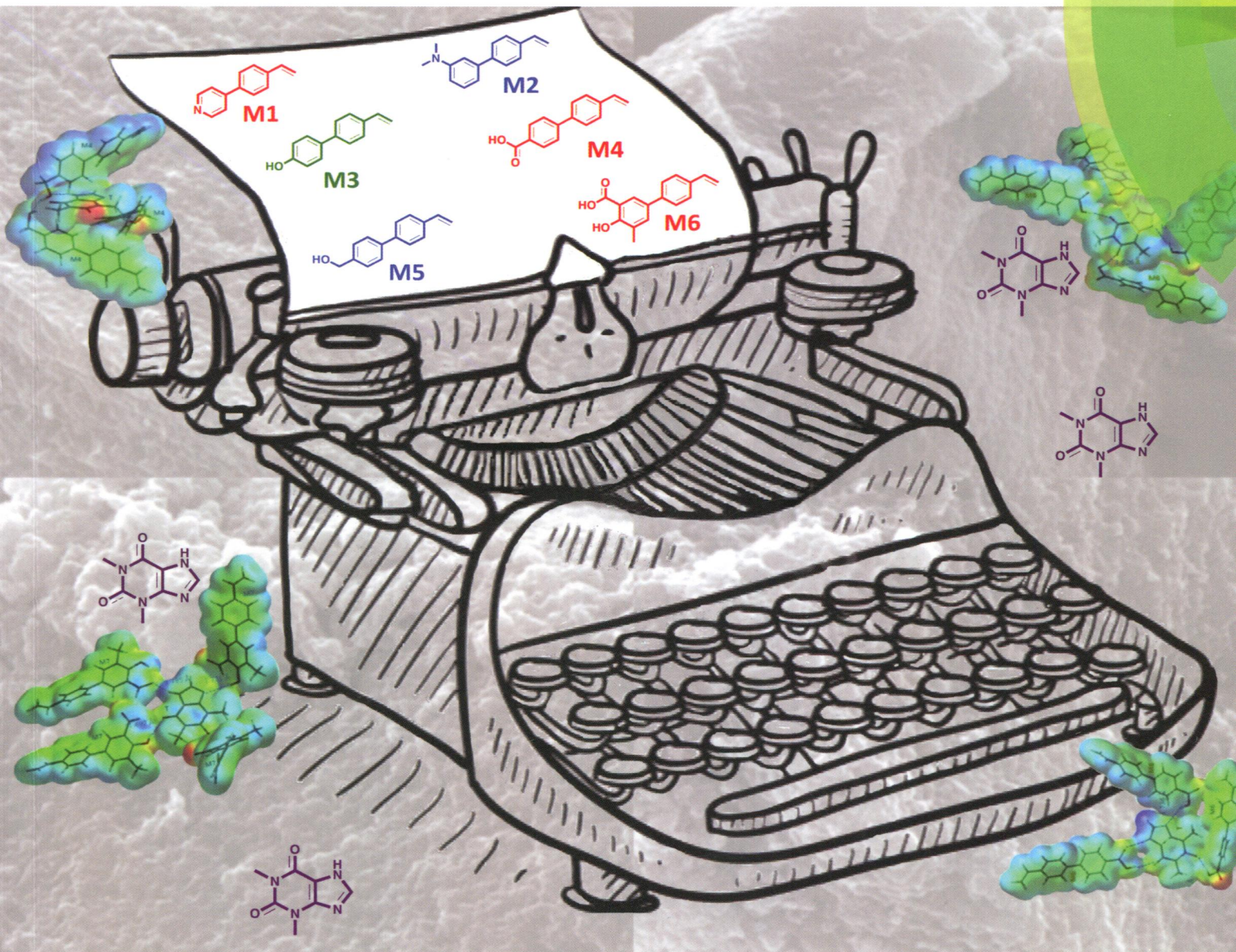


Organic & Biomolecular Chemistry

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ISSN 1477-0520

PAPER

Adam McCluskey *et al.*

Evaluation of 4-substituted styrenes as functional monomers for the synthesis of theophylline-specific molecularly imprinted polymers

