

Organic & Biomolecular Chemistry

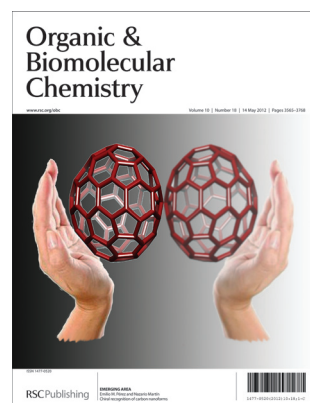
An international journal of synthetic, physical and biomolecular organic chemistry

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Cover

See Pérez *et al.*,
pp. 3577–3583.

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Inside cover

See González-Bello *et al.*,
pp. 3662–3676.

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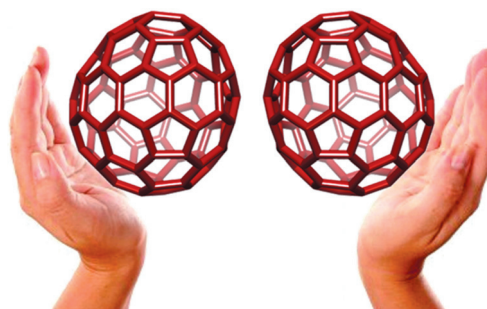
EMERGING AREA

3577

Chiral recognition of carbon nanoforms

Emilio M. Pérez* and Nazario Martín*

The common features of the few successful examples of chiral recognition of carbon nanoforms might help develop general trends for the design of new generations of hosts.



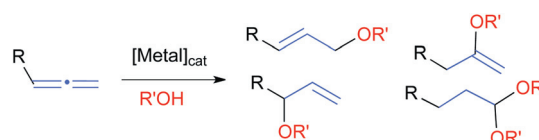
PERSPECTIVE

3584

Transition metal-catalysed intermolecular reaction of allenes with oxygen nucleophiles: a perspective

María Paz Muñoz*

This review covers the progress in the intermolecular transition-metal catalysed hydroalkoxylation of allenes, in the presence of oxygen-nucleophiles, and the mechanistic implications of this processes depending on the metal used.



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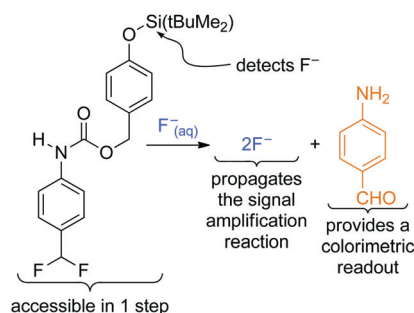
COMMUNICATIONS

3595

A small molecule sensor for fluoride based on an autoinductive, colorimetric signal amplification reaction

Matthew S. Baker and Scott T. Phillips*

Relevant levels of fluoride in water can be measured in a time-based assay using a readily-accessible reagent that autoinductively amplifies an unambiguous colorimetric readout.

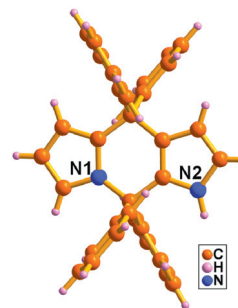


3600

4,4,9,9-Tetraphenyl pyrroloindolizine: a structural analogue of calix[2]pyrrole

K. C. Gowri Sreedevi, Ajesh P. Thomas, S. Ramakrishnan, P. S. Salini, M. G. Derry Holaday, M. L. P. Reddy and A. Srinivasan*

Synthesis, spectral and structural characterization of a pyrroloindolizine derivative having structural similarity with calix[2]pyrrole is described with detailed NMR spectroscopic studies and single crystal X-ray analysis.



3606

Synthesis of carbazolones and 3-acetylindoles via oxidative C–N bond formation through PIFA-mediated annulation of 2-aryl enaminones

Xu Ban, Yan Pan, Yingfu Lin, Songqing Wang,* Yunfei Du* and Kang Zhao

A series of carbazolone derivatives and 3-acetylindoles have been achieved *via* PIFA-mediated intramolecular cyclization of 2-aryl enaminones through the metal-free oxidative aromatic C–N bond formation.

