendum****pp 2610–2612**

\*Corresponding author

 Supplementary data available via ScienceDirect

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