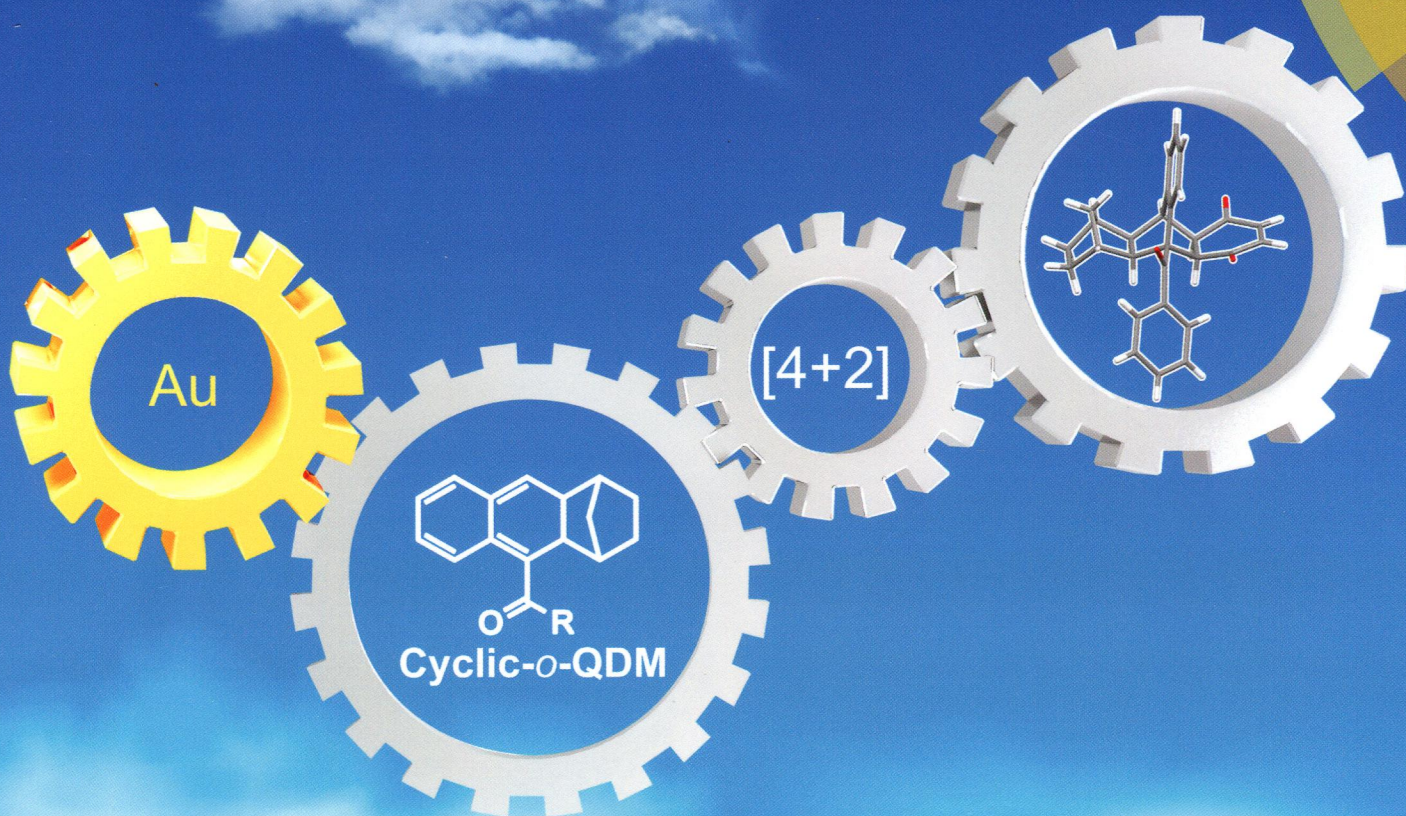


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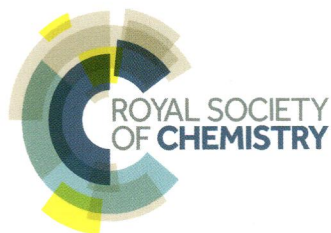
Volume 12 | Number 24 | 28 June 2014 | Pages 4033–4266

