

Tetrahedron Letters Vol. 51, No. 18, 2010

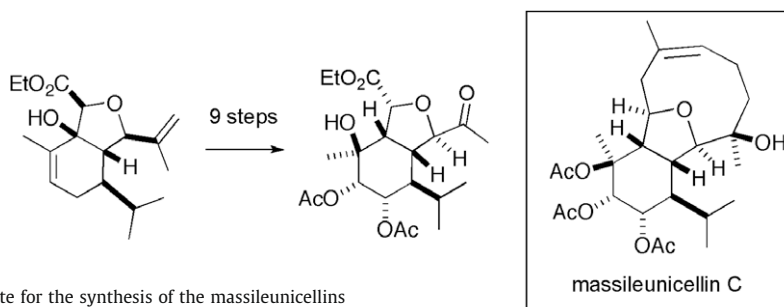
Contents

COMMUNICATIONS

Studies directed toward the synthesis of the massileucellins. Part 2

pp 2393–2395

Yonghai Chai, Zonghong Mou, Matthias C. McIntosh\*



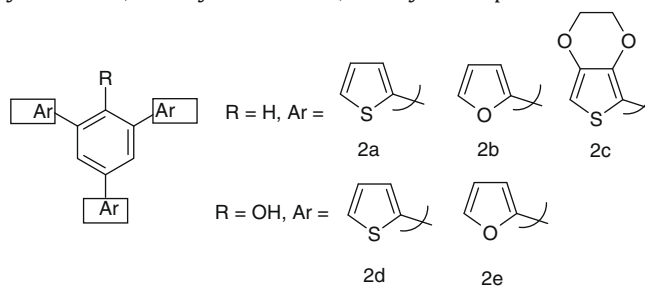
The fully substituted hydroisobenzofuran intermediate for the synthesis of the massileucellins containing eight contiguous stereocenters was prepared in 12 steps from (S)-(+)-carvone.



Synthesis by Stille cross-coupling procedure and electrochemical properties of C3-symmetric oligoarylobenzenes

pp 2396–2399

Krzysztof R. Idzik\*, Rainer Beckert\*, Sylwia Golba, Przemyslaw Ledwon, Mieczyslaw Lapkowski

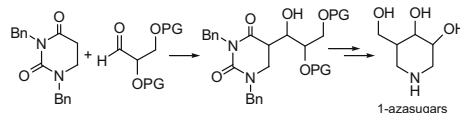


A series of various C3-symmetric compounds based on a triarylbenzene core substituted with thienyl, furyl, and ethylenedioxythienyl groups have been synthesized by Stille coupling procedure, their spectroscopic and electrochemical properties are presented and discussed.

5-Trihydroxypropyl-dihydrouracil derivatives as precursors of 1-azasugars: application to the stereoselective synthesis of D-galacto-isofagomine

pp 2400–2402

Pietro Spanu\*, Cristina de Candia, Fausta Ulgheri

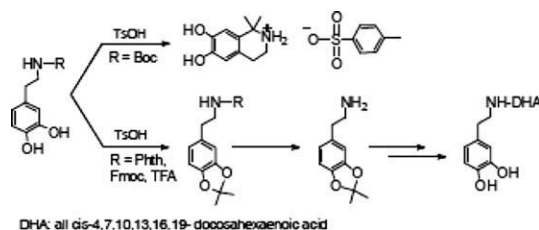


A new route for the synthesis of isofagomine analogues has been carried out by using as precursors enantiopure 5-trihydroxypropyl-dihydrouracil derivatives obtained from the stereoselective homologation of isopropylidene-protected glyceraldehyde with 1,3-dibenzyl-dihydrouracil.

**Acetonide protection of dopamine for the synthesis of highly pure *N*-docosahexaenyldopamine**

pp 2403–2405

Zhongqiang Liu, Bi-Huang Hu, Phillip B. Messersmith\*

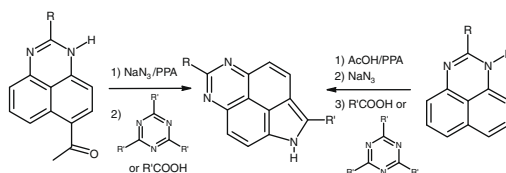


By pre-protecting the amino group, acetonide-protected dopamine was first synthesized. This derivative provided a convenient route to highly pure *N*-docosahexaenyldopamine.

