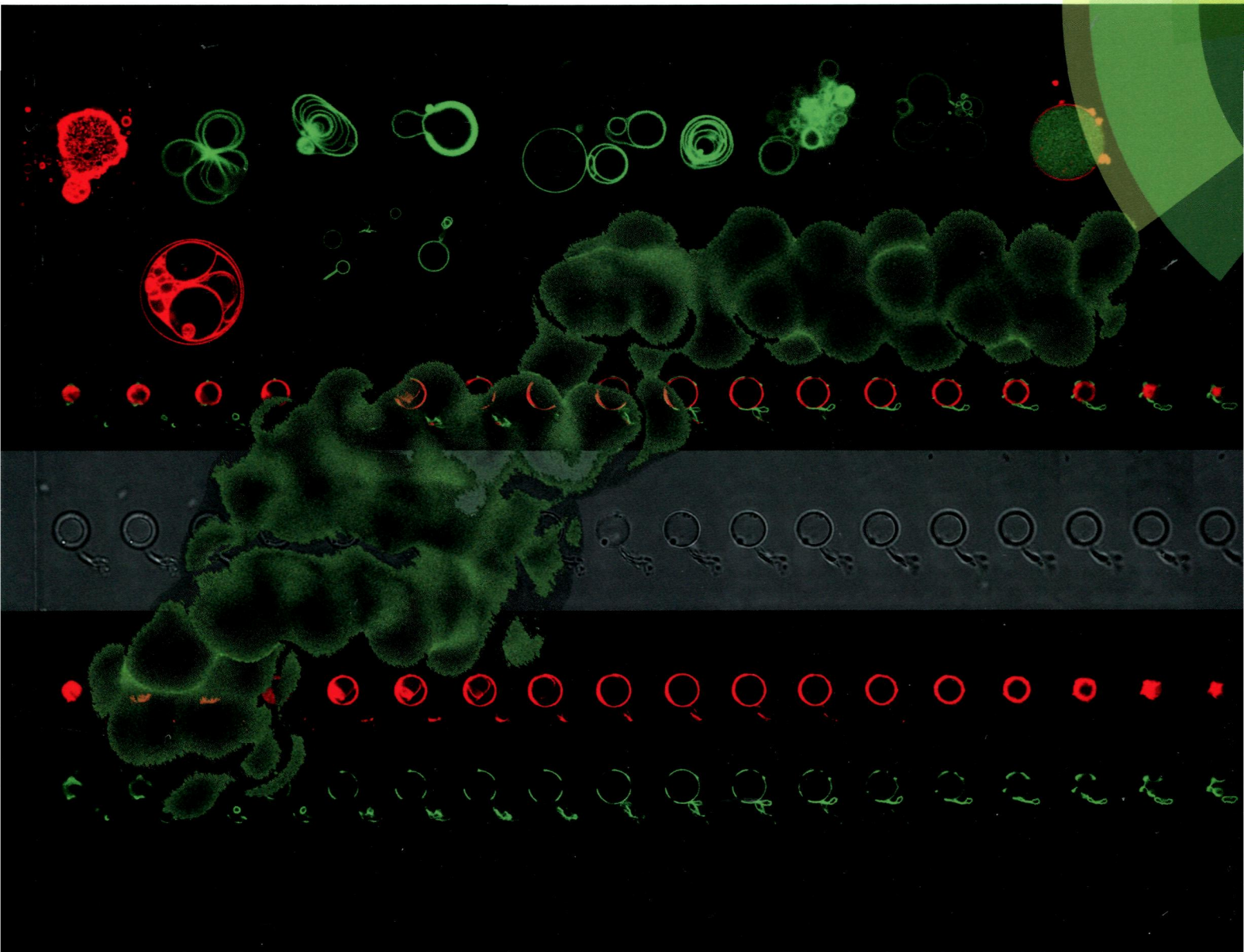


PII
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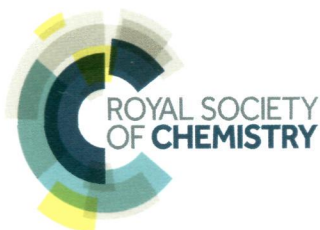
Volume 12 | Number 33 | 7 September 2014 | Pages 6281–6534