Organic & Biomolecular Chemistry

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PAPER

Shifa Zhu *et al.*

Gold-catalyzed tandem Diels–Alder reactions of enynals/enynones with alkenes: generation and trapping of cyclic o-QDMs

Organic & Biomolecular Chemistry

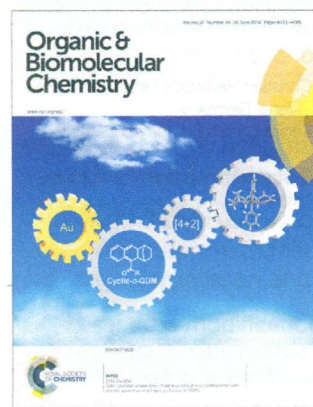
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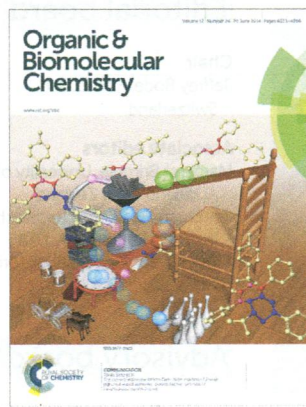
ISSN 1477-0520 CODEN OBCRAK 12(24) 4033–4266 (2014)



Cover

See Shifa Zhu *et al.*,
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Inside cover

See Takao Saito *et al.*,
pp. 4061–4064.

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2014, **12**, 4061.

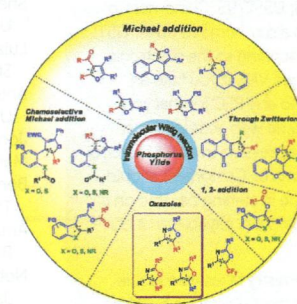
PERSPECTIVE

4044

Preparation of functionalized heteroaromatics using an intramolecular Wittig reaction

Utpal Das, Yi-Ling Tsai and Wenwei Lin*

An approach for the synthesis of heteroaromatics starting from electron-deficient olefins (or aldehydes and acylimines), acyl chlorides and phosphines using an intramolecular Wittig reaction as the key step is described.



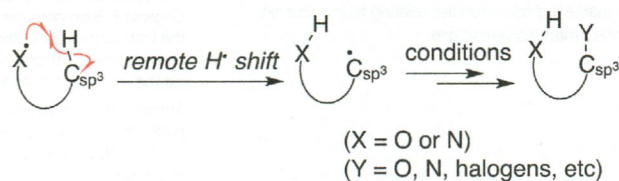
REVIEW

4051

sp³ C–H oxidation by remote H-radical shift with oxygen- and nitrogen-radicals: a recent update

Shunsuke Chiba* and Hui Chen

This review updates on recent advances in aliphatic sp³ C–H bond oxidation by remote H-radical abstraction with oxygen- and nitrogen-radicals classifying by the type of the radical precursors.



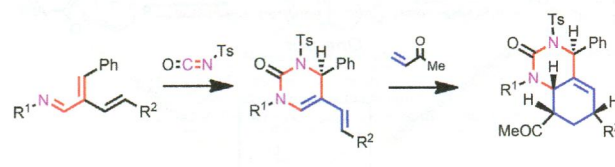
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Центральная научная библиотека
Уральского отделения
Российской академии наук (ЦНБ УрО РАН)

4061

The diene-transmissive hetero-Diels–Alder reaction of 2-vinyl α,β -unsaturated aldimines: stereoselective synthesis of hexahydroquinazolin-2-ones

Satoru Kobayashi, Kenji Kudo, Ai Ito, Satoru Hirama, Takashi Otani and Takao Saito*

The tandem Diels–Alder methodology of cross-conjugated 1-azatrienes for synthesis of crossed bis-cycloadducts with high chemo-, regio- and stereoselectivities is described.

