

## Tetrahedron Letters Vol. 48, No. 17, 2007

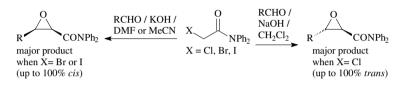
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## **Diastereoselective Darzens condensations**

Thierry J. R. Achard, Yuri N. Belokon', Jamie Hunt, Michael North\* and Francesca Pizzato

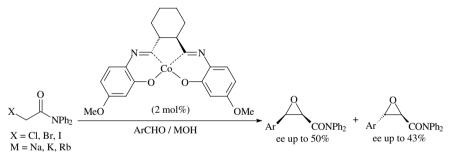
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#### Enantio- and diastereoselective Darzens condensations

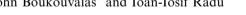
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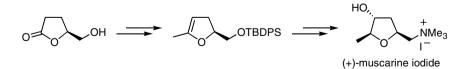
Thierry J. R. Achard, Yuri N. Belokon', Michael Ilyin, Margarita Moskalenko, Michael North\* and Francesca Pizzato



### A concise asymmetric synthesis of (+)-muscarine from (S)- $\gamma$ -hydroxymethyl- $\gamma$ -butyrolactone John Boukouvalas\* and Ioan-Iosif Radu

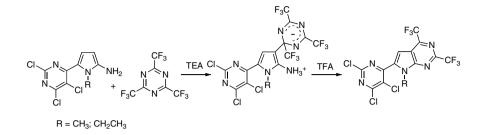
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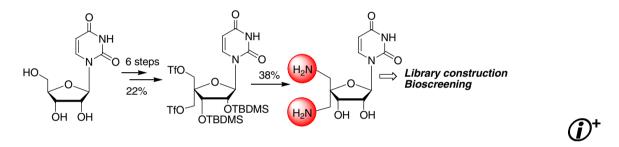
Mechanism of the inverse-electron demand Diels-Alder reaction of 2-aminopyrroles with 1,3,5-triazines: pp 2975-2977 detection of an intermediate and effect of added base and acid Michael De Bese<sup>\*</sup> and Devid Armold

Michael De Rosa\* and David Arnold

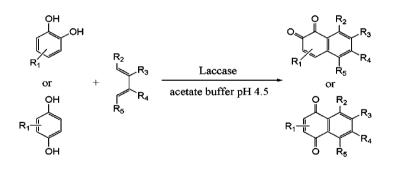


Synthesis of 4',4'-C-diaminomethyl nucleoside derivative as a building block for constructing libraries via pp 2979–2982 amide bond formation

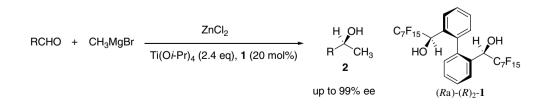
Chung-Shan Yu,\* Ren-Tsong Wang, Li-Wu Chiang and Ming-Hsun Lee



Laccase-generated quinones in naphthoquinone synthesis via Diels–Alder reaction Suteera Witayakran, Abdullah Zettili and Arthur J. Ragauskas\* pp 2983-2987

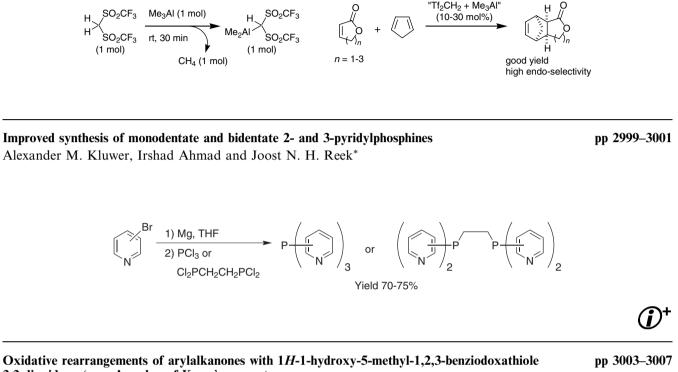


Enantioselective addition of methyl group to aldehydes catalyzed by titanium complex of fluorous ligand pp 2989–2991 Masaaki Omote, Naoya Tanaka, Atsushi Tarui, Kazuyuki Sato, Itsumaro Kumadaki and Akira Ando\*