Organic & Biomolecular Chemistry

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PAPER

Peter Strazewski *et al.*

A hydrophobic disordered peptide spontaneously anchors a covalently bound RNA hairpin to giant lipidic vesicles

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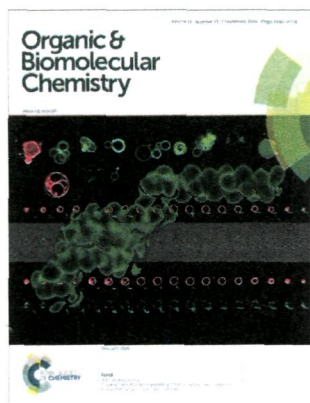
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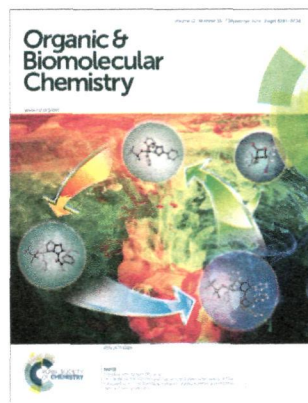
ISSN 1477-0520 CODEN OBCRAK 12(33) 6281-6534 (2014)



Cover

See Peter Strazewski *et al.*, pp. 6363–6373.

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Inside cover

See Donghui Wei, Yanyan Zhu *et al.*, pp. 6374–6383.

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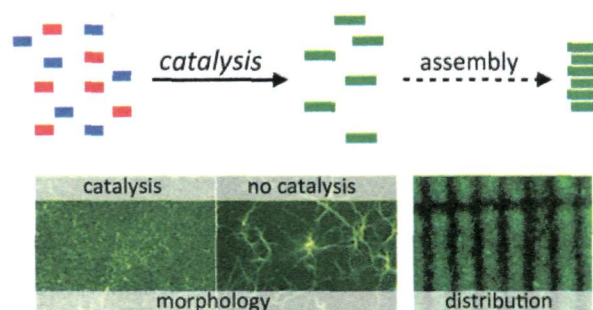
PERSPECTIVE

6292

Catalytic control over the formation of supramolecular materials

Rienk Eelkema* and Jan H. van Esch

Catalytic formation of self-assembling building blocks provides control over the morphology, mechanical properties and spatial distribution of soft supramolecular materials.



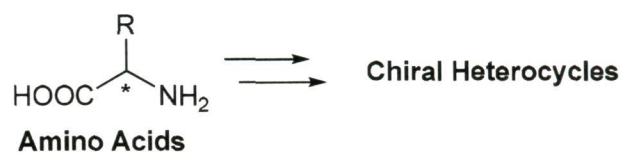
REVIEW

6297

Amino acid chirons: a tool for asymmetric synthesis of heterocycles

Priyanka Singh, Krishnananda Samanta, Sanjit Kumar Das and Gautam Panda*

This review describes diverse asymmetric heterocycles with various membered rings ($n = 3-9$) for the period from 1996 to Dec. 2013.



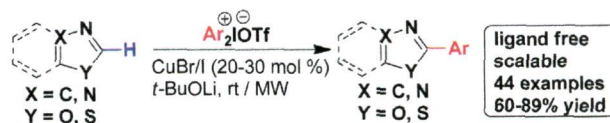
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Центральная научная библиотека
Уральского отделения
Российской академии наук (ЦНБ УрО РАН)

6340

C–H arylation of azaheterocycles: a direct ligand-free and Cu-catalyzed approach using diaryliodonium salts

Dalip Kumar,* Meenakshi Pilonia, V. Arun and Savita Pooniya

An efficient and high yielding Cu-catalyzed direct C–H arylation of oxadiazoles, thiadiazoles, benzoxazoles and benzothiazoles has been achieved by employing easily accessible diaryliodonium salts.

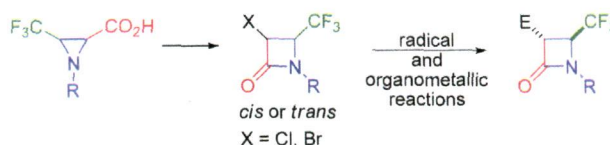


6345

Access to novel functionalized trifluoromethyl β -lactams by ring expansion of aziridines

S. Decamps, L. Sevaille, S. Ongeri and B. Crouse*

A wide variety of CF_3 - β -lactams functionalized at position C-3 were obtained stereoselectively by ring expansion of aziridines.