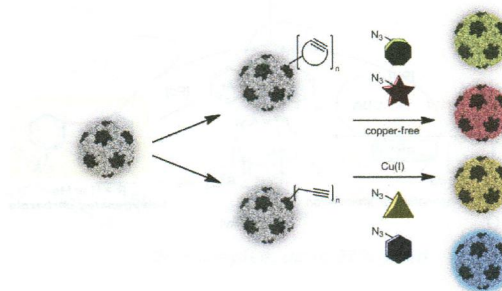


4065

Versatile post-functionalization of the external shell of cowpea chlorotic mottle virus by using click chemistry

C. A. Hommersom, B. Matt, A. van der Ham, J. J. L. M. Cornelissen and N. Katsonis*

We present the modification of the outer protein shell of cowpea chlorotic mottle virus (CCMV) with linear and strained alkyne groups for post-functionalization by click chemistry.

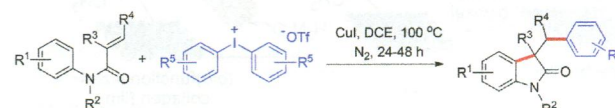


4070

Copper-catalyzed bis-arylations of alkenes leading to oxindole derivatives

Liangliang Shi, Yuyuan Wang, Haijun Yang and Hua Fu*

A simple and practical copper-catalyzed approach to oxindole derivatives by copper-catalyzed bis-arylation of *N*-alkyl-*N*-phenylacrylamides with diaryliodonium triflates has been developed under mild conditions, and the method is of tolerance towards some functional groups in the substrates.

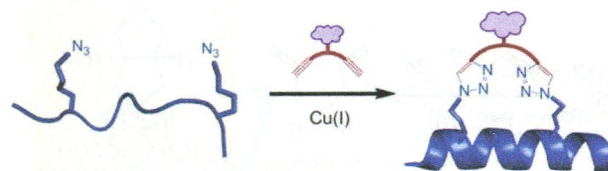


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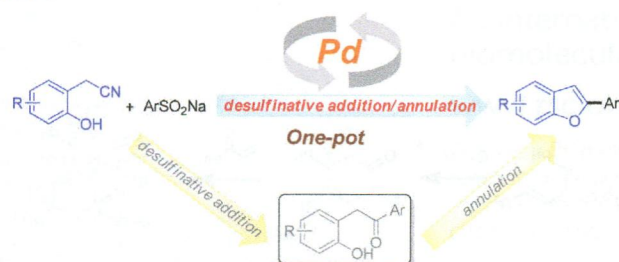
Investigating peptide sequence variations for 'double-click' stapled p53 peptides

Yu Heng Lau, Peterson de Andrade, Niklas Sköld, Grahame J. McKenzie, Ashok R. Venkitaraman, Chandra Verma, David P. Lane and David R. Spring*

Evaluating the influence of staple position, azido amino acid side-chain length and point mutation on the activity of 'double-click' stapled p53 peptides.



4078

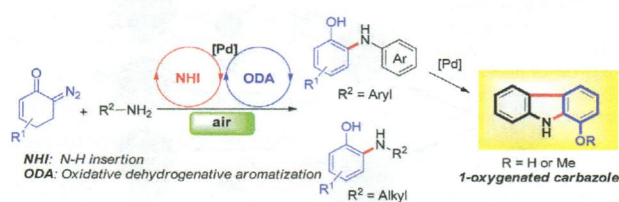


Palladium-catalyzed tandem reaction of 2-hydroxyarylacetonitriles with sodium sulfonates: one-pot synthesis of 2-arylbenzofurans

Jiuxi Chen, Jianjun Li and Weike Su*

Palladium-catalyzed desulfinate addition and intramolecular annulation tandem reactions of 2-hydroxyarylacetonitriles with sodium sulfonates for one-pot synthesis of 2-arylbenzofurans.