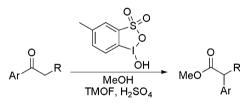
# Development of effective Lewis acids for the catalytic Diels–Alder reaction of $\alpha$ , $\beta$ -unsaturated lactones pp 2993–2997 with cyclopentadiene

Hikaru Yanai, Arata Takahashi and Takeo Taguchi\*



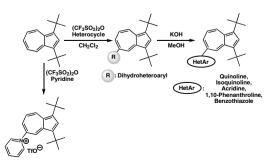
Oxidative rearrangements of arylalkanones with 1*H*-1-hydroxy-5-methyl-1,2,3-benziodoxathiolo 3,3-dioxide, a 'green' analog of Koser's reagent

Michael W. Justik



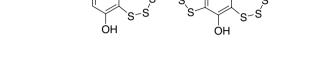
Previous methods for the conversion of arylalkanones to alkyl 2-arylesters by oxidative rearrangement utilized reagents which either produced toxic metal salts or halogenated organics as by-products. In this report, 1*H*-1-hydroxy-5-methyl-1,2,3-benziodoxathiole 3,3-dioxide (HMBI) is used to effect this useful transformation, where the reduced iodine reagent is water-soluble and readily recycled.

Synthesis of 5-heteroarylazulenes: first selective electrophilic substitution at the 5-position of azulene pp 3009–3012 Taku Shoji,\* Shunji Ito, Masataka Watanabe, Kozo Toyota, Masafumi Yasunami and Noboru Morita\*



### Synthesis and reactions of benzopentathiepin having hydroxyl group

Ryu Sato,\* Toshiyuki Fujio, Shiduko Nakajo, Satoshi Ogawa and Ashraful Alam



Benzopentathiepins having hydroxyl group at the neighboring of pentathiepin rings were synthesized and their alkylation reactions were studied.

I<sub>2</sub>O<sub>5</sub>: mild and efficient reagents for the oxidation of alcohols in water Zhong-Quan Liu,\* Yankai Zhao, Haiqing Luo, Lingzhi Chai and Qiuju Sheng

$$\begin{array}{c} \mathsf{OH} \\ \mathsf{R}^1 & \overset{I_2\mathsf{O}_5(25\text{mol}\%)/\text{KBr}(5\text{mol}\%)}{\mathsf{H}_2\mathsf{O}, \text{RT}} & \overset{\mathsf{O}}{\mathsf{R}^1 \times \mathsf{R}^2} \end{array}$$

The mild and efficient nature of  $HIO_3$  and  $I_2O_5$  as environmentally benign, commercially available, atom efficient, and safe reagents for the oxidation of alcohols has been demonstrated. Additionally, these oxidants are highly chemoselective, and effect smooth room temperature oxidation of various electron-rich alcohols with catalytic amounts of KBr in water.

### Vanchrobactin: absolute configuration and total synthesis

Raquel G. Soengas, Cristina Anta, Alfonso Espada, Rosa M. Nieto, Marta Larrosa, Jaime Rodríguez and Carlos Jiménez\*

The stereochemistry of vanchrobactin, a siderophore produced by *Vibrio anguillarum* serotype O2, was elucidated by chiral capillary electrophoresis analysis and total synthesis.