Organic & Biomolecular Chemistry

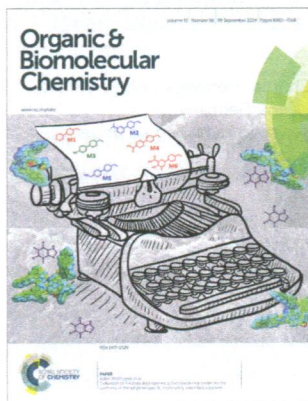
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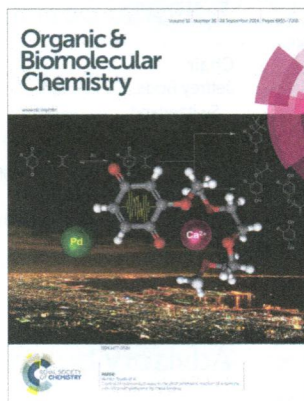
ISSN 1477-0520 CODEN OBCRAK 12(36) 6955-7168 (2014)



Cover

See Adam McCluskey *et al.*, pp. 6994–7003.

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Inside cover

See Akihiko Tsuda *et al.*, pp. 7004–7017.

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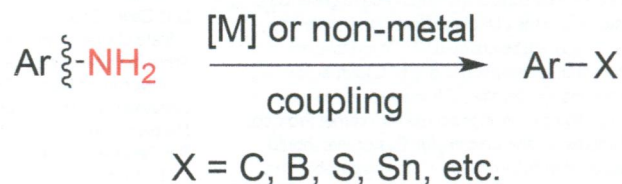
REVIEW

6965

Removal of amino groups from anilines through diazonium salt-based reactions

Linman He, Guanyinsheng Qiu, Yueqiu Gao* and Jie Wu*

In situ generation of diazonium salts from anilines represents an efficient and practical pathway, leading to a series of useful structures. The amino group in anilines acts as a formal leaving group in various coupling reactions.



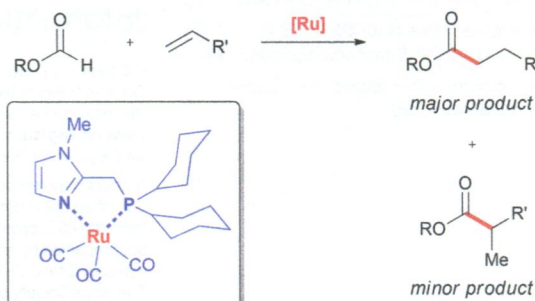
COMMUNICATIONS

6972

Novel ruthenium-catalyst for hydroesterification of olefins with formates

Irina Profir, Matthias Beller* and Ivana Fleischer*

A new catalyst based on a bidentate P,N-ligand and ruthenium dodecacarbonyl for the hydroesterification of olefins with formates is reported.



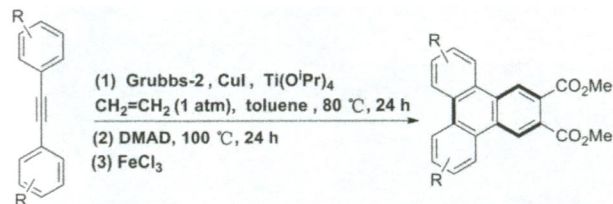
Федеральное государственное
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Уральского отделения
Российской академии наук (ЦНБ УрО РАН)

6977

A convenient tandem one-pot synthesis of donor–acceptor-type triphenylene 2,3-dicarboxylic esters from diarylacetylene

Chun Feng,* Xian-Li Tian, Jing Zhou, Shi-Kai Xiang, Wen-Hao Yu, Bi-Qin Wang,* Ping Hu, Carl Redshaw and Ke-Qing Zhao

An efficient one-pot synthetic procedure was developed for the direct preparation of polysubstituted triphenylene 2,3-dicarboxylic esters *via* a tandem addition process from diarylacetylene.



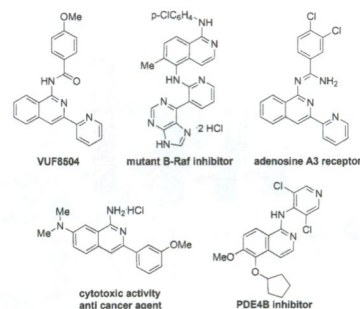
1. one pot
2. $\leq 71\%$ overall yield
3. a variety of products from tetra- to hepta-substituted

6982

Silver triflate and triflic anhydride-promoted expedient synthesis of acylated 1-aminoisoquinolines

Yuewen Li, Liang Gao, Hui Zhu, Guangming Li* and Zhiyuan Chen*

A practical and convergent synthesis of biologically active 1-(*N*-acyl)-1-aminoisoquinolines from the reaction of 2-alkynylbenzaloximes with amides has been realized.