4084

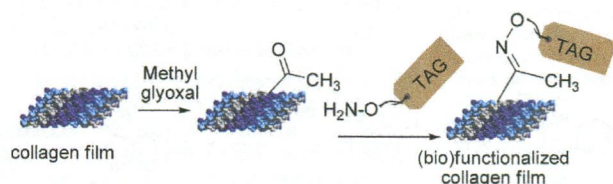


A Pd-catalyzed cascade reaction of N-H insertion and oxidative dehydrogenative aromatization: a new entry to 2-amino-phenols

Dong Ding, Xiaobing Lv, Jian Li, Lin Qiu, Guangyang Xu and Jiangtao Sun*

A palladium-catalyzed cascade reaction of N-H insertion and oxidative dehydrogenative aromatization under an air atmosphere has been developed under relatively mild conditions.

4089



A model study for tethering of (bio)active molecules to biomaterial surfaces through arginine

F. Taraballi, L. Russo, C. Battocchio, G. Polzonetti, F. Nicotra and L. Cipolla*

A new approach for tethering of bioactive molecules to proteins *via* arginine side chains is proposed.

4093



Zinc mediated allylations of chlorosilanes promoted by ultrasound: Synthesis of novel constrained sila amino acids

Remya Ramesh and D. Srinivasa Reddy*

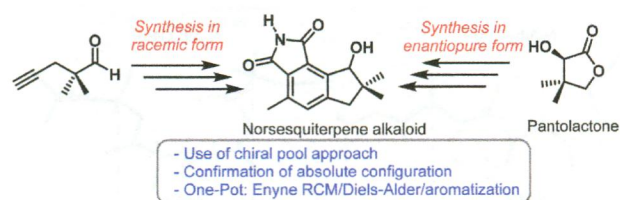
A simple, fast and efficient method for allylation and propargylation of chlorosilanes through zinc mediation and ultrasound promotion is reported. As a direct application of the resulting bis-allylsilanes, three novel, constrained sila amino acids are prepared for the first time.

4098

Total synthesis of an anticancer norsesquiterpene alkaloid isolated from the fungus *Flammulina velutipes*

K. Kashinath, Prakash D. Jadhav and D. Srinivasa Reddy*

Total synthesis of a norsesquiterpene alkaloid has been achieved in racemic and enantiopure forms for the first time.

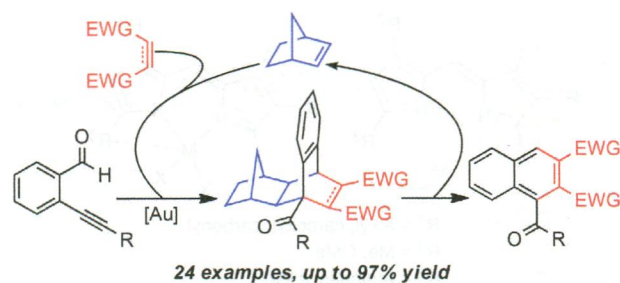


4104

Gold-catalyzed tandem Diels–Alder reactions of enynals/enynones with alkenes: generation and trapping of cyclic *o*-QDMs

Shifa Zhu,* Lang Hu and Huanfeng Jiang

Gold-catalyzed generation of the highly reactive cyclic *o*-QDM species and application in preparation of structurally unique propeller-like molecules.

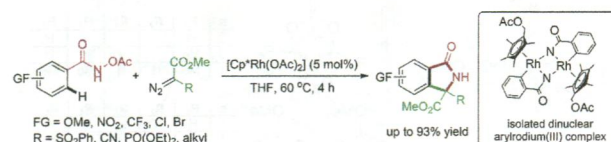


4112

Rhodium(III)-catalyzed formal oxidative [4 + 1] cycloaddition of benzohydroxamic acids and α -diazoesters. A facile synthesis of functionalized benzolactams

Hon-Wah Lam, Ka-Yi Man, Wai-Wing Chan, Zhongyuan Zhou and Wing-Yiu Yu*

A mild and regioselective Rh(III)-catalyzed oxidative [4 + 1] cycloaddition of benzohydroxamic acids and α -diazoesters for the synthesis of benzolactam is described.