Lewis acid-catalyzed reduction of dithioacetals by 1,4-cyclohexadiene Kei-ichiro Ikeshita, Nobuhiro Kihara,\* Motohiro Sonoda and Akiya Ogawa

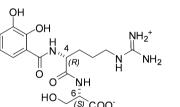
pp 3021–3024

pp 3025-3028

#### pp 3013-3016

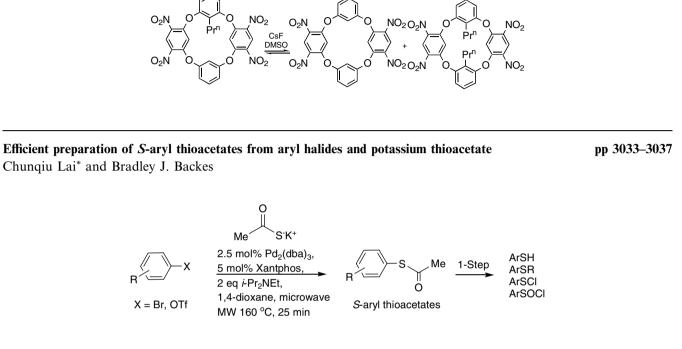
 $(\mathbf{i})^{+}$ 

pp 3017-3019



### Synthesis and disproportionation of ABAC-type oxacalix[4]arenes

Hisatoshi Konishi,\* Takayuki Mita, Osamu Morikawa and Kazuhiro Kobayashi



#### Synthesis of chromanyl and dihydrobenzofuranyl piperazines

David A. Favor,\* Douglas S. Johnson,\* James J. Powers, Tingsheng Li and Rambabu Madabattula

The synthesis of a series of regioisomeric chromanyl and dihydrobenzofuranyl piperazines is described.

# An efficient one-pot, two-step synthesis of 4-substituted 1-heteroarylpiperazines under microwave irradiation conditions

Hong-Jun Wang,\* William G. Earley,\* Robert M. Lewis, Rajiv R. Srivastava, Andrew J. Zych, David M. Jenkins and David J. Fairfax

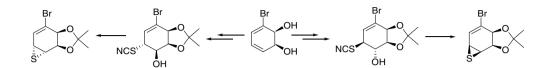
Heteroaryl-Cl DABCO, THF Nu<sup>-</sup> microwave irradiation 160 °C, 15 min 160 °C, 15-45 min



pp 3043-3046

pp 3029–3032

Ana Bellomo and David Gonzalez\*



Conditions for episulfide formation in cyclohexenyl systems were optimized and applied to the construction of optically pure thiodeoxycyclitol precursors by a chemoenzymatic strategy.

Efficient condensation of carboxylic acids with alcohols catalyzed by fluorous ammonium triflates László Mercs, Gianluca Pozzi<sup>\*</sup> and Silvio Quici pp 3053-3056

pp 3047-3051

$$R^{1}COOH + R^{2}OH = \underbrace{\begin{array}{c} \bigoplus \\ \mathbf{Q} \quad \mathbf{CF_{3}SO_{3}} \ (1 \text{ mol } \%) \\ \hline \mathbf{Toluene/PDMC, 80 \ ^{\circ}C} \end{array}}_{\mathbf{Q}^{\oplus} = \left[ (C_{8}F_{17})_{n} - \underbrace{\bigoplus \\ \frac{\oplus}{1_{x}} NH_{(4-x)} \end{array}}_{\mathbf{N}} NH_{(4-x)} \right]$$

Direct esterification of carboxylic acids with equimolar amounts of alcohols can be conveniently run under mild fluorous biphasic conditions in the presence of recoverable fluorous ammonium salts.

Efficient and regioselective N-1 alkylation of 4-chloropyrazolo[3,4-*d*]pyrimidine Morten Brændvang and Lise-Lotte Gundersen\*

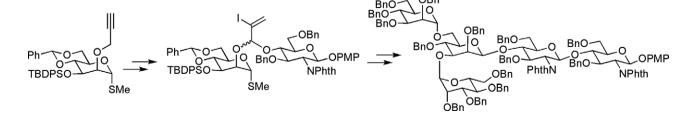
$$\begin{array}{c}
CI \\
N \\
N \\
N \\
N \\
N \\
H
\end{array}$$

$$\begin{array}{c}
ROH, PPh_3, DIAD \\
THF \\
N \\
N \\
N \\
H
\end{array}$$

$$\begin{array}{c}
CI \\
N \\
N \\
N \\
H
\end{array}$$

β-Mannosylation of N-acetyl glucosamine by propargyl mediated intramolecular aglycon delivery (IAD): pp 3061–3064 synthesis of the N-glycan core pentasaccharide

