

Tetrahedron Letters Vol. 47, No. 15, 2006

Contents

COMMUNICATIONS

Formamide as an efficient nitrogen nucleophile for the Michael addition to nitroalkenes Akio Kamimura,* Ayako Kadowaki, Yoshiaki Nagata and Hidemitsu Uno

pp 2471-2473

Synthesis of 2-azidoethyl α-D-mannopyranoside orthogonally protected and selective deprotections José Juan Reina and Javier Rojo*

pp 2475-2478

The synthesis and subsequent selective deprotections of a fully orthogonally protected mannopyranose is described.

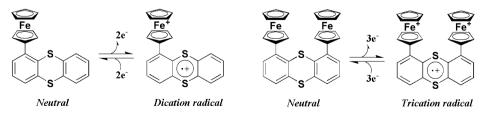
Design of reversible organic-organometallic multi-redox systems using thianthrene having ferrocene fragments

pp 2479-2483

Satoshi Ogawa,* Hiroki Muraoka and Ryu Sato*

2-sites 2-electrons 2-steps redox system

3-sites 3-electrons 3-steps redox system





NMR kinetic analysis of photochromic quinolone photoproducts

pp 2485-2488

J. Berthet, J. C. Micheau, G. Vermeersch and S. Delbaere*

The whole photochromic reaction, photocolouration, thermal bleaching and photodegradation, of a quinolone derivative has been kinetically monitored by product-by-product NMR spectroscopy. The mechanism of reactions has been established from quantitative kinetic data analysis.



Stereoselective synthesis of trans-2,3-disubstituted pyrrolidines via addition to N-acyliminium ions

pp 2489-2492

Nuria Diaz Buezo, Alma Jiménez, Concepción Pedregal* and Paloma Vidal

Formation of scalemic α,β -epoxysulfones

pp 2493-2495

R. L. Dorow* and Steven A. Tymonko

Use of functionalized aromatic organozinc reagents in the three-component Mannich-type synthesis of diarylmethylamines

pp 2497-2500

Erwan Le Gall,* Michel Troupel and Jean-Yves Nédélec

Highly chemo- and regioselective phosphitylation of unprotected 2'-deoxyribonucleosides Yukiko Kato, Natsuhisa Oka and Takeshi Wada*

pp 2501-2505

HO
$$\xrightarrow{\text{OH}}$$
 $(t\text{-BuO})_2\text{PNEt}_2$ $\xrightarrow{\text{NHCI}}$ $\xrightarrow{\text{t-BuO}}$ P-O $\xrightarrow{\text{OH}}$ $\xrightarrow{\text{DHCI}}$ \xrightarrow

Highly efficient nitration of phenolic compounds by zirconyl nitrate

pp 2507-2509

J. Jon Paul Selvam, V. Suresh, K. Rajesh, S. Ravinder Reddy and Y. Venkateswarlu*

Ar-OH
$$ZrO(NO_3)_2.xH_2O$$
 \longrightarrow o-nitrophenol (40%) + p-nitrophenol (60%)

Rapid and convenient synthesis of aryl- and heteroaryl- α -hydroxy- α -trifluoromethyl acetate via Friedel–Crafts alkylation under solvent- and catalyst-free conditions

pp 2511-2514

Jun-Ling Zhao, Li Liu,* Hai-Bo Zhang, Yan-Chao Wu, Dong Wang* and Yong Jun Chen*

A practical synthesis of S-quinuclidine-2-carboxylic acid and its enantiomer Yuan Mi and E. J. $Corey^*$

pp 2515-2516

Et₃B-Mediated radical alkylation of pyrroles and indoles

pp 2517-2520

Miguel A. Guerrero and Luis D. Miranda*

Karatungiols A and B, two novel antimicrobial polyol compounds, from the symbiotic marine dinoflagellate *Amphidinium* sp.