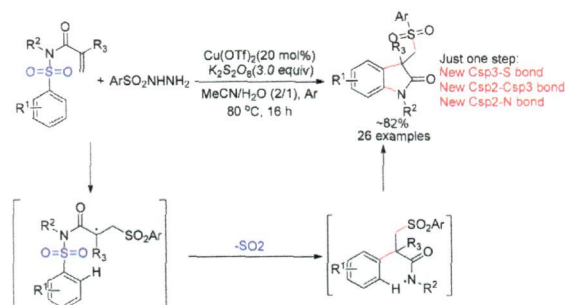


6349

Copper-catalyzed arylsulfonylation of *N*-arylsulfonyl-acrylamides with arylsulfonylhydrazides: synthesis of sulfonated oxindoles

Qingshan Tian, Ping He and Chunxiang Kuang*

A copper-catalyzed arylsulfonylation of *N*-arylsulfonyl-acrylamides with sulfonylhydrazides through a tandem radical process was developed.

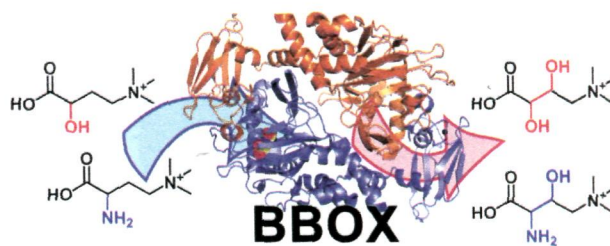


6354

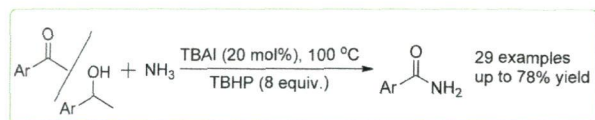
Comparison of the substrate selectivity and biochemical properties of human and bacterial γ -butyrobetaine hydroxylase

Anna M. Rydzik, Ivanhoe K. H. Leung, Grazyna T. Kochan, Nikita D. Loik, Luc Henry, Michael A. McDonough, Timothy D. W. Claridge and Christopher J. Schofield*

BBOX is a 2-oxoglutarate dependent oxygenase that can catalyse formation of vicinal diols and amino alcohols.



6359



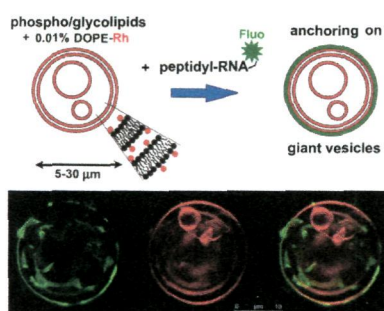
TBAI-catalyzed oxidative synthesis of benzamides from acetophenones and carbinols

Muhammad Sharif, Jianbin Chen, Peter Langer, Matthias Beller and Xiao-Feng Wu*

An interesting and convenient procedure for the oxidative transformation of acetophenones and carbinols to primary benzamides has been developed.

PAPERS

6363

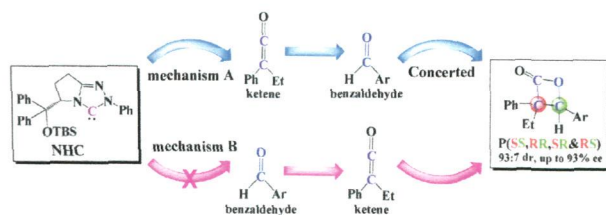


A hydrophobic disordered peptide spontaneously anchors a covalently bound RNA hairpin to giant lipidic vesicles

Alexandra Le Chevalier Isaad, Paolo Carrara, Pasquale Stano, Kollappillil S. Krishnakumar, Dominique Lafont, Alexandra Zamboulis, René Buchet, Denis Bouchu, Florian Albrieux and Peter Strazewski*

Exergonic compartmentation of nucleic acids to liposomes through conjugation with peptides lends experimental support to early evolvable RNA-peptide 'collaboration'.