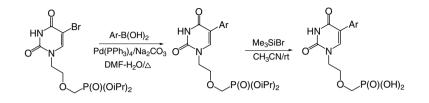
Emanuele Attolino and Antony J. Fairbanks\*



 $(\mathbf{i})^{+}$ 

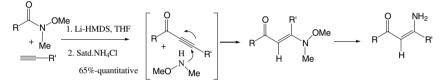


Pd-catalyzed Suzuki-Miyaura coupling reactions in the synthesis of 5-aryl-1-[2-(phosphonomethoxy)pp 3065-3067 ethylluracils as potential multisubstrate inhibitors of thymidine phosphorylase Karel Pomeisl,\* Antonín Holý and Radek Pohl



A facile one-pot synthesis of acyclic β-enamino ketones, an important class of versatile synthetic pp 3069-3072 intermediates

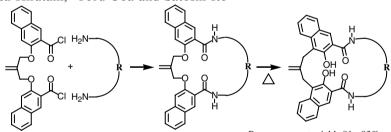
Anusuya Choudhury,\* Michael Breslav, Jeffrey S. Grimm, Tong Xiao, Dawei Xu and Kirk L. Sorgi



A one-pot sequential process consisting of nucleophilic substitution of the lithiated acetylides with Weinreb amides followed by a Michael reaction of the extruded N-methoxy-N-methylamine after quenching with saturated NH<sub>4</sub>Cl, provided  $\beta$ -enamino (Nmethoxy-N-methyl) ketones in high yield. It has been demonstrated that this method is applicable to a wide variety of such amides and acetylides. Prolonged stirring of the reaction mixture with saturated  $NH_4Cl$  generates  $\beta$ -enamino ketones with structural diversity.

#### A convenient and efficient route for the synthesis of amidecrownophanes via 1:1 macrocyclization of pp 3073-3076 di(acid chloride) with diamine derivatives

Wei-Tao Gong, Kazuhisa Hiratani,\* Toru Oba and Satoshi Ito

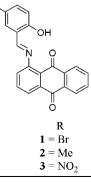


Rearrangement: yields 81 - 83% Macrocyclization (19-26 rings): yields 52 - 86% Without high dilution technique, 1:1 macrocyclization occurred in good yields.

## Dual chemosensing properties of new anthraquinone-based receptors toward fluoride ions

pp 3077-3081

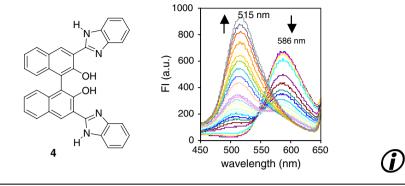
Soosai Devaraj, Duraisamy Saravanakumar and Muthusamy Kandaswamy\*



## Colorimetric and ratiometric fluorescence sensing of fluoride ions based on competitive intra- and intermolecular proton transfer

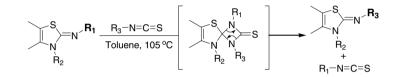
Vijay Luxami and Subodh Kumar\*

Competitive intra- and intermolecular proton transfer in receptor **4** in the presence of fluoride ions leads to 'ON–OFF–ON' switching in its emission behaviour and provides an opportunity for highly selective ratiometric estimation of fluoride ions.



pp 3083-3087

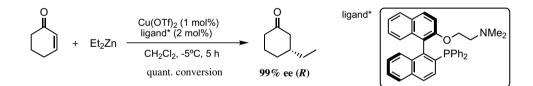
Novel isothiocyanate transposition in 2-alkyliminothiazoles: a simple solution for regiochemical problem pp 3089–3092 Dongyun Shin,\* Jihoon Lee, Kee Dal Nam and Hoh-Gyu Hahn



Novel alkyl/aryl transpositions in the reaction of 2-iminothiazoles with alkyl/aryl isothiocyanates were discovered, which provided a simple but excellent solution for regiochemical problem in 2-iminothiazole synthesis.

