

Tetrahedron Letters Vol. 48, No. 16, 2007

Contents

COMMUNICATIONS

Catalytic asymmetric Michael reactions of dibenzyl malonate to α,β-unsaturated N-acylpyrroles using a pp 2815–2818 La(O-iPr)₃/Ph-linked-BINOL complex

So-Young Park, Hiroyuki Morimoto, Shigeki Matsunaga* and Masakatsu Shibasaki*

X O dibenzyl malonate cat. La(O-i-Pr)₃/1b
$$\times$$
 CO₂Bn \times CO₂

4,5-erythrol5,6-threo-Stereoselectivity in vinylogous Mukaiyama aldol addition of a silyloxypyrrole to a pp 2819–2822 threose derivative: stereochemical rationalization and relevance to (+)-castanospermine synthesis

Roger Hunter,* Sophie C. M. Rees-Jones and Hong Su

Utility of 4,6-dichloro-2-(methylthio)-5-nitropyrimidine. Part 3: Regioselective solid-phase synthesis of a 2,6,8,9-tetrasubstituted purine library

pp 2823-2827

Lars G. J. Hammarström, David B. Smith* and Francisco X. Talamás

A fully regiocontrolled synthesis of a 2,6,8,9-tetrasubstituted purine library was performed through on-resin elaboration of 4,6-dichloro-2-(methylthio)-5-nitropyrimidine.

24 examples



Magnesia-supported hydroxylamine hydrochloride in the presence of sodium carbonate as an efficient reagent for the synthesis of 1,2,4-oxadiazoles from nitriles

pp 2829-2832

Babak Kaboudin* and Fariba Saadati

$$R-C = N \xrightarrow{MgO-NH_2OH.HCI \\ Na_2CO_3, MW} \xrightarrow{R'COCI \\ MW} \xrightarrow{N} \xrightarrow{N}$$

Asymmetric dehydration of β-hydroxy esters via kinetic resolution

Yongtae Kim, Eui Ta Choi, Min Hee Lee and Yong Sun Park*

$$R = Ph \qquad \begin{array}{c} S \text{ mol} \% \text{ L*} \\ BrZnCH_2CO_2t\text{-Bu} \\ \hline R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array} \qquad \begin{array}{c} CO_2t\text{-Bu} \\ + \\ R \\ \end{array}$$

Rhodium-catalyzed rapid synthesis of substituted phenols from cyclobutenones and alkynes or alkenes via pp 2837–2839 C–C bond cleavage

Teruyuki Kondo,* Masatsugu Niimi, Masato Nomura, Kenji Wada and Take-aki Mitsudo

R¹ O [Rh] catalyst
$$R^2 = R^2$$
 $R^1 = R^2$ $R^2 = R$

An aldol approach to the synthesis of the anti-tubercular agent erogorgiaene

pp 2841-2843

J. S. Yadav,* A. K. Basak and P. Srihari



A practical and expedient synthesis of 2-heterocycle (C-N bond) substituted 4-oxo-4-arylbutanoates Xiaojun Han

pp 2845-2849

OH
$$R^{1}$$
 $Y \in X$ NH $CH_{2}CI_{2}$ (0.2 M) $Y = X$ $X \in X$ X $X \in X$ $X \in X$ X $X \in X$ X $X \in$

The title compounds were formed in good to excellent yields by the DBU catalyzed redox isomerization of alkynols to α,β -unsaturated ketoesters, followed by the DBU promoted aza-Michael reactions of nitrogen heterocycles in one pot.



pp 2851-2855

Synthesis of cholaphanes by ring closing metathesis

Dorota Czajkowska and Jacek W. Morzycki*

A RCM route to cyclic dimers from cholic acid is described.

Readily available amino acid building blocks for the synthesis of phosphole-containing peptides

pp 2857-2859

Steven van Zutphen,* Vicente J. Margarit, Guilhem Mora and Pascal Le Floch

The synthesis of an Fmoc protected amino acid derivative containing a phosphole moiety in the side chain is described.

Lewis acid-promoted direct substitution of 2-methoxy-3-cyanopyridines by organo cuprates. Part 3: pp 2861–2865 Facile preparation of nicotinamide and nicotinic acid derivatives

Alaa A.-M. Abdel-Aziz*

Iodine-catalyzed efficient conjugate addition of pyrroles to α,β-unsaturated ketones

pp 2867-2870

Biswanath Das,* Nikhil Chowdhury and Kongara Damodar

R =H, Me, COPh R¹=H, p-CIC $_6$ H $_4$, p-MeOC $_6$ H $_4$ R²=Me, Et, Ph

(R)-2,3-Cyclohexylideneglyceraldehyde: a novel template for simple entry into both *cis*- and *trans*-2,5- pp 2871–2873 disubstituted tetrahydrofurans

Angshuman Chattopadhyay,* Prasad Vichare and Bhaskar Dhotare

Direct azidation of unprotected carbohydrates with $PPh_3/CBr_4/NaN_3$. Modulation of the degree of substitution

pp 2875-2879

Sébastien G. Gouin* and José Kovensky*

P_2O_5/Al_2O_3 as an efficient heterogeneous catalyst for chemoselective synthesis of 1,1-diacetates under pp 2881–2884 solvent-free conditions