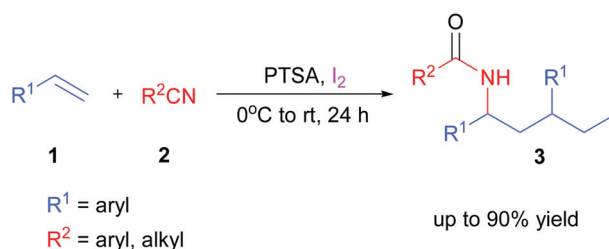


3610

Iodine mediated/Brønsted acid-catalyzed dimerization of vinylarenes: a tandem reaction through Ritter trapping to produce *N*-(4-iodo-1,3-diarylbutyl) acetamides

Jing-Mei Huang,* Zhi-Jun Ye, Dong-Song Chen and Hong Zhu

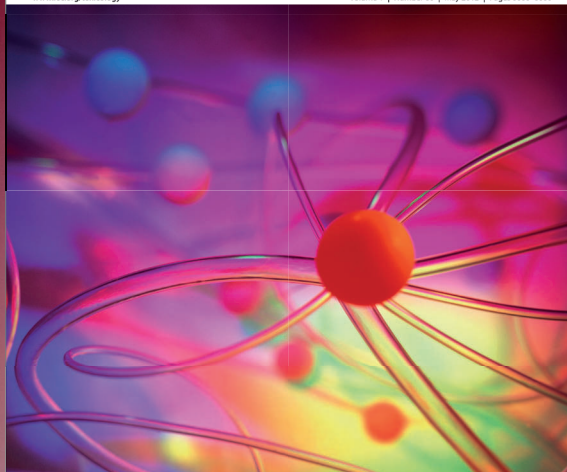
In the presence of *p*-toluenesulfonic acid and iodine, styrene derivatives undergo head-to-tail dimerization followed by trapping with nitriles to yield the corresponding Ritter-type products.



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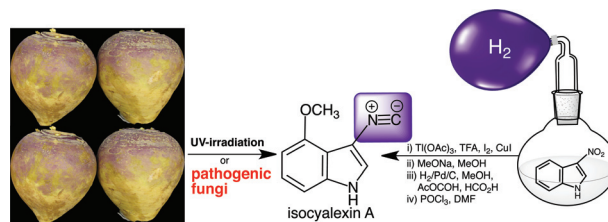
COMMUNICATIONS

3613

The first isocyanide of plant origin expands functional group diversity in cruciferous phytoalexins: synthesis, structure and bioactivity of isocyallexin A

M. Soledade C. Pedras* and Estifanos E. Yaya

Isocyallexin A, the first isocyanide of plant origin, is produced by rutabaga roots in counter-reaction to abiotic and biotic stress.



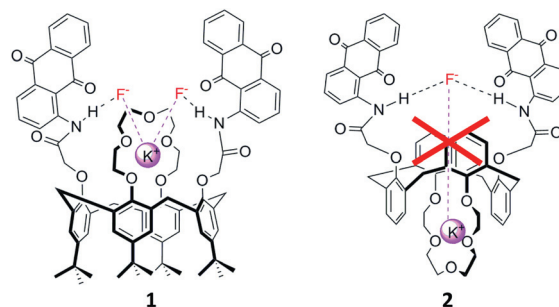
PAPERS

3617

Optical and electrochemical properties of heteroditopic ion receptors derived from crown ether-based calix[4]arene with amido-anthraquinone pendants

Benjamat Chailap and Thawatchai Tuntulani*

Photophysical and electrochemical studies of two heteroditopic receptors indicated different anion binding abilities in the free and metal-bound receptors.