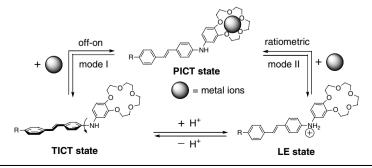
## Copper-catalyzed enantioselective conjugate addition of diethylzinc using axially chiral aminoethyloxy- pp 3093–3095 phosphine ligands

Toshiaki Morimoto,\* Nobuhiro Obara, Iku Yoshida, Kiyoshi Tanaka and Toshiyuki Kan



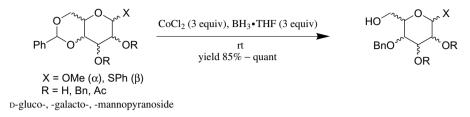
Bimodal fluorescence signaling based on control of the excited-state conformational twisting and the pp 3097–3102 ground-state protonation processes

Jye-Shane Yang,\* Chung-Yu Hwang and Mon-Yao Chen



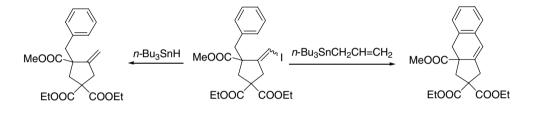
A novel method for regioselective ring-opening reduction of 4,6-O-benzylidene hexopyranoside derivatives using  $CoCl_2$  and  $BH_3$  THF

Shinki Tani, Sho Sawadi, Masaru Kojima, Shoji Akai and Ken-ichi Sato\*

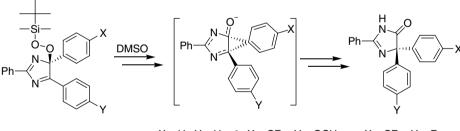


**Radical cyclization of 4-aryl-1-iodobutene derivatives to form dihydronaphthalene scaffold** Saravanan Gowrisankar, Hyun Seung Lee and Jae Nyoung Kim\*





The stereoselective thermal rearrangement of chiral lophine peroxides Masaru Kimura,\* Gonghao Lu, Hiroshi Iga, Mitsuru Tsunenaga, Zhiqiang Zhang and Zhizhi Hu



 $\textbf{a:} \ X = H, \ Y = H \ ; \ \ \textbf{b:} \ X = CF_3, \ \ Y = OCH_3 \ ; \ \textbf{c:} \ \ X = CF_3, \ \ Y = F$ 

Facile syntheses of 1-deoxynojirimycin (DNJ) and 1-deoxymannojirimycin (DMJ) Xuezheng Song and Rawle I. Hollingsworth\*

 $HO \xrightarrow{VH} OH \xrightarrow{HO} OH \xrightarrow{VH} OH \xrightarrow{V} O$ 

#### pp 3109-3113

2959

A stable intermediate: a new insight into the mechanism of Lewis acids-promoted formation of acylals pp 3119-3122 from aldehydes

Liang Yin, Zhan-Hui Zhang and Yong-Mei Wang\*

RCHO 
$$\xrightarrow{\text{Lewis acids}}$$
  $(CH_3CO)_2O$   $\xrightarrow{R}$   $O$   $\xrightarrow{O}$   $\xrightarrow{\text{Lewis acids}}$   $(CH_3CO)_2O$   $\xrightarrow{R}$   $O$   $\xrightarrow{O}$   $\xrightarrow{O$ 

\*Corresponding author

(*D*<sup>+</sup> Supplementary data available via ScienceDirect

Available online at www.sciencedirect.com



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