**A new method for pyrrole *peri*-annulation: synthesis of 1*H*-1,5,7-triazacyclopenta[*c,d*]phenalenes from 1*H*-perimidines**

pp 2406–2408

Alexander V. Aksenov\*, Alexander S. Lyakhovnenko, Anna V. Andrienko, Irina I. Levina

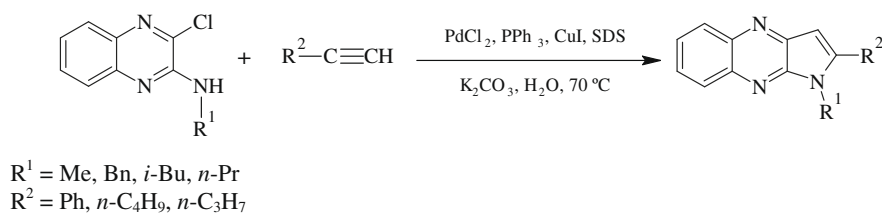


New methods for the synthesis of 1*H*-1,5,7-triazacyclopenta[*c,d*]phenalenes have been developed based on a sequence involving Schmidt reaction of keto-perimidines and acylation of the intermediate amides with 1,3,5-triazines or carboxylic acids. The same synthetic sequence starting from the corresponding alkylperimidine includes acylation with acetic acid as the first step.

**One-pot synthesis of 1,2-disubstituted pyrrolo[2,3-*b*]quinoxalines via palladium-catalyzed heteroannulation in water**

pp 2409–2412

Ali Keivanloo\*, Mohammad Bakherad, Amin Rahimi, Sayed Ali Naghi Taheri

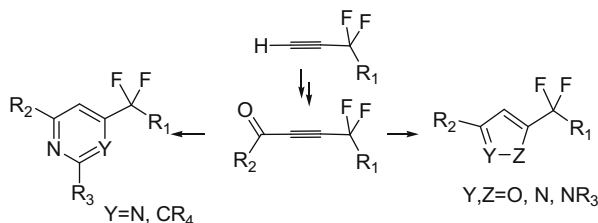


The reaction of *N*-alkyl-3-chloroquinoxaline-2-amines with 1-alkynes, catalyzed by Pd–Cu, in the presence of sodium lauryl sulfate as the surfactant in water, leads to the one-pot formation of 1,2-disubstituted pyrrolo[2,3-*b*]quinoxalines in good-to-high yields.

**Synthesis of new difluoroalkyl propargylic ketones and their use for the preparation of fluorinated heterocycles**

pp 2413–2415

Pierre Bannwarth, Danielle Grée, René Grée\*



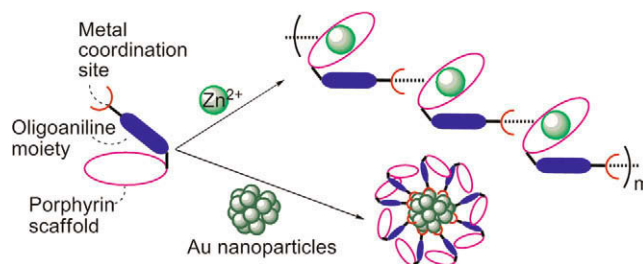
New pyrimidines, pyridines, pyrazoles, and isoxazoles with a  $\text{CF}_2\text{R}$  side chain have been prepared efficiently from easily accessible new ynones with a difluoroalkyl side chain.



**Transition metal-directed self-assembly of porphyrins bearing redox-active phenylenediamine pendant**

pp 2416–2419

Toru Amaya, Yasutomo Shimizu, Yasuhide Yakushi, Yumiko Nishina, Toshikazu Hirao\*

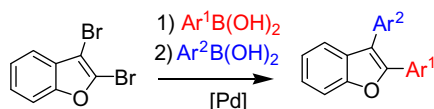


Synthesis and Zn(II)-directed self-assembly of the porphyrin-aniline trimer bearing the pyridyl group were demonstrated. Its Au nanoparticle hybrid was also synthesized.

**Site-selective Suzuki cross-coupling reactions of 2,3-dibromobenzofuran**

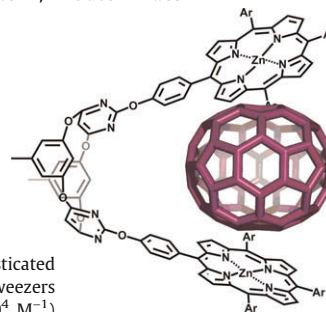
pp 2420–2422

Nguyen Thai Hung, Munawar Hussain, Imran Malik, Alexander Villinger, Peter Langer\*

**An oxacalix[2]arene[2]pyrimidine-bis(Zn-porphyrin) tweezer as a selective receptor towards fullerene C70**

pp 2423–2426

Wim Van Rossom, Ondrej Kunderát, Thien Huynh Ngo, Pavel Lhoták\*, Wim Dehaen\*, Wouter Maes

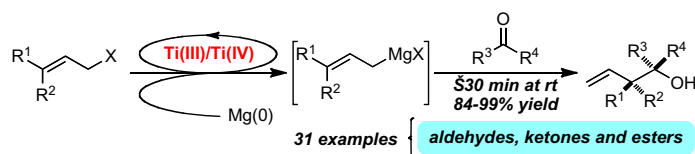


The versatility of oxacalix[*m*]arene[*m*]pyrimidines as building blocks for the construction of sophisticated supramolecular receptors has been illustrated by the synthesis of bisporphyrinoid molecular tweezers towards fullerene complexation. <sup>1</sup>H NMR titrations revealed selective binding of C<sub>70</sub> ( $K = 3.0 \times 10^4 \text{ M}^{-1}$ ) for an oxacalix[2]arene[2]pyrimidine-bis[Zn<sup>II</sup>-porphyrin] conjugate.