6374

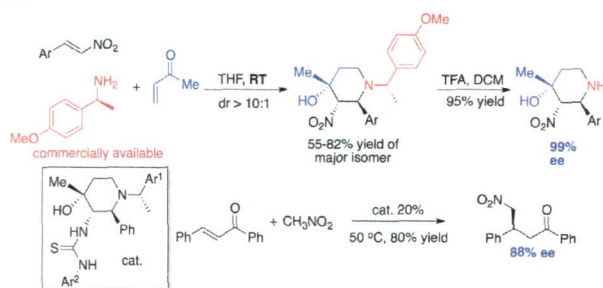


DFT study on the reaction mechanisms and stereoselectivities of NHC-catalyzed [2 + 2] cycloaddition between arylalkylketenes and electron-deficient benzaldehydes

Mengmeng Zhang, Donghui Wei,* Yang Wang, Sujji Li, Jiefei Liu, Yanyan Zhu* and Mingsheng Tang

Two possible mechanisms of ketene and aldehyde [2 + 2] cycloaddition catalyzed by NHC have been investigated using the DFT method.

6384



Asymmetric synthesis of substituted NH-piperidines from chiral amines

Lekh Nath Gautam, Yijin Su, Novruz G. Akhmedov, Jeffrey L. Petersen and Xiaodong Shi*

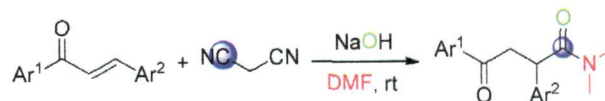
Previously, we reported an efficient asymmetric synthesis of substituted piperidines through an exocyclic chirality induced nitroalkene/amine/enone (NAE) condensation reaction.

6389

Multicomponent reaction of chalcones, malononitrile and DMF leading to γ -ketoamides

Enxiang Wei, Bing Liu, Shaoxia Lin and Fushun Liang*

An efficient synthesis of γ -ketoamides was developed by the one-pot multicomponent reaction of chalcones, malononitrile and DMF (as both the reactant and solvent) in the presence of NaOH (3.0 equiv.). The reaction features high atom economy, easily available starting materials, operational simplicity, and good tolerance with diverse functional groups.

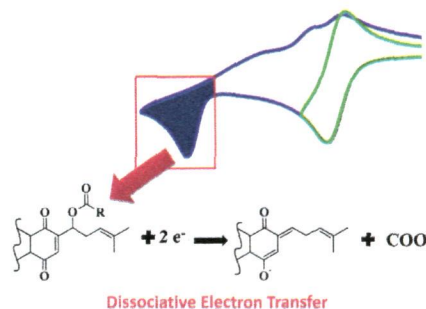


6393

Electrochemical and theoretical analysis of the reactivity of shikonin derivatives: dissociative electron transfer in esterified compounds

Georgina Armendáriz-Vidales and Carlos Frontana*

Electrochemical and theoretical analysis of Shikonin derivatives revealed that for esterified compounds, a dissociative electron transfer process occurs.

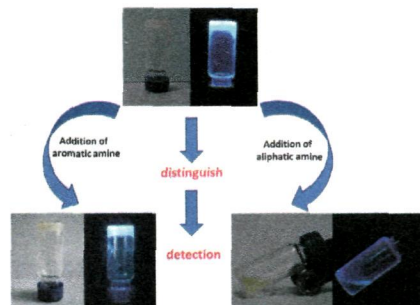


6399

Aliphatic amine responsive organogel system based on a simple naphthalimide derivative

Xinhua Cao,* Tingting Zhang, Aiping Gao, Keli Li, Qiuli Cheng, Lijuan Song and Min Zhang

Aliphatic amines and aromatic amines were distinguished and detected by an organogel system containing naphthalimide.



6406

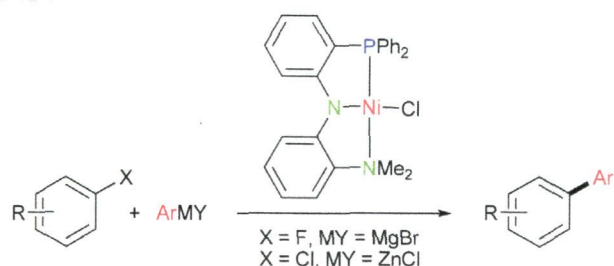
An unusual mulinane diterpenoid from the Chilean plant *Azorella trifurcata* (Gaertn) Pers

Carlos Areche,* Beatriz Sepulveda, Aurelio San Martin, Olimpo Garcia-Beltrán, Mario Simirgiotis and Alvaro Cañete

An unusual mulinane diterpenoid named 7α -acetoxy- 9 -*epi*- 13β -hydroxymulinane was isolated from *A. trifurcata*. This compound possesses a new *trans-syn-trans* arrangement in a tricyclic ring system not previously encountered in nature.