pp 2521-2525

Kazuto Washida, Tomoyuki Koyama, Kaoru Yamada, Masaki Kita and Daisuke Uemura*

Notable temperature effect on the stereoselectivity in the photochemical [2+2] cycloaddition reaction (Paternò-Büchi reaction) of 2,3-dihydrofuran-3-ol derivatives with benzophenone

pp 2527-2530

Manabu Abe,* Midori Terazawa, Koichi Nozaki, Araki Masuyama and Takashi Hayashi

Synthesis of a new series of ditopic proligands for metal salts: differing regiochemistry of electrophilic attack at $3{5}$ -amino- $5{3}$ -(pyrid-2-yl)-1H-pyrazole

pp 2531-2534

Christopher M. Pask, Kenneth D. Camm, Colin A. Kilner and Malcolm A. Halcrow*

An improved synthesis of 3{5}-amino-5{3}-(pyrid-2-yl)-1*H*-pyrazole is described, which affords the compound on a multi-gram scale. Reaction of this compound with acid chlorides, isocyanate and isothiocyanate electrophiles in MeCN cleanly yields the products shown. The amide and thiourea compounds are good candidates as proligands for the simultaneous complexation of metal cations and anions.



Synthesis of hipposudoric and norhipposudoric acids: the pigments responsible for the color reaction of the red sweat of *Hippopotamus amphibius*

pp 2535-2538

Yoko Saikawa, Kai Moriya, Kimiko Hashimoto* and Masaya Nakata*

$$O_2$$
 O_2 O_2 O_3 O_4 O_4 O_4 O_5 O_6 O_7 O_8 O_8

Hipposudoric acid

Norhipposudoric acid

Synthesis and biological evaluation of allenic quinazolines using palladium-catalyzed hydride-transfer reaction

pp 2539-2542

Hiroyuki Nakamura* and Shinya Onagi

Efficient, highly regioselective, and stereospecific conversion of glycidol systems into C2-O-acylated vicinal halohydrins

pp 2543-2547

Stephan D. Stamatov* and Jacek Stawinski*

OR Pyridine-TMSX-R'COOH-TFAA OCOR'

$$CHCl_3 / 80 \text{ °C}$$
 $X = CI, Br \text{ or } I$

The title compounds can be obtained in one-step from the corresponding glycidyl derivatives using a pyridine–trimethylsilyl halide–carboxylic acid–trifluoroacetic anhydride reagent system.



Parallel synthesis of N-arylpiperazines using polymer-assisted reactions

pp 2549-2552

Matthew A. J. Duncton,* Jonathan R. A. Roffey,* Richard J. Hamlyn and David R. Adams

$$Ar-X \longrightarrow Ar-N$$
 $X = Halide$

A series of *N*-arylpiperazines were prepared in a parallel fashion using palladium-catalyzed cross-coupling, or nucleophilic aromatic displacement chemistries, and polymer-assisted sequestration and purification techniques as key steps.

High basicity of tris-(tetramethylguanidinyl)-phosphine imide in the gas phase and acetonitrile—a DFT study

pp 2553-2555

B. Kovačević* and Z. B. Maksić

It is shown by reliable DFT calculations that compounds 4 and 6 are very powerful neutral organic superbases as evidenced by the calculated proton affinities in the gas phase and the corresponding calculated pK_a values in acetonitrile.

Selective synthesis of 2-aryl-1-arylmethyl-1*H*-1,3-benzimidazoles in water at ambient temperature pp 2557–2560 Peyman Salehi,* Minoo Dabiri, Mohammad Ali Zolfigol, Somayeh Otokesh and Mostafa Baghbanzadeh

$$\begin{array}{c} R^{1} \\ \\ R^{1} \\ \end{array} + \begin{array}{c} R^{2}CHO \\ \hline \\ Water, \ rt \\ \end{array} + \begin{array}{c} R^{1} \\ \\ R^{2} \\ \end{array}$$

Catalytic aldol-transfer reactions with Al-alkoxide trapping

pp 2561-2564

Bixia Xi and Vesa Nevalainen*

CAN-mediated oxidative cleavage of 4-aryl-3,4-dihydroxypiperidines

pp 2565-2568

Meng-Yang Chang,* Chun-Yu Lin and Chun-Li Pai

$$\begin{array}{c} \text{Ar} \\ \text{OH} \\ \text{OH} \\ \text{CAN, MeCN} \\ \text{R} = \text{Cbz or Ts} \end{array} \begin{array}{c} \text{Ar} \\ \text{O} \\ \text{O} \\ \text{CHO} \end{array} + \begin{array}{c} \text{Ar} \\ \text{a. Ar} = \text{C}_{6}\text{H}_{5} \\ \text{b. Ar} = \text{4-FC}_{6}\text{H}_{4} \\ \text{c. Ar} = \text{4-FC}_{6}\text{H}_{4} \\ \text{d. Ar} = \text{4-MeOC}_{6}\text{H}_{4} \\ \text{e. Ar} = \text{3-MeOC}_{6}\text{H}_{4} \end{array}$$