**Generation of allyl Grignard reagents via titanocene-catalyzed activation of allyl halides**

pp 2427–2430

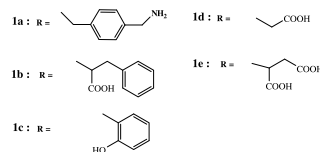
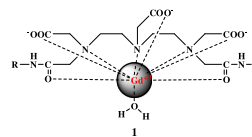
Lauren M. Fleury, Brandon L. Ashfeld\*



**Synthesis and in vitro studies of Gd–DTPA derivatives as new potential MRI contrast agents**

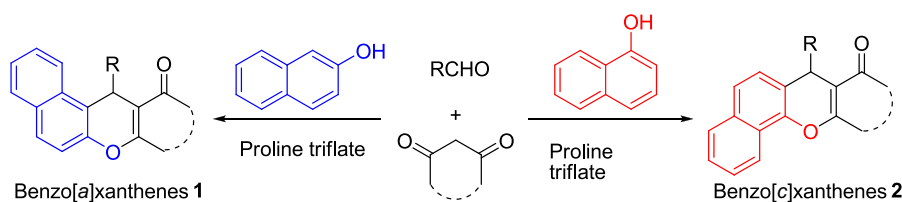
pp 2431–2433

Arigala Uma Ravi Sankar, Mitsuji Yamasitha\*, Kambam Srinivasulu, Nobuhisa Ozaki, Takashi Aoki, Michio Fujie, Keisuke Ogawa, Shingo Okada, Manubu Yamada, Yasutaka Tanaka, Motohiko Kimura, Mitsuo Toda

Gd–DTPA–bis–XDA (1) was prepared and evaluated as MRI contrast agent on the basis of  $r_1$  value.**A new strategy for the synthesis of benzoxanthenes catalyzed by proline triflate in water**

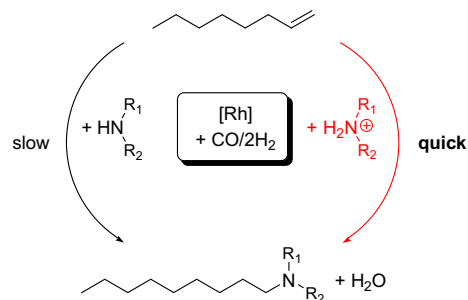
pp 2434–2437

Jianjun Li, Lingmei Lu, Weike Su\*

**A highly efficient method for the hydroaminomethylation of long-chain alkenes under aqueous, biphasic conditions**

pp 2438–2441

Arno Behr\*, Marc Becker, Sebastian Reyer

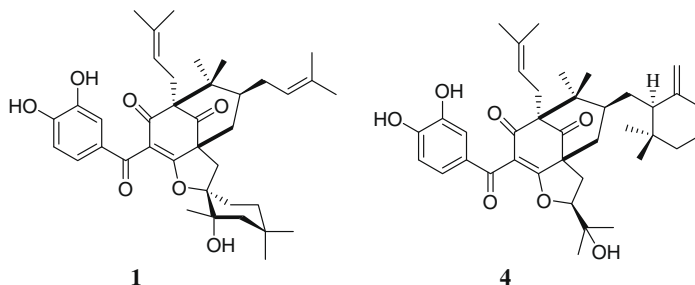


Under aqueous, biphasic conditions the use of salts of secondary and primary amines in hydroaminomethylation enables quantitative conversions of long-chain alkenes, high selectivities and short reaction times.

**Novel polyisoprenylated benzophenone derivatives from *Garcinia paucineris***

pp 2442–2446

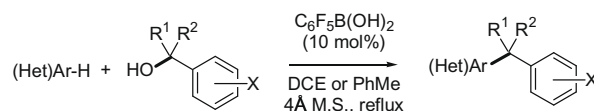
Xue-Mei Gao, Ting Yu, Fanny Shuk Fan Lai, Jian-Xin Pu, Chun-Feng Qiao, Yan Zhou, Xin Liu, Jing-Zheng Song, Kathy Qian Luo\*, Hong-Xi Xu\*



**Organocatalyzed Friedel–Crafts arylation of benzylic alcohols**

pp 2447–2449

J. Adam McCubbin\*, Oleg V. Krokhnin

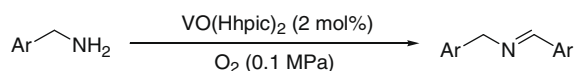


Commercially available pentafluorophenylboronic acid efficiently catalyses the coupling of electron-rich arenes and heteroarenes with benzylic alcohols to afford di-, tri-, and tetra-arylmethanes. The reaction is highly atom economical and produces water as the only byproduct. A Friedel–Crafts mechanism is proposed.