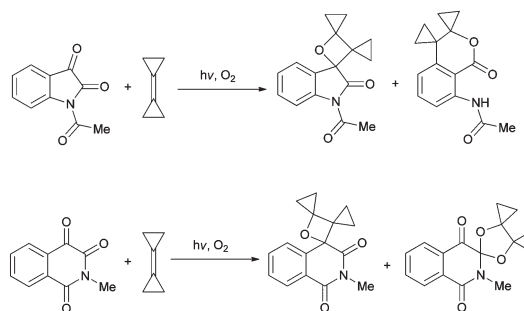


3626

Photoinduced reactions of bicycloalkylidenes with isatin and isoquinolinetrione

Dong-Dong Wu, Ming-Tao He, Qi-Di Liu, Wei Wang, Jie Zhou, Lei Wang, Hoong-Kun Fun, Jian-Hua Xu and Yan Zhang*

Photoinduced reactions of bicycloalkylidenes with isatin or isoquinolinetrione gave not only the spirooxeten products, but also various ring-rearranged products *via* O₂-involved competitive pathways.

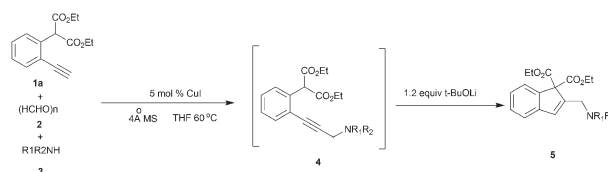


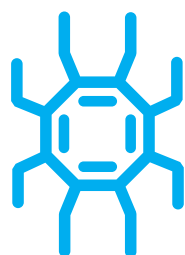
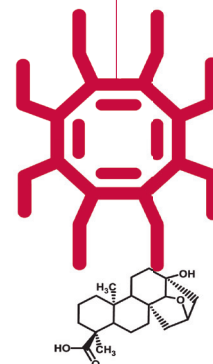
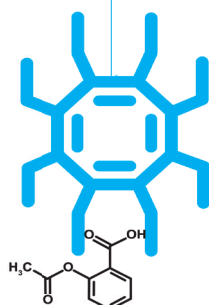
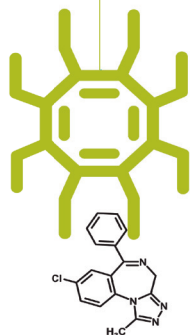
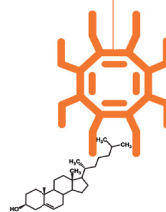
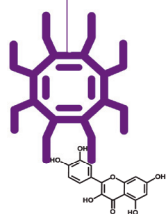
3636

One pot synthesis of indene through copper(I)-catalyzed three-components coupling and cyclization reaction

Xiang-Chuan Wang, Mei-Jin Zhong and Yong-Min Liang*

A new and efficient synthesis of substituted indene has been achieved *via* copper(I)-catalyzed domino three-component coupling and cyclization reaction in moderate to good yield.





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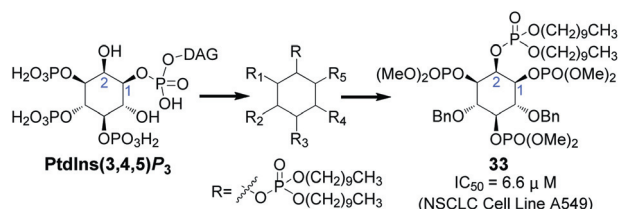
PAPERS

3642

Synthesis and antitumor activity of inositol phosphotriester analogues

Fanbo Song, Jing Zhang, Yuefang Zhao, Wenbin Chen, Luyuan Li and Zhen Xi*

Several inositol phosphotriester analogues, especially compound **33**, exhibited good cytotoxic activity against different cancer cell lines.

