

Tetrahedron Letters Vol. 46, No. 24, 2005

Contents

COMMUNICATIONS

De novo synthesis of a *galacto*-papulacandin moiety via an iterative dihydroxylation strategy Md. Moinuddin Ahmed and George A. O'Doherty*

pp 4151-4155

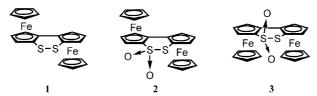




Synthesis, structure, and electrochemical properties of biferrocenes annulated with 1,2-dithiin and 1,2-dithiin 1,1-dioxides

pp 4157-4160

Noriyoshi Nagahora, Satoshi Ogawa,* Yasushi Kawai and Ryu Sato*



Three new biferrocenes annulated with 1,2-dithiin (1) and 1,2-dithiin 1,1-dioxides (2) and (3) were successfully synthesized satisfactory yields by the reaction of 2,2''-bis(N,N-dimethylaminosulfonyl)-1,1''-biferrocene with lithium aluminum hydride followed by treatment with chlorotrimethylsilane. The electrochemical properties of the biferrocenes (1)–(3) were furnished by cyclic and differential pulse voltammetries.

Synthesis of cationic water-soluble esters of chlorin e₆

pp 4161-4164

Hidetoshi Taima, Akihiro Okubo, Naoki Yoshioka and Hidenari Inoue*

syn- π -Face- and endo-selective, inverse electron-demand Diels-Alder reactions of 3,4-di-tert-butylthiophene 1-oxide with electron-rich dienophiles

pp 4165-4169

Jun Takayama, Yoshiaki Sugihara, Toshiyuki Takayanagi and Juzo Nakayama*



The exclusive formation of cyclopentenones from molybdenum hexacarbonyl-catalyzed Pauson-Khand reactions of 5-allenyl-1-ynes

pp 4171-4174

Arun Kumar Gupta, Dai In Park and Chang Ho Oh*

 R_4 = H, OTBS The exclusive formation of cyclopentenones was observed in molybdenum hexacarbonyl catalyzed Pauson–Khand reactions of 1,6-allenynes under 1 atm of CO (balloon) in excellent yields.

A study on the metalation of alkoxydibromobenzenes

pp 4175-4178

Marek Dabrowski, Joanna Kubicka, Sergiusz Luliński and Janusz Serwatowski*



A sequence of electrophile induced cyclisation and concomitant N-deprotection of alkenylsulfinimines and alkenylsulfinamides as a direct route to cyclic or spirocyclic imines, pyrrolidines and piperidines

pp 4179-4182

H. Ali Dondas and Norbert De Kimpe*

$$\begin{array}{c} R_1 \\ R_2 \\ N - S \\ \end{array} \\ \begin{array}{c} E^+ \\ CH_2CI_2 \text{ or MeCN} \\ 0 \circ C \longrightarrow rt, \ 1 - 22h \\ \end{array} \\ \begin{array}{c} R_1 \\ NBH_4 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ NBBH_4 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ NBH_4 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ NBH_4 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ NBH_4 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ THF, \ -40 \circ C \ N_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ THF, \ -40 \circ C \ N_2 \\ THF, \ -40 \circ C \ N_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ THF, \ -40 \circ C \ N_2 \\$$

Facile access to (Z)-alkene-containing diketopiperazine mimetics utilizing organocopper-mediated anti- S_N2' reactions

pp 4183-4186

Ayumu Niida, Shinya Oishi, Yoshikazu Sasaki, Makiko Mizumoto, Hirokazu Tamamura, Nobutaka Fujii and Akira Otaka*

$$\begin{array}{c} \text{OP(O)(OPh)}_2 \\ \text{R}^1 \\ \text{R}^2 \\ \text{N} \\ \text{O} \end{array} \begin{array}{c} \text{R}^3 \text{Cu reagents} \\ \text{Anti-S}_N \text{2' reaction} \\ \text{Diketopiperazine} \\ \text{mimetics} \end{array} \begin{array}{c} \text{R}^1 \\ \text{R}^2 \\ \text{N} \\ \text{N} \\ \text{R}^3 \\ \text{N} \\ \text{R}^3 \\ \text{N} \\ \text{R}^3 \\$$