**Direct conversion of benzylamines to imines via atmospheric oxidation in the presence of VO(Hhpic)<sub>2</sub> catalyst**

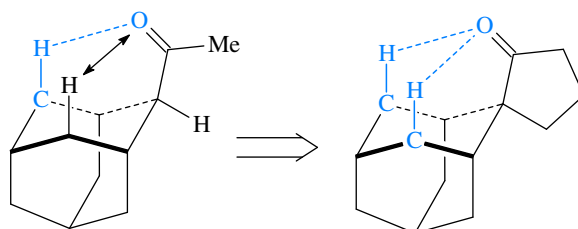
pp 2450–2452

Shintaro Kodama, Jun Yoshida, Akihiro Nomoto\*, Yukihiko Ueta, Shigenobu Yano, Michio Ueshima, Akiya Ogawa\*

**Improper hydrogen-bonded cyclohexane C–H<sub>ax</sub>···Y<sub>ax</sub> contacts: experimental evidence from <sup>1</sup>H NMR spectroscopy of suitable axial cyclohexane models**

pp 2453–2456

Nikolaos Zervos, Antonios Kolocouris\*

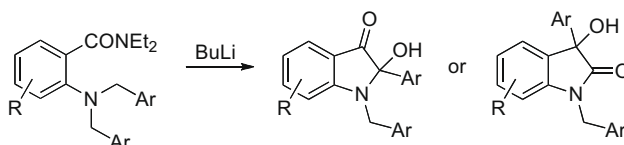


Stronger improper H-bonded cyclohexane C–H<sub>ax</sub>···O contacts cause an increase in the <sup>1</sup>H NMR signal separation within the γ-CH<sub>2</sub>s of cyclohexane rings.

**Synthesis of 2-hydroxy-3-indolinones and 3-hydroxy-2-indolinones by anionic cyclization, in situ oxidation and rearrangement**

pp 2457–2460

Iain Coldham\*, Harry Adams, Neil J. Ashweek, Thomas A. Barker, Andrew T. Reeder, Melanie C. Skilbeck

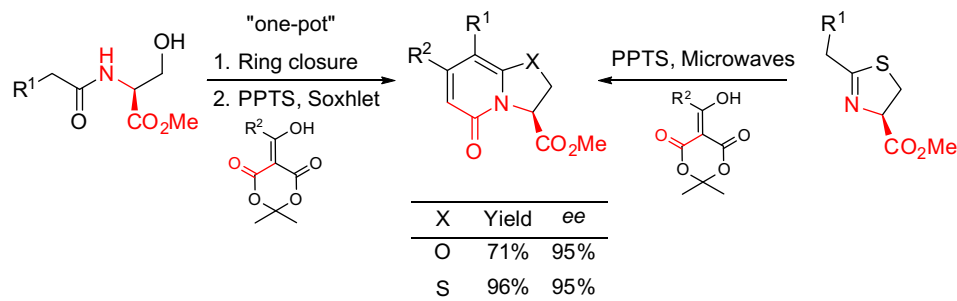


Lithiation of 2-(benzylamino)benzamides promotes cyclization to give 3-indolinones which undergo in situ oxidation and either protonation to 2-hydroxy-3-indolinones or rearrangement to 3-hydroxy-2-indolinones.

### Improved procedure for the enantioselective synthesis of dihydrooxazolo and dihydrothiazolo ring-fused 2-pyridones

pp 2461–2463

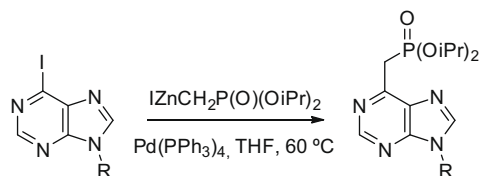
Erik Chorell, Sofie Edvinsson, Fredrik Almqvist\*



### Synthesis of (purin-6-yl)methylphosphonate bases and nucleosides

pp 2464–2466

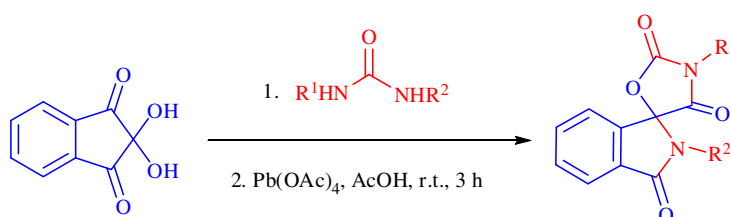
Zbyněk Hasník, Radek Pohl, Michal Hocek\*