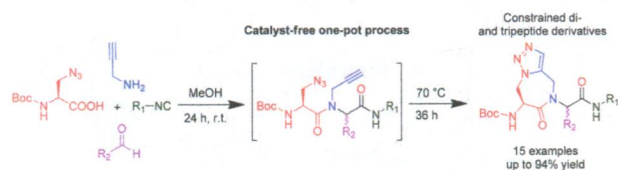


6986

Efficient synthesis of conformationally constrained, amino-triazoloazepinone-containing di- and tripeptides *via* a one-pot Ugi–Huisgen tandem reaction

T. M. A. Barlow, M. Jida,* D. Tourwé and S. Ballet*

Herein we describe a catalyst-free procedure employing an Ugi-4CR followed by a thermal azide–alkyne Huisgen cycloaddition to generate a 16-member library with up to four points of diversification and high atom economy.

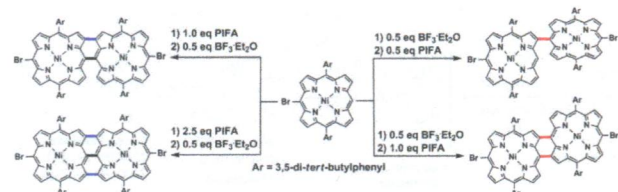


6990

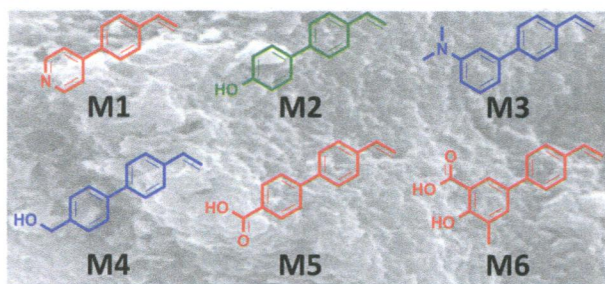
Switchable regioselectivity in the PIFA–BF₃·Et₂O mediated oxidative coupling of *meso*-brominated Ni(II) porphyrin

Chuan-Mi Feng, Yi-Zhou Zhu,* Yun Zang, Yu-Zhang Tong and Jian-Yu Zheng*

A simple and efficient method has been developed for the switchable synthesis of directly linked *meso*-brominated Ni(II) porphyrin dimers through PIFA–BF₃·Et₂O mediated oxidative coupling.



6994

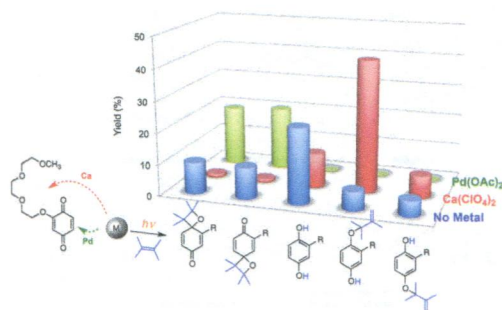


Evaluation of 4-substituted styrenes as functional monomers for the synthesis of theophylline-specific molecularly imprinted polymers

Hazit Zayas, Clovia I. Holdsworth, Michael C. Bowyer and Adam McCluskey*

Six novel functional monomers (**M1–M6**) were examined for their ability to imprint theophylline (**1**). The best selectivity was observed with **M2**.

7004

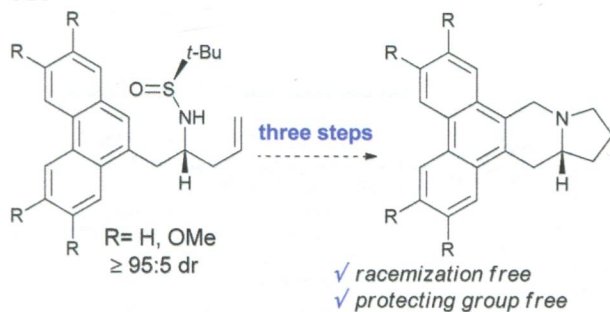


Control of reaction pathways in the photochemical reaction of a quinone with tetramethylethylene by metal binding

Hiroaki Yamamoto, Kei Ohkubo, Seiji Akimoto, Shunichi Fukuzumi and Akihiko Tsuda*

Supramolecular photochemical reactions of a quinone derivative, bearing an oligoether sidearm, with tetramethylethylene occur upon noncovalent complexations with metal salts.