N-Methylpyrrolidin-2-one hydrotribromide (MPHT) a mild reagent for selective bromination of carbonyl compounds: synthesis of substituted 2-bromo-1-naphtols

pp 4187-4191

Alain Bekaert, Olivier Provot,* Olimihamina Rasolojaona, Mouâd Alami* and Jean-Daniel Brion

Synthesis and photophysical properties of a fluorescent TREN-type ligand incorporating the coumarin pp 4193–4196 chromophore and its zinc complex

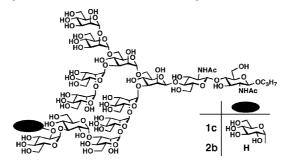
Marianna Dakanali, Emmanuel Roussakis, Alan R. Kay and Haralambos E. Katerinopoulos*

A new, UV-excited, fluorescent Zn^{2+} indicator was synthesized and the spectral profile of its free and Zn^{2+} bound forms was studied. The fluorescent properties of this probe are due to the 7-amino-4-methylcoumarin fluorophore, which is conjugated with the tris(2-aminoethyl)amine (TREN) that functions as the zinc-chelating moiety.

First chemical synthesis of triglucosylated tetradecasaccharide (Glc₃Man₉GlcNAc₂), a common precursor of asparagine-linked oligosaccharides

pp 4197-4200

Ichiro Matsuo, Toshinori Kashiwagi, Kiichiro Totani and Yukishige Ito*



Synthesis of a N-glycan nonasaccharide of the bisecting type with additional core-fucose

pp 4201-4204

Ralf Schuberth and Carlo Unverzagt*

Activation of superoxide by boron trifluoride: chemoselective and efficient oxidation of sulfides to sulfoxides via tetrafluorodiboronperoxide

pp 4205-4208

Yao-Jung Chen* and Jiun-Yi Shen

$$R_1$$
-S- R_2

BF₃, KO₂

MeCN(0.1M)

R₁-S- R_2
 R_1 -S- R_2
 R_1 -S- R_2
 R_1 -S- R_2

Activation of superoxide with BF₃ can facilitate highly chemoselective and efficient oxidation of sulfides to sulfoxides in 5 m with excellent yields and without any interference in the presence of ketone, olefin, ether, and hydroxyl functionalities.

Baylis-Hillman chemistry: a one pot cross-coupling/allylboration reaction

pp 4209-4211

George W. Kabalka,* Bollu Venkataiah and Gang Dong

OAc O
$$Ph \longrightarrow OMe + \frac{[(RO)_2B]_2}{Pd} \xrightarrow{R'CHO} R' \longrightarrow OMe$$

$$Ph \longrightarrow OMe + \frac{[(RO)_2B]_2}{Pd} \xrightarrow{R'CHO} R' \longrightarrow OMe$$

A one pot sequential cross-coupling/allylboration is described. Baylis–Hillman acetate adducts couple with bis(pinacolato)diboron to form substituted allylboronates, which react with aldehydes in the presence of a silica supported BF_3 catalyst to form highly functionalized homoallylic alcohols in excellent yields.

An efficient one-pot synthesis of pyrrolines and tetrahydropyridines from their chloro-precursors via in situ aza-Wittig reaction

pp 4213-4217

Pradeep N. D. Singh, Rodney F. Klima, Sivaramakrishnan Muthukrishnan, Rajesh S. Murthy, Jagadis Sankaranarayanan, Heidi M. Stahlecker, Bhavika Patel and Anna D. Gudmundsdóttir*

First regiospecific, enantiospecific total synthesis of gardnerine and gardnutine

pp 4219-4224

Hao Zhou, Dongmei Han, Xuebin Liao and James M. Cook*

The first enantiospecific total synthesis of gardnerine and gardnutine has been achieved from 6-methoxy-D-tryptophan via the asymmetric Pictet–Spengler reaction, a stereocontrolled intramolecular enolate driven palladium-mediated cross-coupling reaction and a chemospecific, regiospecific hydroboration/oxidation sequence as key steps.