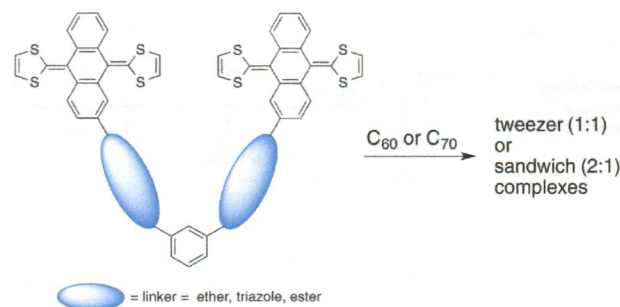


4117

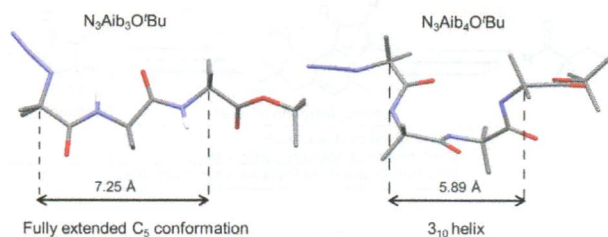
Synthesis and complexation study of new ExTTF-based hosts for fullerenes

Hassan Iden, Frédéric-Georges Fontaine* and Jean-Francois Morin*

New exTTF-based hosts with different linkers have been prepared and their ability to complex fullerenes was studied in diluted solution using various solvents.



4124

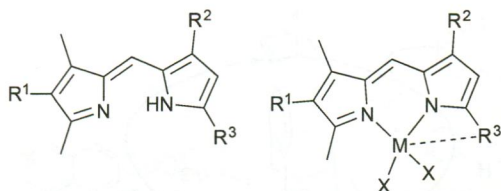


Conformational analysis of helical aminoisobutyric acid (Aib) oligomers bearing C-terminal ester Schellman motifs

Sarah J. Pike,* James Raftery, Simon J. Webb* and Jonathan Clayden*

The effect of Schellman motifs on the adoption of stable 3_{10} helical conformations in a series of aminoisobutyric (Aib) oligomers has been studied in the solid state and solution.

4132



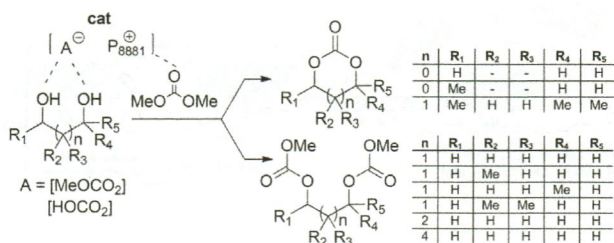
R^1 = alkyl, carboxyl, carbonyl
 R^2 = Me, OMe
 R^3 = aromatic, alkyl
 M = Sn, Zn, Co, B

Synthesis and antimalarial activity of prodigiosenes

Estelle Marchal, Deborah A. Smithen, Md. Imam Uddin, Andrew W. Robertson, David L. Jakeman, Vanessa Mollard, Christopher D. Goodman, Kristopher S. MacDougall, Sherri A. McFarland,* Geoffrey I. McFadden* and Alison Thompson*

Dibutyl tin complexes of prodigiosenes exhibit nanomolar IC_{50} values against 3D7 *Plasmodium falciparum*, with general toxicity demonstrably lower than that of the natural product.

4143

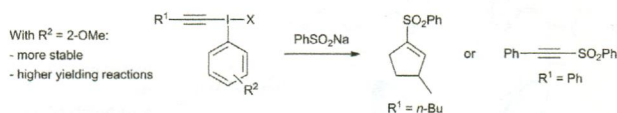


Carbonate phosphonium salts as catalysts for the transesterification of dialkyl carbonates with diols. The competition between cyclic carbonates and linear dicarbonate products

Maurizio Selva,* Alessio Caretto, Marco Noè and Alvise Perosa

Methylcarbonate and bicarbonate methyltrioctylphosphonium salts were excellent catalysts for the transesterification of dialkyl carbonates with diols: cyclic or linear carbonates are obtained.