6414

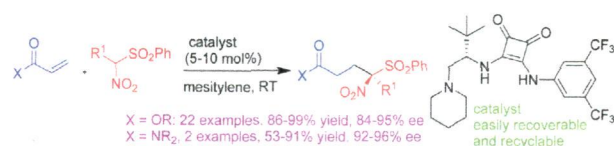


P,N,N-Pincer nickel-catalyzed cross-coupling of aryl fluorides and chlorides

Dan Wu and Zhong-Xia Wang*

P,N,N-Pincer nickel was demonstrated to effectively catalyze cross-coupling of aryl fluorides and chlorides with aryl magnesium or zinc reagents.

6425

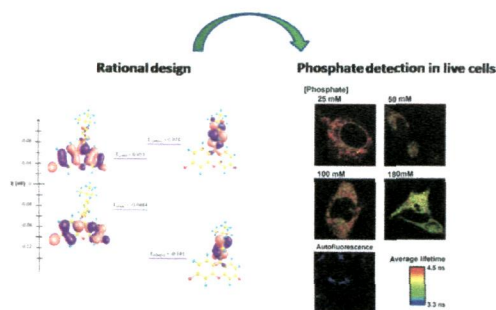


Enantioselective synthesis of γ -tetrasubstituted nitrosulfonyl carboxylates and amides via *L*-tert-leucine-derived-squaramide catalyzed conjugate addition of nitrosulfones to acrylates and acrylamides

Kalisankar Bera and Irishi N. N. Namboothiri*

A *t*-leucine-derived squaramide catalyzed reaction of α -nitrosulfones with acrylates/acrylamides provides γ -tetrasubstituted γ -nitro- γ -sulfonyl carboxylates/amides in excellent yield and enantioselectivity.

6432

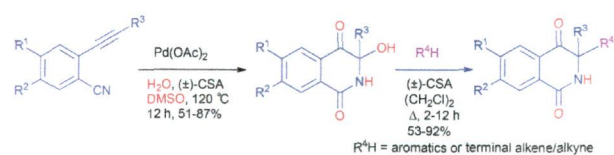


Rational design of a new fluorescent 'ON/OFF' xanthene dye for phosphate detection in live cells

A. Martínez-Peragón, D. Miguel, A. Orte, A. J. Mota, M. J. Ruedas-Rama, J. Justicia, J. M. Alvarez-Pez, J. M. Cuerva* and L. Crovetto*

A new fluorescein derivative with ON/OFF features, 9-[1-(4-*tert*-butyl-2-methoxyphenyl)]-6-hydroxy-3*H*-xanthen-3-one (Granada Green, **GG**), was designed and synthesised.

6440



Synthesis of 3,3-disubstituted-2,3-dihydroazanaphthoquinones via simultaneous alkyne oxidation and nitrile hydration of *ortho*-alkynylarenenitriles

Karuppusamy Sakthivel and Kannupal Srinivasan*

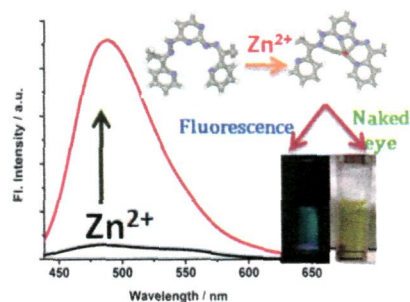
Simultaneous activation of alkynes and nitriles in *o*-alkynylarenenitriles in the presence of $\text{Pd}(\text{OAc})_2/\text{H}_2\text{O}/(\pm)\text{-CSA}$ afforded 3,3-disubstituted-2,3-dihydro-azanaphthoquinones in moderate to excellent yields.

6447

An efficient, Schiff-base derivative for selective fluorescence sensing of Zn²⁺ ions: quantum chemical calculation appended by real sample application and cell imaging study

Sayantani Chall, Soumya Sundar Mati, Saugata Konar, Dipti Singharoy and Subhash Chandra Bhattacharya*

Fluorescence based sensitive detection of the second most abundant metal ion (Zn²⁺) was established using a newly synthesized Schiff-base ligand, PyHP.