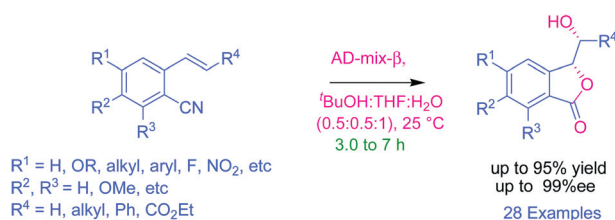


3655

CN-assisted oxidative cyclization of cyano cinnamates and styrene derivatives: a facile entry to 3-substituted chiral phthalides

R. Santhosh Reddy, I. N. Chaithanya Kiran and Arumugam Sudalai*

The asymmetric dihydroxylation (AD) of *o*-cyano cinnamates and styrene derivatives leads to efficient construction of chiral phthalide frameworks in high optical purities. This unique reaction is characterized by unusual synergism between CN and osmate groups resulting in rate enhancement of the AD process.

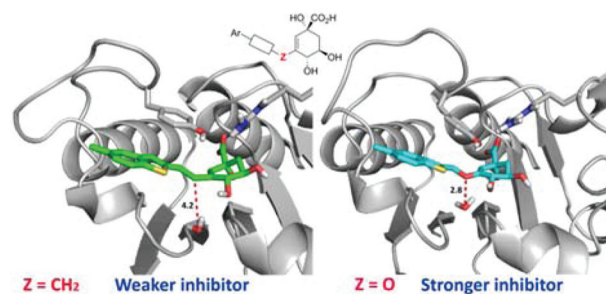


3662

Synthesis of 3-alkyl enol mimics inhibitors of type II dehydroquinase: factors influencing their inhibition potency

Beatriz Blanco, Antía Sedes, Antonio Peón, Heather Lamb, Alastair R. Hawkins, Luis Castedo and Concepción González-Bello*

The relevance of the interaction with the conserved water molecule involved in the catalysis of the type II dehydroquinase enzyme in the enol mimics inhibition potency was studied.

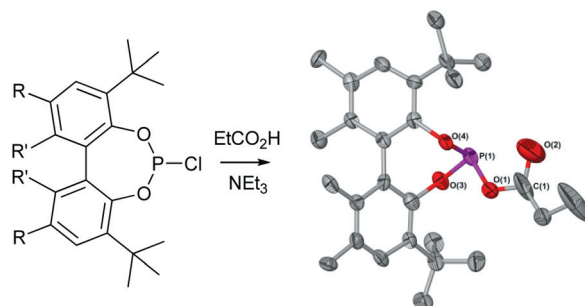


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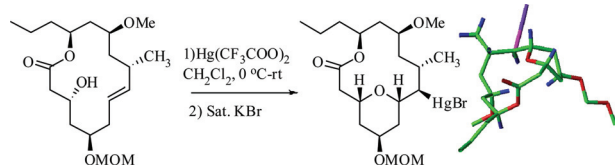
Phosphorus containing mixed anhydrides—their preparation, labile behaviour and potential routes to their stabilisation

Jacorien Coetzee, Graham R. Eastham, Alexandra M. Z. Slawin and David J. Cole-Hamilton*

Reaction of propanoic acid with chlorophosphites produces mixed anhydrides, which are unstable towards disproportionation unless they bear substantial steric bulk in the 3 and 3' positions.



3689

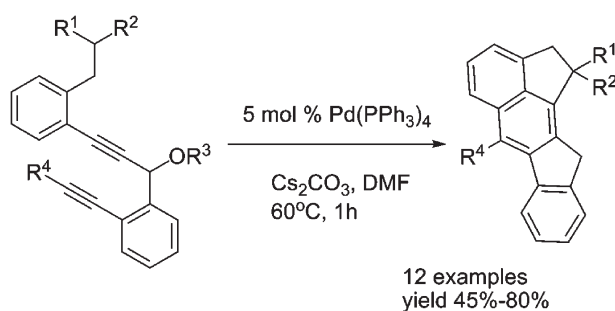


Synthesis of the macrolactone core of (+)-neopeltolide by transannular cyclization

Gangavaram V. M. Sharma,* Sheri Venkat Reddy and Kallaganti V. S. Ramakrishna

The synthesis of the macrolactone core of (+)-neopeltolide by transannular cyclization.