Rhodium catalyzed hydroformylation of 2-phenylsulfonylbicyclo[2.2.1] alkenes: effect of the phenylsulfonyl group

pp 2569-2572

Sergio Cossu,* Paola Peluso, Elisabetta Alberico and Mauro Marchetti

Rh(CO)₂acac, toluene OHC
$$\frac{50 \text{ atm H}_2/\text{CO} = 1/1}{\text{SO}_2\text{Ph}} + \frac{50 \text{ atm H}_2/\text{CO} = 1/1}{\text{60 °C, 15 h}} + OHC$$

The preliminary results of the hydroformylation of some 2-phenylsulfonylbicyclo[2.2.1] derivatives catalyzed by the unmodified system Rh(CO)₂acac are reported.

An efficient palladium-catalyzed Heck coupling of aryl chlorides with alkenes

pp 2573-2576

Chenyi Yi and Ruimao Hua*

Catalyst system $PdCl_2(PCy_3)_2/Cs_2CO_3$ in dioxane was found to be the efficient catalyst system for Heck cross-coupling reactions of deactivated, neutral and activated aryl chlorides with a variety of alkenes under mild conditions to afford selectively *E*-arylated alkenes in good to excellent yields.

New route to 15-hydroxydehydroabietic acid derivatives: application to the first synthesis of some bioactive abietane and nor-abietane type terpenoids

pp 2577-2580

E. J. Alvarez-Manzaneda,* R. Chahboun, J. J. Guardia, M. Lachkar, A. Dahdouh, A. Lara and I. Messouri

Short and simple synthesis of chelating bis-ethers and bis-amines in the bicyclo[3.3.1]nonane series pp 2 Felix H. V. Chau and E. J. Corey*

pp 2581-2583

Organocatalytic asymmetric conjugate addition of thioacetic acid to $\beta\text{-nitrostyrenes}$

pp 2585-2589

Hao Li, Jian Wang, Liansuo Zu and Wei Wang*



Cobalt-catalyzed benzyl-alkynyl coupling

pp 2591-2594

Akiko Kuno, Naoko Saino, Taku Kamachi and Sentaro Okamoto*

Benzylic halides coupled with 1-alkynyl Grignard reagents in the presence of Co catalyst.

Remarkably efficient activation of glycosyl trichloro- and (N-phenyl) trifluoroacetimidates with bismuth(III) triflate

pp 2595-2599

Matteo Adinolfi, Alfonso Iadonisi,* Alessandra Ravidà and Silvia Valerio

Parallel synthesis of amino bis-benzimidazoles by multistep microwave irradiation Chen-Hao Wu and Chung-Ming Sun^*

pp 2601-2604

Two-step synthesis of the bipyrrole precursor of prodigiosins

pp 2605-2606

Kenza Dairi, Sasmita Tripathy,* Giorgio Attardo and Jean-François Lavallée*

Highly substituted cyclohexanes: strong proximity effects influence synthetic access to 1,3,5-tris(bromomethyl)-1,3,5-trialkylcyclohexanes (alkyl = methyl, *n*-propyl)

pp 2607-2610

Andreas Hofmann, Rui Ren, Alan Lough and Ulrich Fekl*

Novel one pot synthesis of polysubstituted pyrazolo[1,5-a]- and imidazo[1,2-a]pyrimidines

pp 2611-2614

Alexander S. Kiselyov* and Leon Smith, II

$$Ar_1\text{-CN} \xrightarrow{\Theta} \underbrace{\begin{array}{c} OEt \\ OOEt \\ OOEt \\ OOEt \\ \end{array}}_{Q} \underbrace{\begin{array}{c} NH \\ Ar_2\text{-CHO} \\ OOEt \\ OOEt \\ \end{array}}_{Ar_2\text{-CHO}} \underbrace{\begin{array}{c} Ar_2 \\ N \\ NH \\ Ar_1 \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ NH \\ NH_2 \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_1} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_1} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N \\ N \\ NH \\ \end{array}}_{Ar_2} \underbrace{\begin{array}{c} R \\ N$$

We have described a convenient regioselective one-pot approach to pyrazolo[1,5-a]- and imidazo[1,2-a]pyrimidine derivatives from α,β -unsaturated imines generated in situ and amino heterocycles. Reaction is general with respect to all three components, namely (i) nitrile, (ii) aldehyde, and (iii) amino heterocycle reagents. Good yields (52–77%), convenient isolation of the targeted molecules are the distinct characteristics of the developed protocol.

