

Tetrahedron Vol. 62, No. 31, 2006

Contents

REPORT

Synthesis and biological activity of pyrrole, pyrroline and pyrrolidine derivatives with two aryl groups pp 7213–7256 on adjacent positions

Fabio Bellina and Renzo Rossi*

The methods used for the synthesis of vicinal diaryl-substituted pyrrole, pyrroline and pyrrolidine derivatives are reviewed. The report which contains 461 references also summarizes the bioactivity data of some of these compounds.

ARTICLES

Isotopic labelling of quercetin 3-glucoside

pp 7257-7265

Stuart T. Caldwell, Hanna M. Petersson, Louis J. Farrugia, William Mullen, Alan Crozier and Richard C. Hartley*

Application of the photocyclization reaction of 1,2-cyclopenta-fused pyridinium perchlorate to formal pp 7266–7273 total syntheses of (–)-cephalotaxine

Zhiming Zhao and Patrick S. Mariano*



The role of terminal tyrosine residues in the formation of tripeptide nanotubes: a crystallographic insight

pp 7274–7283

Sudipta Ray, Michael G. B. Drew, Apurba Kumar Das and Arindam Banerjee*

No nanotube
$$X = Tyrosine, X \neq Y$$

No nanotube $X = Tyrosine, X \neq Y$

No nanotube $X = Y = Phenylalanine (but not Tyrosine)$

No nanotube $X = Y = Phenylalanine (but not Tyrosine)$

No nanotube $X = Y = Phenylalanine (but not Tyrosine)$

Synthesis and biological evaluation of anthranilamide-based non-peptide mimetics of $\omega\text{-conotoxin}$ GVIA

pp 7284-7292

Jonathan B. Baell,* Peter J. Duggan, Stewart A. Forsyth, Richard J. Lewis, Y. Phei Lok, Christina I. Schroeder and Nicholas E. Shepherd

Non-peptide mimetics of ω -conotoxin GVIA such as 2a were prepared and displayed selective binding to the $Ca_{\nu}2.2$ ('N-type') calcium channel in the low μM range.

$\label{lem:condition} \textbf{Ceric Ammonium Nitrate (CAN) catalyzes the one-pot synthesis of polyhydroquinoline via the Hantzsch reaction}$

pp 7293-7299

Shengkai Ko and Ching-Fa Yao*

ArCHO +
$$R = H \text{ or } CH_3$$
 $X = OR' \text{ or } Me$

Kinetic resolution of poly(ethylene glycol)-supported carbonates by enzymatic hydrolysis Masaki Nogawa, Megumi Shimojo, Kazutsugu Matsumoto,* Masayuki Okudomi, Yuji Nemoto and Hiromichi Ohta

pp 7300-7306

Fluorescence study on the nyctinasty of *Phyllanthus urinaria* L. using novel fluorescence-labeled probe pp 7307–7318 compounds

Nobuki Kato, Masayoshi Inada, Hirotaka Sato, Ryoji Miyatake, Tsutomu Kumagai and Minoru Ueda*

α -(3,7-Dioxa-r-1-azabicyclo[3.3.0]oct-c-5-ylmethoxy)-diazines. Part 1: Synthesis and stereochemistry. pp 7319–7338 Extension to s-triazine series

Camelia Berghian, Pedro Lameiras, Loïc Toupet, Eric Condamine, Nelly Plé, Alain Turck, Carmen Maiereanu and Mircea Darabantu*

α -(3,7-Dioxa-r-1-azabicyclo[3.3.0]oct-c-5-ylmethoxy)-diazines. Part 2: Functionalisation via directed pp 7339–7354 ortho-metallation and cross-coupling reactions

Camelia Berghian, Eric Condamine, Nelly Plé, Alain Turck, Ioan Silaghi-Dumitrescu, Carmen Maiereanu and Mircea Darabantu*

Azedaralide: total synthesis, relative and absolute stereochemical assignment

pp 7355-7360

Luke A. Baker, Craig M. Williams,* Paul V. Bernhardt and Gary W. Yanik



New microviridins from a water bloom of the cyanobacterium *Microcystis aeruginosa*

pp 7361-7369

Vered Reshef and Shmuel Carmeli*



Isoxazoline-carbocyclic aminols for nucleoside synthesis through aza-Diels-Alder reactions

pp 7370-7379

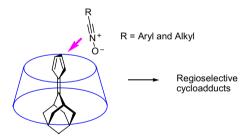
Paolo Quadrelli,* Andrea Piccanello, Naiara Vazquez Martinez, Bruna Bovio, Mariella Mella and Pierluigi Caramella

A novel approach to useful aminols for the synthesis of carbocyclic nucleosides is reported starting from a convenient source, the 2-azanorborn-5-enes. These are readily available through the Grieco cycloaddition of cyclopentadiene with iminium salts and are reactive dipolarophiles toward nitrile oxides. The prolific elaboration of the isoxazoline cycloadducts allowed preparation of the target aminols through the unmasking of the hydroxymethylene group at the C3 level of the azanorbornene structure.