3696

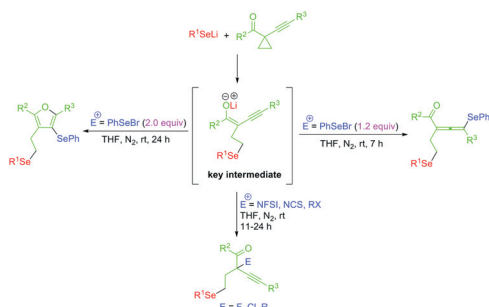


Palladium(0)-catalyzed cyclization of 1,6-diyne-3-yl carbonates with a nucleophilic functionality: efficient synthesis of polycyclic benzo[*b*]fluorene derivatives *via* allene intermediates

Shugao Zhu, Luling Wu* and Xian Huang

An interesting tandem reaction involving sequential palladium(0)-catalyzed decarboxylation of diynyl carbonates, intramolecular nucleophilic cyclization and Schmitt reaction, provides a facile method for the synthesis of a variety of polycyclic benzo[*b*]fluorene derivatives from easily accessible starting materials.

3705

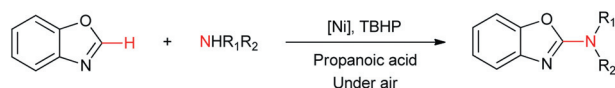


Chemoselective synthesis of highly substituted 1,2-allenyl ketones, furans, and 2-alkynyl ketones from reaction of lithium selenolates with 1-(1-alkynyl)cyclopropyl ketones and electrophiles

Jianfeng Xu, Shugao Zhu, Luling Wu* and Xian Huang

A homo-Michael addition reaction of lithium selenolates with 1-(1-alkynyl)cyclopropyl ketones and the subsequent reaction with electrophiles such as PhSeBr, NFSI and NCS is reported.

3715



Nickel-catalyzed C–H direct amination of benzoxazoles with secondary amines

Yaming Li,* Jin Liu, Yusheng Xie, Rong Zhang, Kun Jin, Xiuna Wang and Chunying Duan*

A facile, efficient and practical method for Ni-catalyzed direct C–H amination of benzoxazole with secondary amines has been developed.

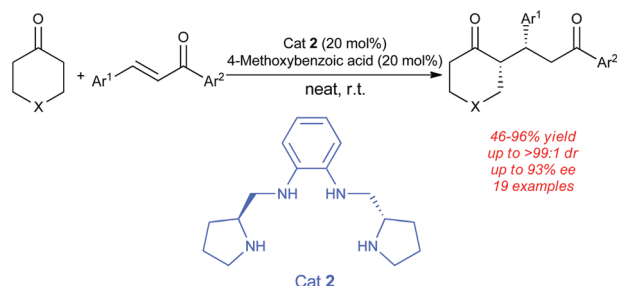
PAPERS

3721

C₂-symmetric proline-derived tetraamine as highly effective catalyst for direct asymmetric Michael addition of ketones to chalcones

Shijun Ma, Lulu Wu, Ming Liu and Yongmei Wang*

We report C₂-symmetric proline-derived tetraamine as a highly effective catalyst for Michael addition of ketones to chalcones, affording the corresponding products in good to excellent yields with high enantioselectivities and diastereoselectivities. By studying the ESI-MS of the intermediates, a proposed mechanism was disclosed.

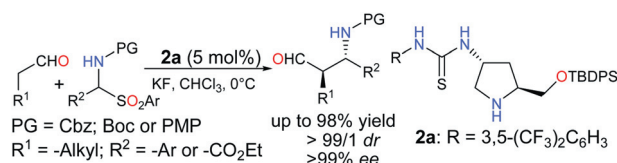


3730

Highly efficient asymmetric *anti*-Mannich reactions of carbonyl compounds with *N*-carbamoyl imines catalyzed by amino-thiourea organocatalysts

Jiuzhi Gao, Yongming Chuan, Jiali Li, Fang Xie and Yungui Peng*

Amino-thiourea organocatalyst **2a** has been identified as a general catalyst and suitable for various types of *anti*-Mannich reactions. Excellent results (up to 98% yield, >99% ee and >99 : 1 dr) were achieved. Those sulfones with *ortho* substituents or very strong withdrawing groups on the aromatic ring also worked well.