7018

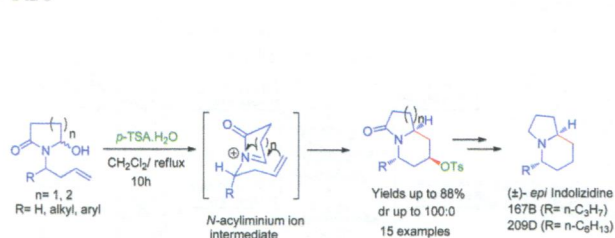


Short asymmetric synthesis of phenanthroindolizidines through chiral homoallylic sulfonamides

Cintia Anton-Torrecillas and Jose C. Gonzalez-Gomez*

An expeditious synthesis of enantioenriched phenanthroindolizidines has been achieved using *tert*-butylsulfonamide as a chiral inductor and without any other protecting group.

7026



Stereoselective synthesis of *O*-tosyl azabicyclic derivatives via aza Prins reaction of endocyclic *N*-acyliminium ions: application to the total synthesis of (±)-*epi*-indolizidine 167B and 209D

Anil K. Saikia,* Kiran Indukuri and Jagadish Das

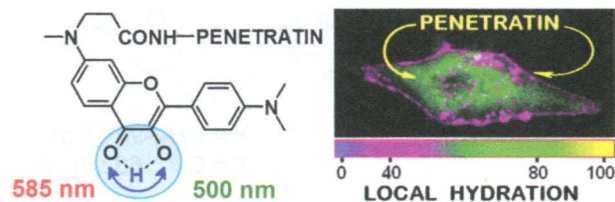
A diastereoselective synthesis of 4-*O*-tosyl piperidine containing azabicyclic derivatives has been established via Prins cyclization reaction. This protocol has been applied for the total synthesis of (±)-*epi*-indolizidine 167B and 209D.

7036

Monitoring penetratin interactions with lipid membranes and cell internalization using a new hydration-sensitive fluorescent probe

Oleksandr M. Zamotaiev, Viktoriia Y. Postupalenko, Volodymyr V. Shvadchak, Vasyl G. Pivovarenko,* Andrey S. Klymchenko* and Yves Mély

A new hydration-sensitive fluorescent label attached to the N-terminus of a cell-penetrating peptide allows visualization of the nanoscopic environment of its internalization pathway.

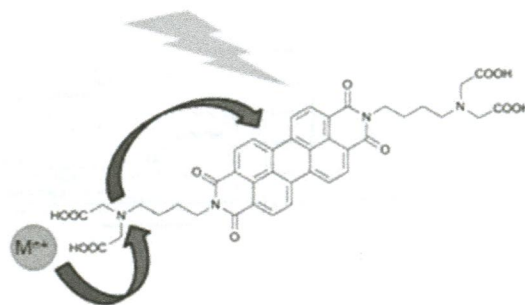


7045

Novel EDTA-ligands containing an integral perylene bisimide (PBI) core as an optical reporter unit

Mario Marcia, Prabhpreet Singh, Frank Hauke, Michele Maggini and Andreas Hirsch*

The synthesis, characterization and metal complexation of a new class of perylene bisimides (PBIs) as an integral part of ethylenediaminetetraacetic acid (EDTA) are reported.

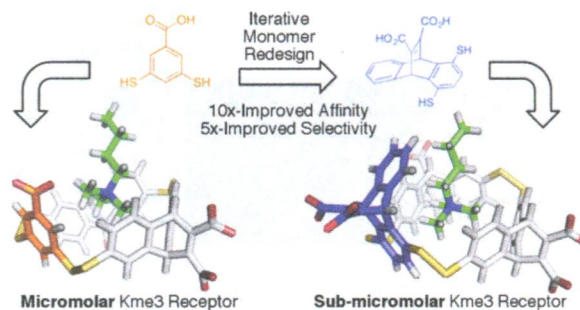


7059

Development and mechanistic studies of an optimized receptor for trimethyllysine using iterative redesign by dynamic combinatorial chemistry

Nicholas K. Pinkin and Marcey L. Waters*

Iterative monomer redesign leads to a K_{me_3} -peptide receptor with 10-fold tighter affinity and 5-fold improved selectivity over K_{me_2} than the original receptor. Thermodynamic analysis provides insight into this improvement.