### A novel, convenient, and efficient procedure for the synthesis of spiroisindoline-1,5'-oxazolidine derivatives

pp 2467–2469

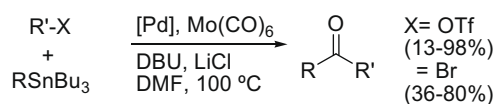
Mohammad Reza Mohammadizadeh\*, Neda Firoozi



### Convenient Stille carbonylative cross-couplings using molybdenum hexacarbonyl

pp 2470–2472

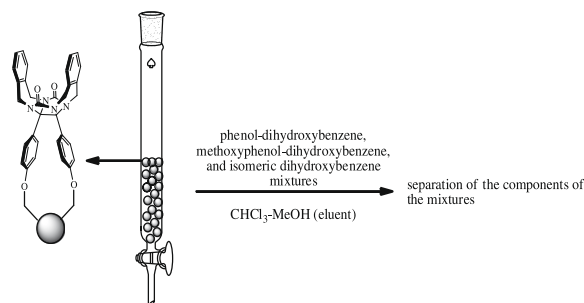
Jonas Lindh, Ashkan Fardost, Maria Almeida, Peter Nilsson\*



### First immobilization of a glycoluril-derived molecular clip on Merrifield resin: facile separation of dihydroxybenzenes by affinity chromatography

pp 2473–2476

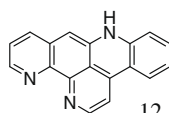
Esmail Rezaei-Seresht\*, Fahimeh Hokmabadi



### Antitrypanosomal pyridoacridine alkaloids from the Australian ascidian *Polysyncraton echinatum*

pp 2477–2479

Yunjiang Feng, Rohan A. Davis, Melissa L. Sykes, Vicky M. Avery, Anthony R. Carroll, David Camp, Ronald J. Quinn\*



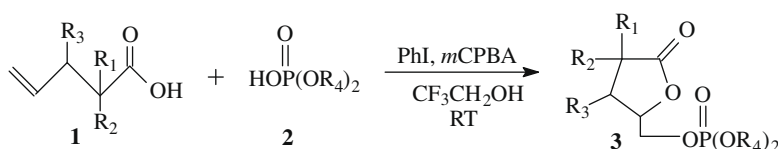
12-deoxyascididemin

 $\text{IC}_{50}=77$  nM (*Trypanosoma brucei brucei*)

### A convenient phosphoryloxylactonization of pentenoic acids with catalytic hypervalent iodine(III) reagent

pp 2480–2482

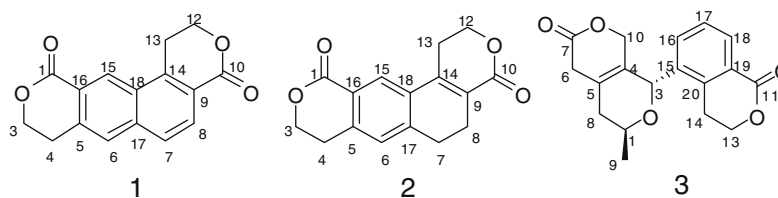
Zhong-Shi Zhou\*, Xue-Han He



### Swirilactones E–G, three unusual lactones from *Swertia mileensis*

pp 2483–2485

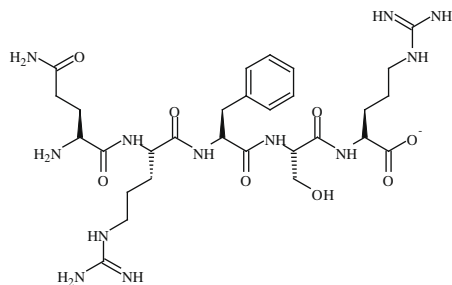
Chang-An Geng, Xue-Mei Zhang, Yun-Bao Ma, Zhi-Yong Jiang, Jie Luo, Jun Zhou, Hong-Ling Wang, Ji-Jun Chen\*



**The synthesis of opiorphin and studies on its binding ability toward Cu(II)**

pp 2486–2488

Aleksandra Kotynia, Elżbieta Kamasz, Hanna Czapor, Justyna Brasuń\*

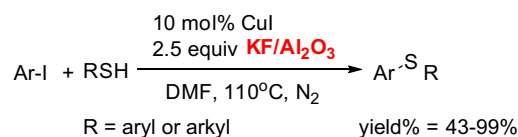


The schematic structure of the opiorphin (Gln-Arg-Phe-Ser-Arg).