Regioselectivity in the 1,3-dipolar cycloaddition of adamantylidenefulvene and its modification by inclusion in cyclodextrins' solutions

pp 7380–7389

Jean-Ho Chu, Wan-Sheung Li, Ito Chao,* Gene-Hsiang Lee and Wen-Sheng Chung*





Photochemical behavior of the drug atorvastatin in water

pp 7390-7395

Flavio Cermola, Marina DellaGreca,* Maria Rosaria Iesce, Sara Montanaro, Lucio Previtera and Fabio Temussi

$$R^3$$
 R^2 R^3 R^2

Atorvastatin undergoes a self-sensitized photooxygenation by sunlight in water. The main photoproducts, isolated by chromatographic techniques, have been identified by spectroscopic means. They present a pyrrol-2(3H)-one system arising from an oxidation of pyrrole ring and an alkyl/aryl shift. A mechanism involving singlet oxygen addition and an epoxide intermediate is suggested.

Synthesis of the novel conjugated ω,ω' -diaryl/heteroaryl hexatriene system with the central double bond in a heteroaromatic ring: photochemical transformations of 2,3-divinylfuran derivatives

pp 7396-7407

Irena Škorić, Ivana Flegar, Željko Marinić and Marija Šindler-Kulyk*

Compared to substituted *o*-divinylbenzenes, in which the intramolecular cycloaddition gives heteropolycyclic compounds, in this system no intramolecular cycloaddition of the vinyl groups took place. Along cis-trans isomerization, the phototransposition reactions and competitive intermolecular cycloaddition processes were observed.

Convergent synthesis of the common FGHI-ring part of ciguatoxins

pp 7408-7435

Ayumi Takizawa, Kenshu Fujiwara,* Eriko Doi, Akio Murai, Hidetoshi Kawai and Takanori Suzuki

Alternative syntheses of the D_{2d} symmetric 1,3,5,7-tetraiodotricyclo[3.3.0.0^{3,7}]octane

pp 7436-7444

Carles Ayats, Pelayo Camps,* Mercè Font-Bardia, M. Rosa Muñoz, Xavier Solans and Santiago Vázquez*

Synthesis of α -amino tetrahydropyranyl-, tetrahydrothiopyranyl-, 4- and 3-piperidinyl-phosphonic acids via phosphite addition to iminium ions

pp 7445-7454

Nicolas Rabasso, Nicolas Louaisil and Antoine Fadel*

$$X = NMe, O, S, CH2$$

$$0$$

$$P(OEt)2
$$NHR$$

$$NH2$$

$$NH2$$

$$NH2$$

$$NH2$$

$$NH2$$

$$NH2$$

$$NH2$$

$$NH2$$$$

Synthesis of 6-amino-6-deoxy-D-gulono-1,6-lactam and L-gulono-1,6-lactam derived from corresponding 5,6-O-sulfinyl hexono-1,4-lactones

pp 7455-7458

Laurent Gireaud, Ludovic Chaveriat, Imane Stasik, Anne Wadouachi* and Daniel Beaupère

Syntheses of enantio-enriched chiral building blocks from L-glutamic acid

pp 7459-7465

Chen-Guo Feng, Jie Chen, Jian-Liang Ye, Yuan-Ping Ruan, Xiao Zheng and Pei-Qiang Huang*

$CeCl_3\cdot 7H_2O-NaI\ catalyzed\ intramolecular\ addition\ reactions\ of\ 7-hydroxy-1, 3-dienes:\ a\ facile\ approach\ to\ hexahydrobenzofurans\ and\ tetrahydrofurans$

pp 7466-7470

Ming-Chang P. Yeh,* Wei-Jou Yeh, Ling-Hsien Tu and Jia-Ru Wu

Toluene dioxygenase-mediated oxidation of dibromobenzenes. Absolute stereochemistry of new metabolites and synthesis of (-)-conduritol ${\bf E}$

pp 7471-7476

Kevin J. Finn, Jonathan Collins and Tomas Hudlicky*

Total synthesis of prolycopene, a novel 7,9,7',9'-tetra-cis(Z) carotenoid and main pigment of the tangerine tomato $Lycopersicon\ esculentum$

pp 7477-7483

Gerald Pattenden* and David C. Robson

Efficient synthesis of 2,5-diketopiperazines using microwave assisted heating

pp 7484-7491

Marcus Tullberg, Morten Grøtli and Kristina Luthman*

$$H_2N$$
 H_2N
 H_2N
 H_2O , 140 °C
 H_2O , 140 °C



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(i) Supplementary data available via ScienceDirect



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