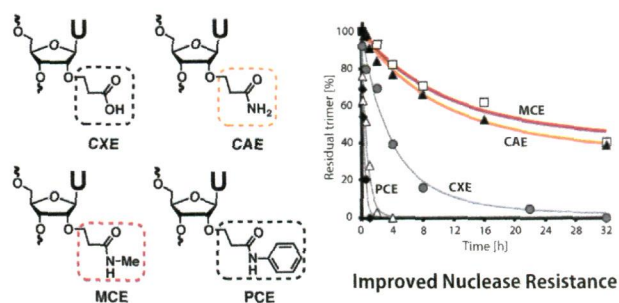


6457

Synthesis and properties of oligonucleotides modified with 2'-O-(2-carboxyethyl)nucleotides and their carbamoyl derivatives

Takeshi Yamada, Yoshiaki Masaki, Natsuki Okaniwa, Takashi Kanamori, Akihiro Ohkubo, Hirotsuke Tsunoda, Kohji Seio and Mitsuo Sekine*

2'-O-Methyl oligoribonucleotides with four kinds of 2'-O-modified uridine derivatives were synthesised.

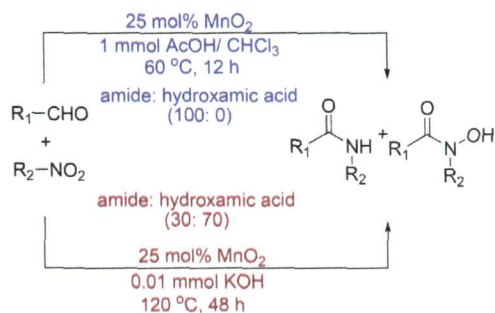


6465

Facile access to amides and hydroxamic acids directly from nitroarenes

Shreyans K. Jain, K. A. Aravinda Kumar, Sandip B. Bharate* and Ram A. Vishwakarma*

Herein, we report a new method for synthesis of amides and hydroxamic acids directly from nitroarenes and aldehydes.

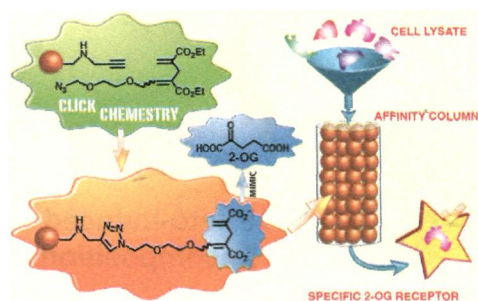


6470

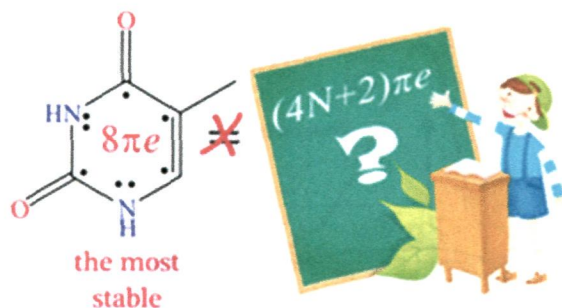
A "click" chemistry constructed affinity system for 2-oxoglutaric acid receptors and binding proteins

Yang Wang, Zeinab Assaf, Xinjun Liu, Fabio Ziarelli, Amel Latifi, Otmane Lamrabet, Gilles Quéléver, Fanqi Qu, Cheng-Cai Zhang and Ling Peng*

An ingenious and robust affinity resin to capture the 2-oxoglutaric acid binding proteins was constructed via "click" chemistry and validated using a known 2-OG receptor in cell lysate.



6476

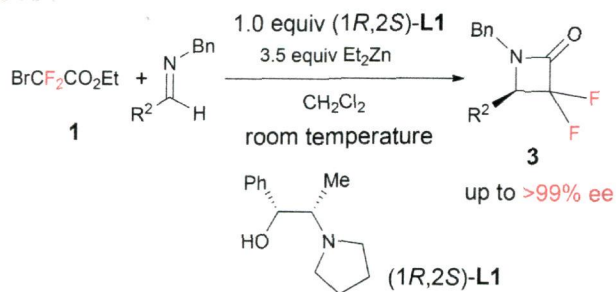


Tautomerisation of thymine acts against the Hückel $4N + 2$ rule. The effect of metal ions and H-bond complexations on the electronic structure of thymine

Olga A. Stasyuk,* Halina Szatyłowicz* and Tadeusz M. Krygowski

Not necessarily the π -electron delocalization is responsible for the stability of thymine tautomers.