**Efficient ligand-free copper-catalyzed C–S cross-coupling of thiols with aryl iodides using KF/Al<sub>2</sub>O<sub>3</sub> as base**

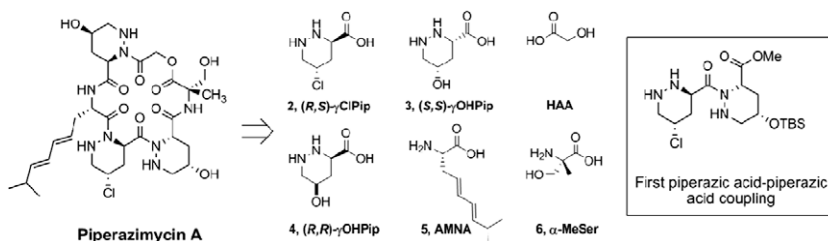
pp 2489–2492

Yi-Si Feng, Yuan-Yuan Li, Lin Tang, Wei Wu, Hua-Jian Xu\*

**Progress towards the synthesis of piperazimycin A: synthesis of the non-proteogenic amino acids and elaboration into dipeptides**

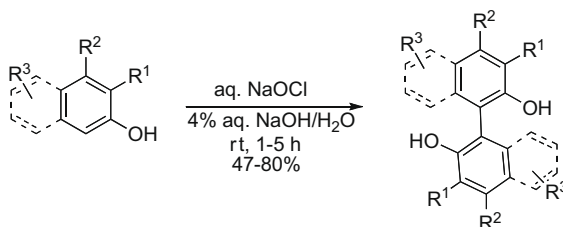
pp 2493–2496

J. Phillip Kennedy, Craig W. Lindsley\*

**Dimerization of phenols and naphthols using an aqueous sodium hypochlorite**

pp 2497–2499

Ramesh Neelamegam, Matthew T. Palatnik, James Fraser-Rini, Mark Slifstein, Anissa Abi-Dargham, Balu Easwaramoorthy\*

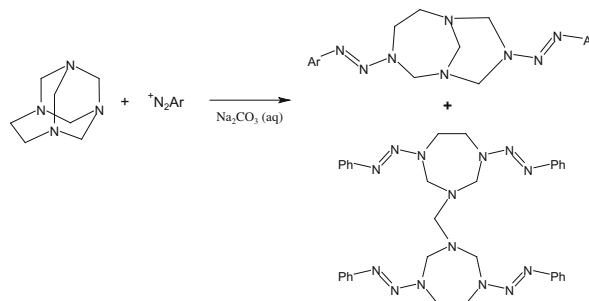




### Synthesis and characterization of novel triazenes from the reaction of the cyclic aminal 1,3,6,8-tetraazatricyclo[4.3.1.1<sup>3,8</sup>]undecane (TATU) with diazonium ions

pp 2500–2504

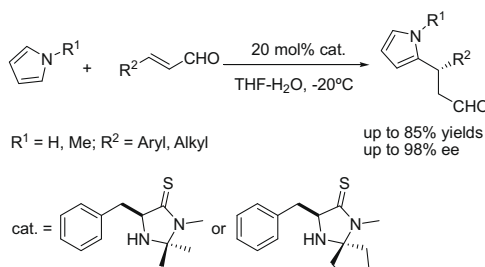
Augusto Rivera\*, Diego González-Salas



### Imidazolethiones: novel and efficient organocatalysts for asymmetric Friedel–Crafts alkylation

pp 2505–2507

Xianrui Liang, Jiaoyang Fan, Fei Shi, Weike Su\*



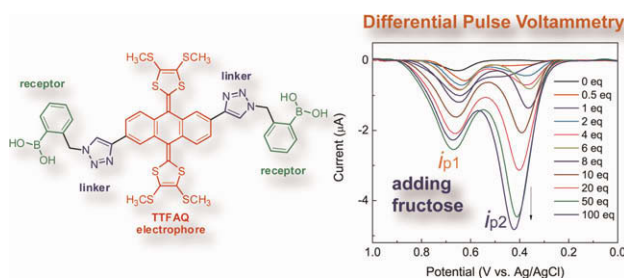
Imidazolethiones organocatalyzed the asymmetric Friedel–Crafts alkylation of pyrroles with  $\alpha,\beta$ -unsaturated aldehydes was achieved to afford the corresponding adducts in moderate to good yields and good to excellent enantioselectivities. The possible mechanism was proposed.



### Phenylboronic acid-functionalized TTFAQ: modular synthesis and electrochemical recognition for saccharides

pp 2508–2511

Min Shao, Yuming Zhao\*



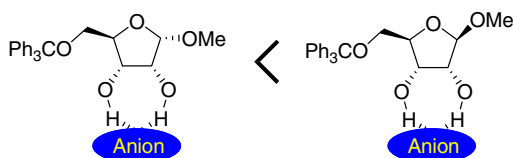
A phenylboronic acid-functionalized  $\pi$ -extended tetrathiafulvalene (TTFAQ) derivative was prepared through an efficient Cu-catalyzed alkyne-azide [3+2] cycloaddition reaction (click reaction). This boronic acid-TTFAQ hybrid system shows different electrochemical redox behavior upon titration with various saccharides in DMSO/H<sub>2</sub>O at pH 8.75, suggesting potential use in saccharide sensing and recognition.