Abdol R. Hajipour,* Amin Zarei and Arnold E. Ruoho

R-CHO +
$$Ac_2O$$
 $\xrightarrow{P_2O_5 / Al_2O_3}$ R-CH(OAc)₂

R= aryl, alkyl

Mesityltriphenylbismuthonium tetrafluoroborate as an efficient bismuth(V) oxidant: remarkable steric effects on reaction rates and chemoselectivities in alcohol oxidation

pp 2885-2888

Yoshihiro Matano,* Takeshi Suzuki, Tomonori Shinokura and Hiroshi Imahori



pp 2889-2892

An efficient synthesis of (+)-decursinol from umbelliferone

Jung Ho Lee, Hyun Bae Bang, Su Young Han and Jong-Gab Jun*

$$\begin{array}{c} \text{ } & \begin{array}{c} \text{ } & \text{ } & \text{ } \\ \text{ }$$

Utility of a chiral 1,3-dioxane template in stereoselective intramolecular Diels-Alder reactions

pp 2893-2896

Laurent Evanno, Alexandre Deville, Lionel Dubost, Angèle Chiaroni, Bernard Bodo and Bastien Nay*

A novel palladium catalyst for the amination of electron-rich indole derivatives

pp 2897-2900

Nicolle Schwarz, Annegret Tillack, Karolin Alex, Iliyas Ali Sayyed, Ralf Jackstell and Matthias Beller*

The palladium-catalyzed amination of 3-silyloxy-5-bromo-indole with primary and secondary amines leads smoothly to new amino-functionalized indoles in good yields (up to 91%).

A convenient microwave-assisted synthesis of N-glycosyl amino acids

pp 2901-2904

Ilaria Paolini, Francesca Nuti, Maria de la Cruz Pozo-Carrero, Francesca Barbetti, Beata Kolesinska, Zbigniew J. Kaminski, Mario Chelli and Anna M. Papini*

The optimization of the coupling reaction between aspartic and glutamic acid side chains and a series of protected aminosugars using microwave irradiation is reported.

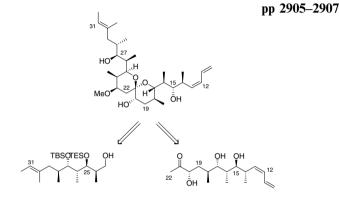
GIc: R_1 , R_3 , R_4 , R_6 = OAc, R_2 , R_5 = H Gal: R_1 , R_3 , R_5 , R_6 = OAc, R_2 , R_4 = H Cell: R_1 , R_3 , R_6 = OAc, R_2 , R_5 = H, R_4 = OGIc Man: R_1 , R_5 = H, R_2 , R_3 , R_4 , R_6 = OBz



Synthesis of the C23-C32 fragment of spirangien

Michael Lorenz and Markus Kalesse*

The synthesis of the C23–C32 fragment of spirangien A is reported using Evans' alkylation, Evans–Metternich aldol reaction and a substrate controlled stereoselective reduction.

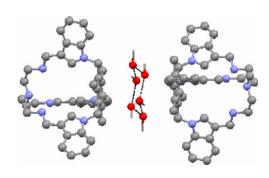


Synthesis and X-ray crystallographic investigation of a novel indole-based cryptand: structure of a sandwiched cyclic S_6 hexameric methanol cluster

pp 2909-2913

M. Arunachalam, Eringathodi Suresh* and Pradyut Ghosh*

A discrete cyclic S_6 -symmetric hexameric methanol cluster sandwiched between the hydrophobic ends of novel indole-based cryptand units is described.





Synthesis of β -1,4-di-D-mannuronic acid glycosides as potential ligands for toll-like receptors

pp 2915-2918

Zi-Hua Jiang,* Rongsong Xu, Charlene Wilson and Agnes Brenk

Pd-catalyzed arylation/ring-closing metathesis approach to azabicycles

pp 2919-2922

Unai Martínez-Estíbalez, Nuria Sotomayor and Esther Lete*

$$NH_2$$
 NH_2
 NH_2

VioE, a prodeoxyviolacein synthase involved in violacein biosynthesis, is responsible for intramolecular pp 2923–2926 indole rearrangement

Shumpei Asamizu, Yasuo Kato, Yasuhiro Igarashi and Hiroyasu Onaka*

Solid-state optical properties of a chiral supramolecular fluorophore consisting of chiral (1R,2R)-1,2- pp 2927–2930 diphenylethylenediamine and fluorescent carboxylic acid derivatives

Yoshitane Imai,* Kakuhiro Kawaguchi, Takunori Harada, Tomohiro Sato, Masaaki Ishikawa, Michiya Fujiki, Reiko Kuroda and Yoshio Matsubara*

Aerobic photo-oxidation in the presence of catalytic allylbromide

pp 2931-2934

Taichi Sugai and Akichika Itoh*

A naphthyridine-based receptor for sensing citric acid

Kumaresh Ghosh,* Tanushreee Sen and Roland Fröhlich

A naphthyridine-based charge neutral receptor has been designed and synthesized. Its complexation with a series of carboxylic acids, involved in Krebs cycle, has been studied by ¹H NMR, UV–vis and fluorescence methods.

D- and L-Serine, useful synthons for the synthesis of 24-hydroxyvitamin D_3 metabolites. A formal synthesis of $1\alpha,24R,25-(OH)_3-D_3$, $24R,25-(OH)_2-D_3$ and $24S,25-(OH)_2-D_3$

Carlos Fernandez, Zoila Gándara, Generosa Gómez, Berta Covelo and Yagamare Fall*

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pp 2935-2938

An efficient one-pot synthesis of spiro dihydrofuran oxindole and spiro 2-hydroxytetrahydrofuran oxindole derivatives via (3+2) oxidative cycloaddition mediated by CAN

pp 2943-2947

G. Savitha, S. K. Niveditha, D. Muralidharan and P. T. Perumal*

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*Corresponding author

(i) Supplementary data available via ScienceDirect

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