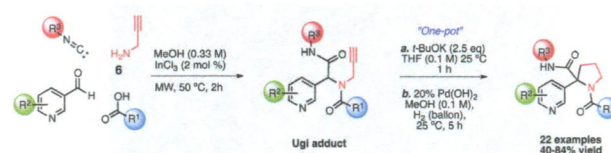


7068

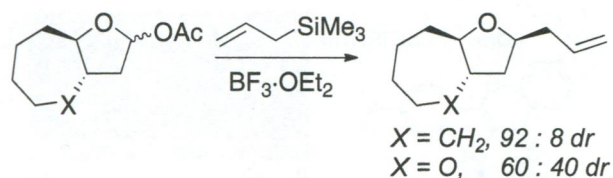
Combinatorial synthesis of nicotine analogs using an Ugi 4-CR/cyclization-reduction strategy

Luis A. Polindara-García and Alfredo Vazquez*

A simple and convenient synthetic methodology to prepare nicotine derivatives is reported.



7083

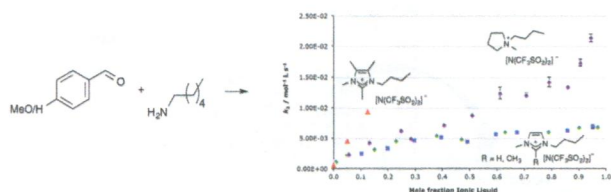


Effect of conformational rigidity on the stereoselectivity of nucleophilic additions to five-membered ring bicyclic oxocarbenium ion intermediates

Olga Lavinda, Vi Tuong Tran and K. A. Woerpel*

Nucleophilic substitution reactions of five-membered ring acetals bearing fused rings reveal that subtle changes in the structure of the fused ring can exert dramatic influences on selectivity.

7092

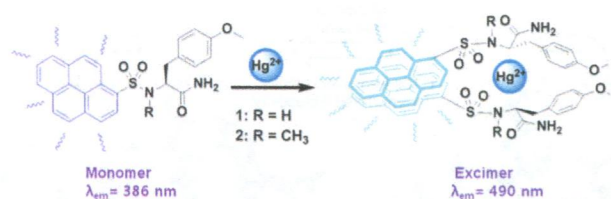


Developing principles for predicting ionic liquid effects on reaction outcome. A demonstration using a simple condensation reaction

Sinead T. Keaveney, Karin S. Schaffarczyk McHale, Ronald S. Haines and Jason B. Harper*

Predictions of the effects of the *proportion* and the *components* of an ionic liquid on the reaction rate are shown to correlate well with experimental results.

7100

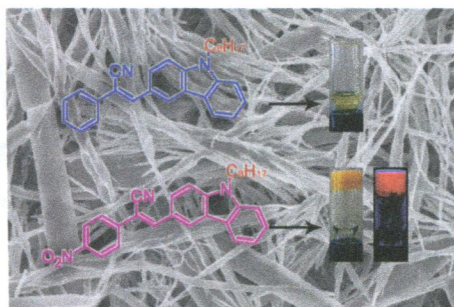


Ratiometric fluorescence chemosensor based on tyrosine derivatives for monitoring mercury ions in aqueous solutions

Ponnaboina Thirupathi, Ponnaboina Saritha (née Gudelli) and Keun-Hyeung Lee*

Ratiometric fluorescent chemosensors **1** and **2** were synthesized based on tyrosine amino acid derivatives with a pyrene fluorophore.

7110



A large dipole moment to promote gelation for 4-nitrophenylacrylonitrile derivatives with gelation-induced emission enhancement properties

Pengchong Xue,* Boqi Yao, Yuan Zhang, Peng Chen, Kechang Li, Baijun Liu and Ran Lu*

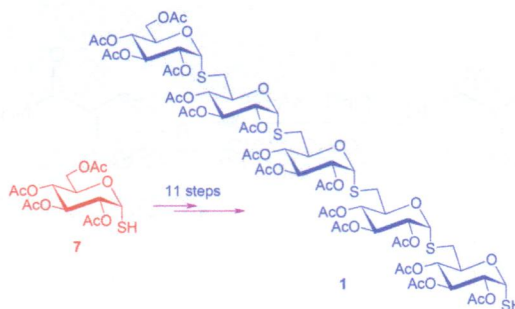
4-Nitrophenylacrylonitrile derivatives were gelator, but analogues without nitro group were not, indicating that the electron-withdrawing nitro moiety was important for gel formation. Moreover, the organogels exhibited fluorescence enhancement.