### Anion recognition by D-ribose-based receptors

pp 2512–2514

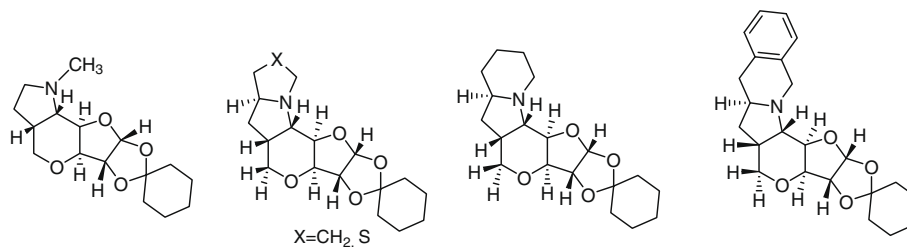
Shin-ichi Kondo\*, Yu Kobayashi, Masafumi Unno\*



**Stereoselective synthesis of novel glyco-pyrano pyrrolidines/pyrrolizidines/indolizidines through intramolecular [3+2] cycloaddition approach**

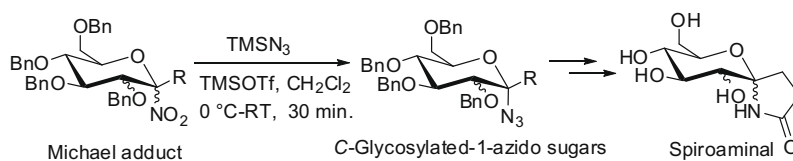
pp 2515–2518

N. Sirisha, R. Raghunathan\*


**Azidation of anomeric nitro sugars: application in the synthesis of spiroaminals as glycosidase inhibitors**

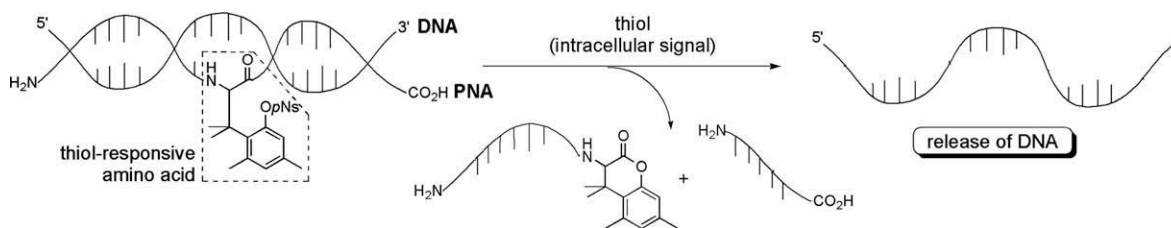
pp 2519–2524

A. P. John Pal, Yashwant D. Vankar\*


**Development of thiol-responsive amide bond cleavage device and its application for peptide nucleic acid-based DNA releasing system**

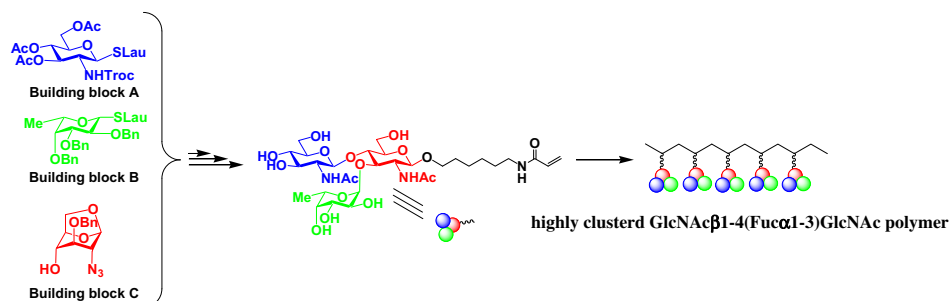
pp 2525–2528

Akira Shigenaga\*, Jun Yamamoto, Hiroko Hirakawa, Keiji Ogura, Nami Maeda, Ko Morishita, Akira Otaka\*


**Synthetic construction of a fucosyl chitobiose as an allergen-associated carbohydrate epitope and the glycopolymer involving highly clustered trisaccharidic sequences**

pp 2529–2532

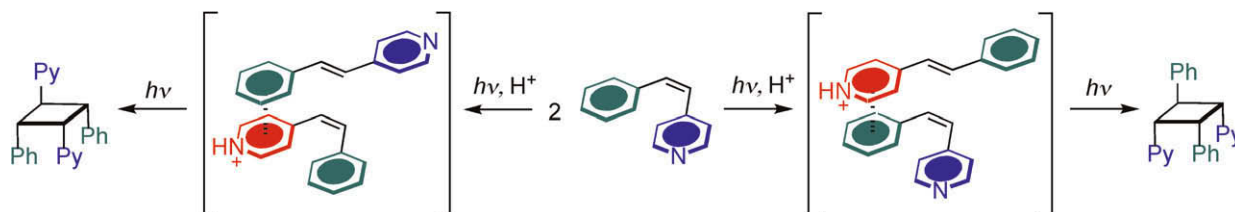
Koji Matsuoka\*, Hiroki Yamaguchi, Tetsuo Koyama, Ken Hatano, Daiyo Terunuma