One-pot synthesis of 5,6-dihydroxylated benzo[b]furan derivatives

pp 2615-2618

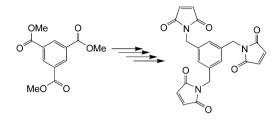
$$R_1$$
 R_2 R_3 $NalO_3/pyridine$ R_2 R_3 R_2 R_3 R_4 R_5 R_5 R_6 R_7 R_8 R_9 R_9

Several 5,6-dihydroxylated benzo[b]furan derivatives were synthesized via oxidation–Michael addition of β -dicarbonyl compounds with catechols. The mechanism different from that of electrochemical methods was proposed based on DFT.

Synthesis of a homotrifunctional conjugation reagent based on maleimide chemistry

pp 2619-2622

Omar K. Farha, Richard L. Julius and M. Frederick Hawthorne*

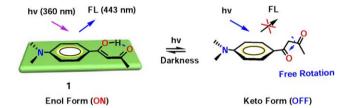




$\beta\text{-Diketones}$ bearing electron-donating chromophores and a novel $\beta\text{-triketone};$ synthesis and reversible fluorescence behavior

pp 2623-2626

Xin Zhang, Zi-Chen Li,* Ning Xu, Kai-Bo Li, Song Lin, Feng-Zhu Lu, Fu-Sheng Du and Fu-Mian Li



Fluorescence emission (FL) of saturated β -diketones was reversibly switched between the 'ON' state (enol form), and the 'OFF' state (keto form) based on keto-enol tautomerization.

(i)+

Synthesis of sphingomyelin difluoromethylene analogue

pp 2627-2630

Toshikazu Hakogi, Tetsuya Yamamoto, Shinobu Fujii, Kiyoshi Ikeda and Shigeo Katsumura*

$$C_5H_{11}$$
 NH F F C_7H_{15} O O O O

Sphingomyelin Difluoromethylene Analogue

Reaction of N-fluoropyridinium fluoride with isonitriles and diazo compounds: a one-pot synthesis of (pyridin-2-yl)-1H-1,2,3-triazoles

pp 2631-2634

Alexander S. Kiselyov

$$\begin{array}{c|c}
R'-NC & R'-N$$

8-Azabicyclo[3.2.1]oct-3-en-2-ones via asymmetric 1,3-dipolar cycloaddition of a homochiral 3-oxidopyridinium betaine

pp 2635-2638

Neil R. Curtis,* Richard G. Ball and Janusz J. Kulagowski

Ph 4
$$E = t-BuO_2C$$

11 $E = PhO_2S$

1,3-Dipolar cycloadditions of homochiral betaine 4 proceeded in moderate to good yields, with excellent diastereofacial selectivity achieved for the major 6-exo cycloadducts 7 and 11. The absolute stereochemistry of 7 was confirmed by a single-crystal X-ray diffraction study.

Electrophilic fluorination of aromatic compounds with NF type reagents: kinetic isotope effects and mechanism

pp 2639-2642

Gennady I. Borodkin,* Pavel A. Zaikin and Vyacheslav G. Shubin

$k_{\rm H}/k_{\rm D} = 0.86-0.99.$

Dual reactivity of imidic carbonyl ylides in Rh(II)-catalyzed reactions of α -diazocarbonyl compounds with succinimide

pp 2643-2647

Vsevolod Nikolaev, Lothar Hennig, Heinz Heimgartner, Barbel Schulze and Valerij Nikolaev*

One-step assembly of carbamoyl substituted annulated 1,4-oxazepines

pp 2649-2653

Alexey P. Ilyin, Vladislav Z. Parchinski, Julia N. Peregudova, Andrey S. Trifilenkov, Elena B. Poutsykina, Sergey E. Tkachenko, Dmitri V. Kravchenko and Alexandre V. Ivachtchenko*



*Corresponding author

** Supplementary data available via ScienceDirect



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