6484

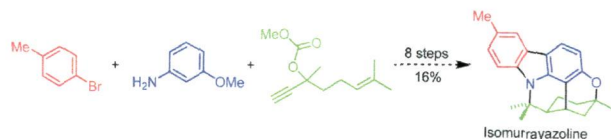


Enantioselective synthesis of α,α -difluoro- β -lactams using amino alcohol ligands

Atsushi Tarui, Takeshi Ikebata, Kazuyuki Sato, Masaaki Omote and Akira Ando*

A practical and highly enantioselective Reformatsky reaction of ethyl bromodifluoroacetate with imines using a cheap and commercially available amino alcohol ligand is described.

6490

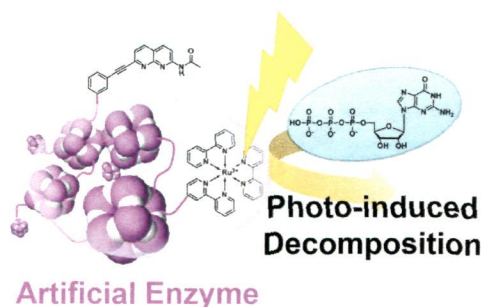


Total synthesis of the cyclic monoterpene pyrano[3,2-*a*]carbazole alkaloids derived from 2-hydroxy-6-methylcarbazole

Cemena Gassner, Ronny Hesse, Arndt W. Schmidt and Hans-Joachim Knölker*

The synthesis of seven pyrano[3,2-*a*]carbazole alkaloids has been achieved using their putative biogenetic precursor 2-hydroxy-6-methylcarbazole as key intermediate.

6500



Light-driven artificial enzymes for selective oxidation of guanosine triphosphate using water-soluble POSS network polymers

Jong-Hwan Jeon, Kazuo Tanaka and Yoshiki Chujo*

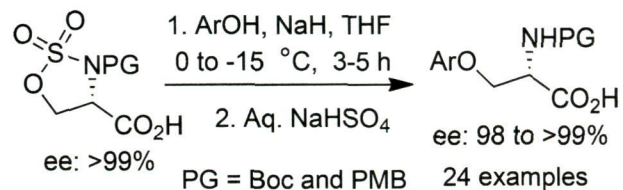
The light-driven artificial enzymes were constructed to realize unnatural reactions concerning biomolecules. The guanosine triphosphate-selective oxidation was accomplished using the network polymers in which the molecular recognition *via* hydrogen bonds can be enhanced.

6507

Efficient asymmetric synthesis of *N*-protected- β -aryloxyamino acids via regioselective ring opening of serine sulfamidate carboxylic acid

Rajesh Malhotra, Tushar K. Dey, Swarup Dutta, Sourav Basu* and Saumen Hajra*

First regioselective ring opening of serine derived cyclic sulfamidate with ArONa is developed to provide an easy and direct access of a variety of *N*-Boc- and *N*-PMB protected β -aryloxy- α -amino acids with complete retention of enantiopurity in moderate to high yields.

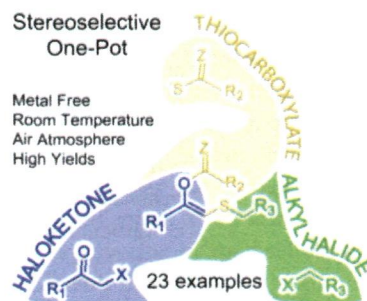


6516

Stereoselective one-pot synthesis of β -alkylsulfide enol esters. Base-triggered rearrangement under mild conditions

Adrián A. Heredia, Silvia M. Soria-Castro, Lydia M. Bouchet, Gabriela Oksdath-Mansilla, Cecilia A. Barrionuevo, Daniel A. Caminos, Fabricio R. Bisogno,* Juan E. Argüello and Alicia B. Peñeñory*

(*Z*)-Vinyl sulfides are easily synthesised through a multicomponent reaction. An intramolecular *S,O*-acyl migration accounts for the observed stereoselectivity.



ADDITIONS AND CORRECTIONS

6527

Additions and corrections published 14th January 2014 to 2nd May 2014.