**[2+2] Photodimerization of (Z)-4-styrylpyridine through a cation- $\pi$  interaction: formation of cis-cis-trans dimers**

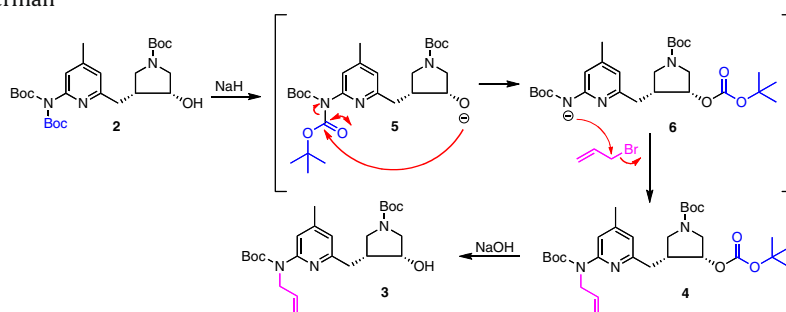
pp 2533–2535

Shinji Yamada\*, Yuka Nojiri, Mai Sugawara


**An alkoxide anion-triggered *tert*-butyloxycarbonyl group migration. Mechanism and application**

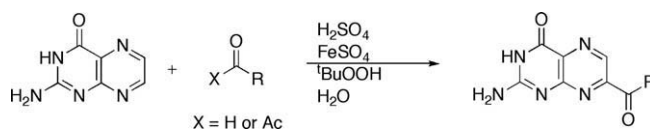
pp 2536–2538

Fengtian Xue, Richard B. Silverman\*


**Acyl radical insertion for the direct formation of new seven-substituted pterin analogs**

pp 2539–2540

Jeff M. Pruet, Jon D. Robertus, Eric V. Anslyn\*

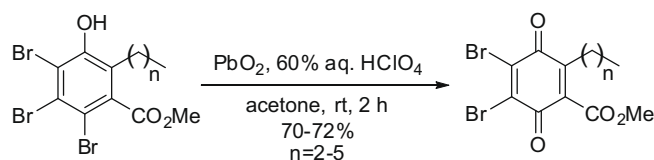


A variety of pterin molecules were synthesized via an under-utilized acyl radical insertion, using aldehydes and  $\alpha$ -keto esters as the acyl source. These reactions gave complete regioselectivity for the 7-isomer, with reaction times ranging in minutes, often with instantaneous product precipitation. This approach led to the construction of new pterin analogs inaccessible via traditional Friedel-Crafts acylation. The compounds were characterized by NMR spectroscopy and high-resolution mass spectroscopy.


**Synthesis and electrochemical properties of substituted *para*-benzoquinone derivatives**

pp 2541–2544

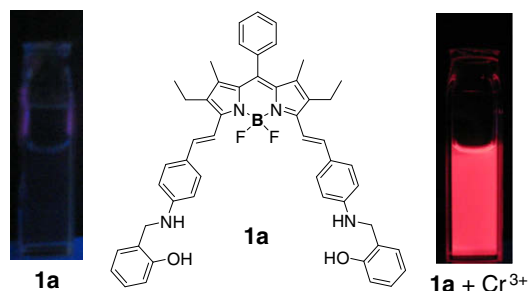
Faiz Ahmed Khan\*, Sumit Choudhury



**A distyryl BODIPY derivative as a fluorescent probe for selective detection of chromium(III)**

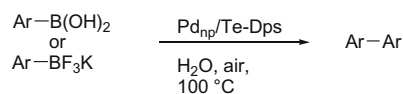
pp 2545–2549

Dongping Wang, Yasuhiro Shiraishi\*, Takayuki Hirai

**Homocoupling of arylboronic acids and potassium aryltrifluoroborates catalyzed by protein-stabilized palladium nanoparticles under air in water**

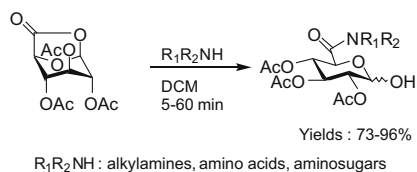
pp 2550–2552

Alessandro Prastaro, Pierpaolo Ceci, Emilia Chiancone, Alberto Boffi, Giancarlo Fabrizi, Sandro Cacchi\*

**Fast synthesis of uronamides by non-catalyzed opening of glucopyranurono-6,1-lactone with amines, amino acids, and aminosugars**


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Michaël Bosco, Stéphanie Rat, José Kovensky, Anne Wadouachi\*

**OTHER CONTENT****Corrigendum**

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\*Corresponding author

+ Supplementary data available via ScienceDirect

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