4156



Improving alkynyl(aryl)iodonium salts: 2-anisyl as a superior aryl group

David J. Hamnett and Wesley J. Moran*

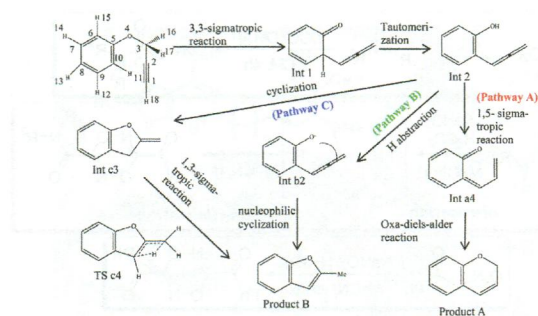
This article describes the effects of varying this iodoarene building block on the synthesis, reactivity and stability of these salts.

4163

Quantum mechanistic insights on aryl propargyl ether Claisen rearrangement

Venkatesan Srinivasadesikan, Jiun-Kuang Dai and Shyi-Long Lee*

The mechanism of aryl propargyl ether Claisen rearrangement in gas and solvent phase was investigated using DFT methods.

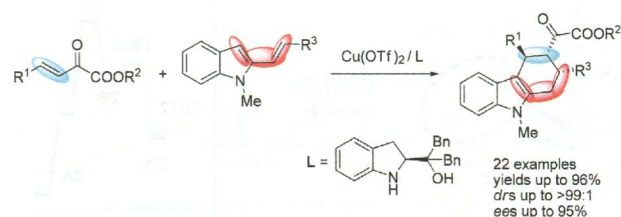


4172

The asymmetric Cu(II)–indolinylmethanol complex catalyzed Diels–Alder reaction of 2-vinylindoles with β,γ -unsaturated α -ketoesters: an efficient route to functionalized tetrahydrocarbazoles

Banlai Ouyang, Tingting Yu, Renshi Luo and Gui Lu*

An efficient asymmetric Diels–Alder reaction of 2-vinylindoles with β,γ -unsaturated α -ketoesters for the synthesis of functionalized tetrahydrocarbazoles.

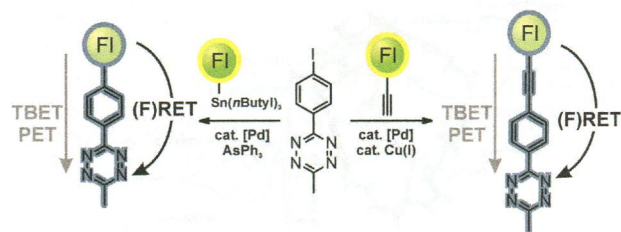


4177

Rigid tetrazine fluorophore conjugates with fluorogenic properties in the inverse electron demand Diels–Alder reaction

Achim Wieczorek, Tiago Buckup and Richard Wombacher*

1,2,4,5-Tetrazine fluorophore derivatives with structurally rigid molecular designs were synthesized using Sonogashira and Stille cross-coupling as well as copper-catalyzed azide–alkyne cycloaddition.