7119

Expedient synthesis of an α -S-(1 \rightarrow 6)-linked pentaglucoyl thiol

Huali Wang and Xiangming Zhu*

An α -S-(1 \rightarrow 6)-linked pentaglucoyl thiol (**1**) is synthesized via the longest linear sequence of eleven steps from an α -glucosyl thiol (**7**).

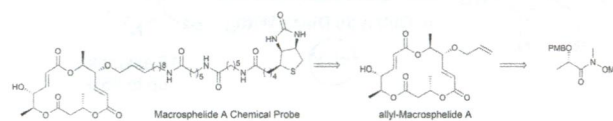


7127

Design and synthesis of a macrophelide A-biotin chimera

Hwayoung Yun, Jaehoon Sim, Hongchan An, Jeeyeon Lee, Hun Seok Lee, Young Kee Shin, Seung-Mann Paek* and Young-Ger Suh*

The rational design and synthesis of a biochemical probe of natural (+)-macrophelide A, a potent cell–cell adhesion inhibitor, was completed to aid in the identification of its biological target.

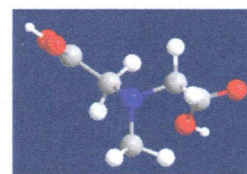


7136

MIDA as a simple and highly efficient ligand for palladium-catalyzed Hiyama cross-coupling of aryl halides

Mengping Guo,* Liang Qi, Qiaochu Zhang, Zhiyong Zhu, Wei Li and Xiaogang Li

N-Methyliminodiacetic acid (MIDA) as a simple, air stable and water-soluble ligand shows high catalytic activity in Hiyama reaction.

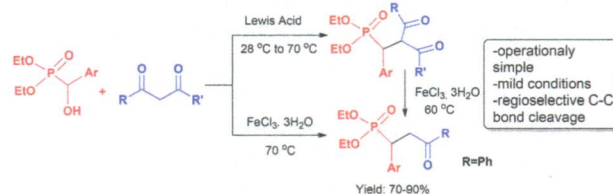
Ligand: HOOC-CH2-N(CH3)-CH2-COOH

7140

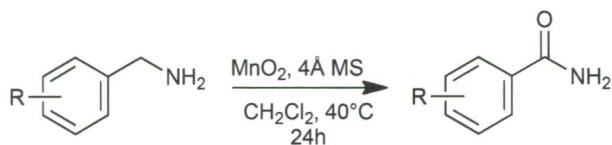
An easy access to α -aryl substituted γ -ketophosphonates: Lewis acid mediated reactions of 1,3-diketones with α -hydroxyphosphonates and tandem regioselective C–C bond cleavage

Gangaram Pallikonda, Manab Chakravarty* and Manoj K. Sahoo

The α -aryl substituted (\pm)- γ -ketophosphonates are produced by Lewis acid mediated reactions of α -hydroxyphosphonates with 1,3-diketones.



7150

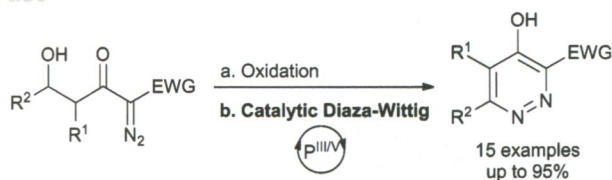


A facile manganese dioxide mediated oxidation of primary benzylamines to benzamides

A. Poeschl and D. M. Mountford*

An efficient and high yielding manganese dioxide mediated oxidation of benzylamines to the corresponding amides under mild reaction conditions.

7159

 $\text{R}^1 = \text{H, Me}$ $\text{R}^2 = \text{alkyl, cycloalkyl, aryl and heteroaryl}$

EWG = ester, ketone and sulfonyl

Organophosphorus-catalyzed diaza-Wittig reaction: application to the synthesis of pyridazines

Hassen Bel Abed, Oscar Mammoliti, Omprakash Bande, Guy Van Lommen and Piet Herdewijn*

The elaboration of the first organophosphorus-catalyzed diaza-Wittig reaction is reported.