Synthesis of 1,3-diaryl benzo[c]thiophenes

pp 4225-4229

Arasambattu K. Mohanakrishnan* and P. Amaladass

An efficient preparation of 1-phenylsulfonylindolyl methyl sulfoxides using KF/m-CPBA

pp 4231-4233

Arasambattu K. Mohanakrishnan* and Neelamegam Ramesh

Synthesis of C(1)–C(11) oxygen-bridged pregnanes

pp 4235-4238

Adriana S. Veleiro, Paula J. Taich, Lautaro D. Alvarez, Pablo H. Di Chenna and Gerardo Burton*

1,11-Epoxysteroids are obtained using a remote functionalization reaction of 11α -hydroxy-pregnanes with visible light in the presence of diacetoxyiodobenzene and iodine.

A new macrocycle that forms pseudorotaxane-like complexes with dibenzylammonium ions Pin-Nan Cheng, Wei-Chung Hung and Sheng-Hsien Chiu*

pp 4239-4242

A new route to novel 10-deoxoartemisinins

Vu Tran Khac,* Viet Nguyen Van and Tuyen Nguyen Van

pp 4243-4245

Potassium trifluoro(organo)borates in rhodium-catalyzed 1,4-additions to α,β-unsaturated esters Laure Navarre, Mathieu Pucheault, Sylvain Darses* and Jean-Pierre Genet*

pp 4247-4250

R¹
$$CO_2R^2$$
 + RBF₃K $\frac{[Rh(cod)_2]PF_6 \ 3 \ mol\%}{(R)\text{-Binap } 3.3 \ mol\%}$ R¹ CO_2R^2 $84\text{-}96\%$ ee Tol/H₂O, 110°C

Nitromethane as a scavenger of acrylonitrile in the deprotection of synthetic oligonucleotides Tadashi Umemoto and Takeshi Wada*

pp 4251-4253

A new procedure for deprotection of synthetic oligonucleotides to prevent nucleobase alkylation.

Palladium charcoal-catalyzed, ligandless Suzuki reaction by using tetraarylborates in water Gang Lu, Robert Franzén, Qian Zhang and Youjun Xu*

pp 4255-4259

Ar-Br
$$\frac{0.27 \text{ equiv. Ar'}_4\text{BNa, 5 \% Pd/C, base, H}_2\text{O}}{\text{Ar-Ar'}} \text{Ar-Ar'}$$

(Ar: aryl group bearing carboxy or hydroxy group; Ar': phenyl or *p*-tolyl group)



Synthesis of 4-substituted tetrahydropyridines by cross-coupling of enol phosphates

pp 4261-4263

Uffe S. Larsen, Lars Martiny and Mikael Begtrup*

Enol phosphates, synthesized from 4-piperidone, react by palladium catalyzed cross-coupling with arylboronic acids and by iron and palladium catalyzed cross-coupling with Grignard reagents to give 4-substituted tetrahydropyridines.



The fragmentation of exo-5-norbornenyl-2-oxychlorocarbene: stereochemistry and mechanism

pp 4265-4268

Xiaolin Fu, Robert A. Moss,* Ronald R. Sauers* and Peter Wipf*

OTHER CONTENTS

Contributors to this issue Instructions to contributors

p I pp III-VI

*Corresponding author

**D+ Supplementary data available via ScienceDirect

COVER

First chemical synthesis of triglucosylated high mannose type tetradecasaccharide (Glc₃Man₉GlcNAc₂), a common precursor of asparagine-linked glycoproteins, as well as its glucosidase I product tridecasaccharide (Glc₂Man₉GlcNAc₂) were achieved using convergent and stereoselective manner. These oligosaccharides will be valuable standards to reveal protein–oligosaccharide interactions involved in glycoprotein biosynthesis. *Tetrahedron Letters* **2005**, *46*, 4197–4200. © 2005 Y. Ito. Published by Elsevier Ltd.



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