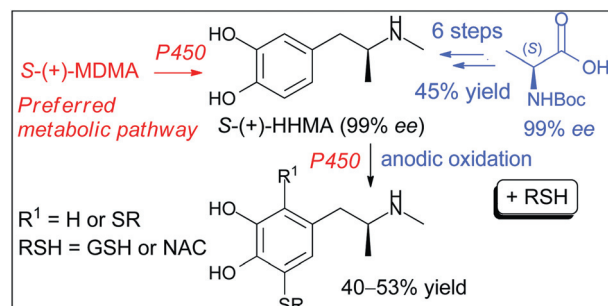


3739

A convenient biomimetic synthesis of optically active putative neurotoxic metabolites of MDMA (“ecstasy”) from *R*-(-)- and *S*-(+)-*N*-methyl- α -methyldopamine precursors

Claire-Marie Martinez, Anne Neudörffer and Martine Largeron*

Adequate amounts of stereospecific metabolites of MDMA (“ecstasy”), a drug of abuse that produces selective injury to serotonergic neurons, have been prepared for *in vivo* studies about their role in MDMA neurotoxicity.

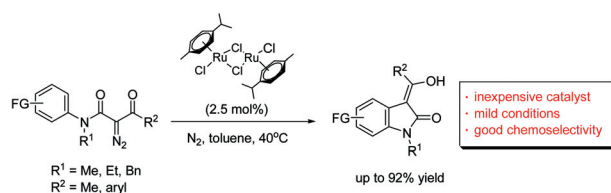


3749

Ruthenium-catalyzed intramolecular cyclization of diazo- β -ketoanilides for the synthesis of 3-alkylideneoxindoles

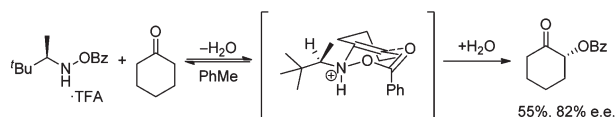
Wai-Wing Chan, Tsz-Lung Kwong and Wing-Yiu Yu*

With [Ru(*p*-cymene)Cl₂]₂ as catalyst, diazo- β -ketoanilides would undergo intramolecular carbenoid arene C-H bond functionalization to afford 3-alkylideneoxindoles in up to 92% yields. The reaction occurs under mild conditions and exhibits excellent chemoselectivity.



PAPERS

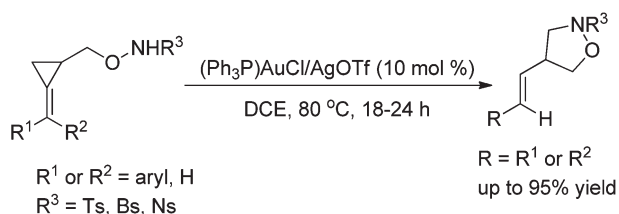
3756

**Asymmetric α -oxyacylation of cyclic ketones**

Deborah A. Smithen,* Christopher J. Mathews and Nicholas C. O. Tomkinson*

Reaction of cyclic ketones with chiral *N*-alkyl-*O*-acyl hydroxylamines leads to the corresponding α -oxyacylated carbonyl compound in up to 89% ee.

3763

**Gold(I)-catalyzed intramolecular hydroamination and ring-opening of sulfonamide-substituted 2-(arylmethylene)cyclopropylcarbinols**

Di-Han Zhang, Kang Du and Min Shi*

A highly regioselective gold(I)-catalyzed intramolecular hydroamination and ring-opening of sulfonamide-substituted 2-(arylmethylene)cyclopropylcarbinols.

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