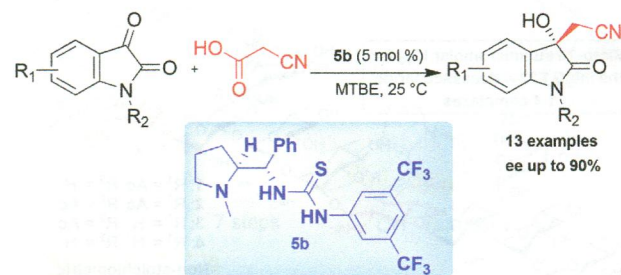


4186

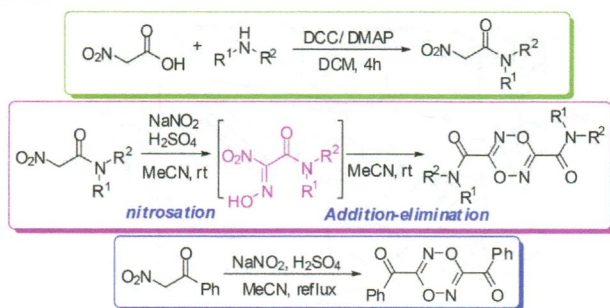
Organocatalytic asymmetric decarboxylative cyanomethylation of isatins using L-proline derived bifunctional thiourea

V. Pratap Reddy Gajulapalli, Poopathy Vinayagam and Venkitasamy Kesavan*

Asymmetric decarboxylative cyanomethylation of isatins using L-proline derived bifunctional thiourea to access cyanomethylated 3-hydroxyoxindoles in good yields and enantioselectivities.



4192

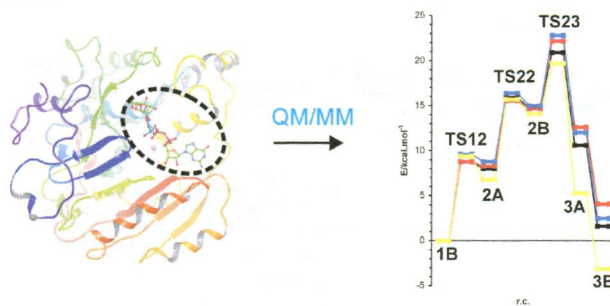


Cascade nitrosation and addition–elimination of nitroacetanilides for the highly efficient synthesis of 1,4,2,5-dioxadiazine derivatives

Shanyan Mo, Peipei Huang and Jiayi Xu*

An efficient synthesis of 1,4,2,5-dioxadiazine-3,6-dicarboxamides *via* cascade nitrosation and addition–elimination of nitroacetanilides.

4201

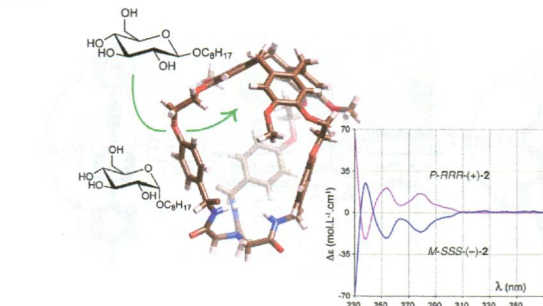


A theoretical study on the catalytic mechanism of the retaining α -1,2-mannosyltransferase Kre2p/Mnt1p: the impact of different metal ions on catalysis

Adela Bobovská, Igor Tvaroška and Juraj Kóňa*

The catalysis of the glycosyltransferase Kre2p/Mnt1p in the presence of various metal ions (Mn^{2+} , Mg^{2+} , Zn^{2+} and Ca^{2+}) is predicted as a stepwise $\text{S}_{\text{N}}\text{i}$ -like reaction.

4211

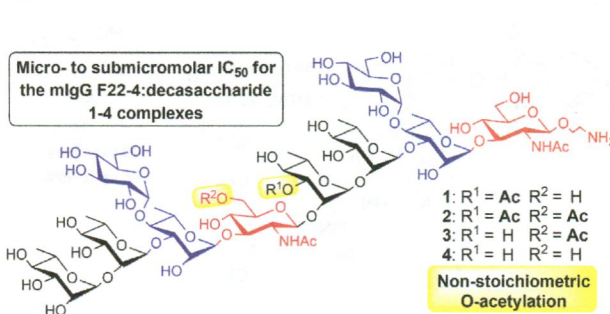


Improved hemicryptophane hosts for the stereoselective recognition of glucopyranosides

Aline Schmitt, Olivier Perraud, Elina Payet, Bastien Chatelet, Benjamin Bousquet, Marion Valls, Daniele Padula, Lorenzo Di Bari, Jean-Pierre Dutasta* and Alexandre Martinez*

Slight changes in the chiral environment of enantiopure hemicryptophanes improve the stereoselective recognition of α and β anomers of glucopyranosides.

4218



Non-stoichiometric O-acetylation of *Shigella flexneri* 2a O-specific polysaccharide: synthesis and antigenicity

Charles Gauthier, Pierre Chassagne, François-Xavier Theillet, Catherine Guerreiro, Françoise Thouron, Farida Nato, Muriel Delepierre, Philippe J. Sansonetti, Armelle Phalipon and Laurence A. Mulard*

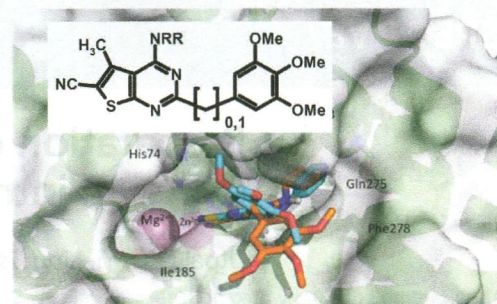
Synthetic functional mimics of the O-antigen from *Shigella flexneri* 2a are seen as promising vaccine components against endemic shigellosis.

4233

Microwave-assisted synthesis of potent PDE7 inhibitors containing a thienopyrimidin-4-amine scaffold

Ana I. Sánchez,* Ricardo Meneses, José M. Mínguez, Araceli Núñez, Rafael R. Castillo, Fabiana Filace, Carolina Burgos, Juan J. Vaquero, Julio Álvarez-Builla,* Alvaro Cortés-Cabrera, Federico Gago, Emma Terricabras and Víctor Segarra

Thienopyrimidin-4-amines have been synthesized, evaluated and modelled as phosphodiesterase inhibitors.

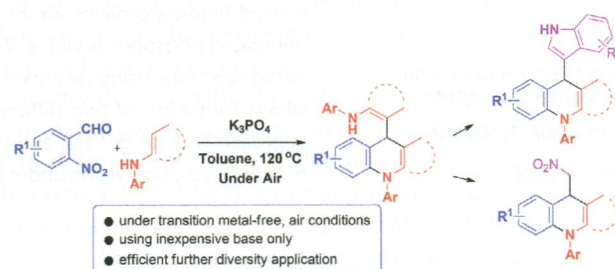


4243

Synthesis of 1,4-dihydroquinoline derivatives under transition-metal-free conditions and their diverse applications

Xue-Qiang Chu, You Zi, Hua Meng, Xiao-Ping Xu* and Shun-Jun Ji*

A transition-metal-free process for the synthesis of 1,4-dihydroquinoline derivatives starting from simple enaminones with aldehydes via intermolecular cascade cyclization in a one-pot protocol is developed.

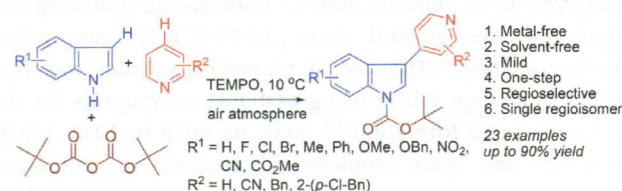


4252

Metal-free (Boc)₂O-mediated C4-selective direct indolation of pyridines using TEMPO

Wen-Bing Qin, Jia-Yi Zhu, Yu-Bo Kong, Yun-Hong Bao, Zheng-Wang Chen and Liang-Xian Liu*

Metal-free C-4-selective indolation of pyridines using (Boc)₂O as an activating agent.



4260

A versatile synthesis of "tafuramycin A": a potent anticancer and parasite attenuating agent

Ibrahim M. El-Deeb,* Faith J. Rose, Peter C. Healy and Mark von Itzstein*

An improved and versatile synthesis of tafuramycin A, a potent anticancer and parasite-attenuating agent, is reported.

