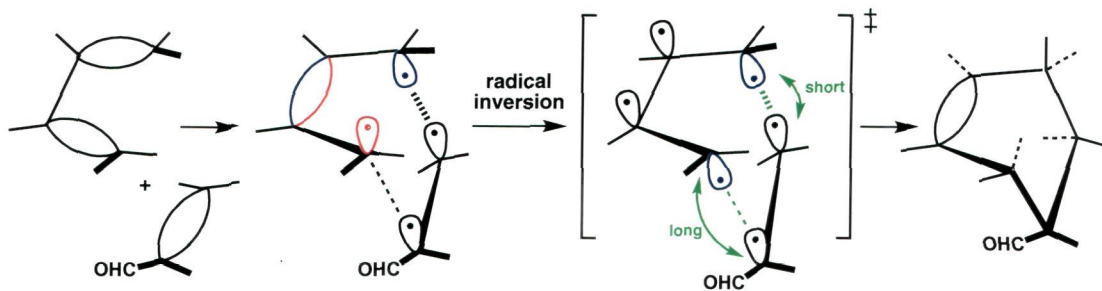


Tetrahedron

THE INTERNATIONAL JOURNAL FOR THE RAPID PUBLICATION OF FULL ORIGINAL RESEARCH PAPERS AND CRITICAL REVIEWS IN ORGANIC CHEMISTRY

IN THIS ISSUE PERSPECTIVES ARTICLE

Bent bonds and the antiperiplanar hypothesis as a simple model to predict Diels–Alder reactivity: retrospective or perspective?



G. Deslongchamps, P. Deslongchamps



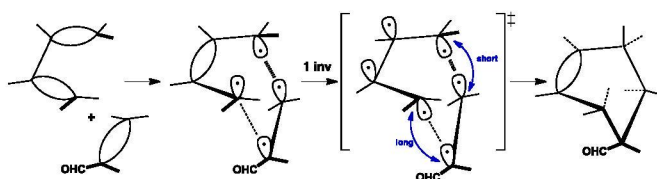
Tetrahedron Vol. 69, Issue 30, 2013

Contents

PERSPECTIVES

Bent bonds and the antiperiplanar hypothesis as a simple model to predict Diels–Alder reactivity: retrospective or perspective? pp 6022–6033

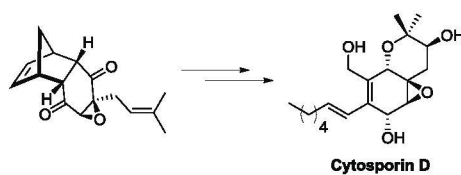
Ghislain Deslongchamps, Pierre Deslongchamps*



ARTICLES

A total synthesis of the epoxyquinone natural product cytosporin D pp 6034–6040

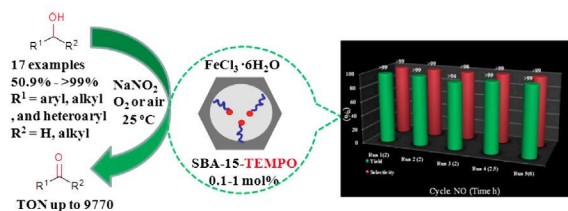
Jagadeshwar Vannada, Lennart Niehues, Burkhard König, Goverdhan Mehta*



An efficient and scalable room temperature aerobic alcohol oxidation catalyzed by iron chloride hexahydrate/ mesoporous silica supported TEMPO

pp 6041–6045

Lianyue Wang, Jun Li, Xiaoping Zhao, Ying Lv, Hengyun Zhang, Shuang Gao*

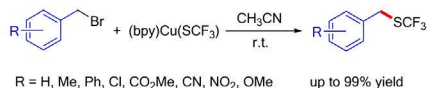


An efficient and practical room temperature oxidation of alcohols catalytic system by using FeCl₃·6H₂O in conjugation with NaNO₂ and a low catalytic amount of SBA-15-supported TEMPO (0.1–1 mol %) with dioxygen or air as terminal oxidant was developed. Various alcohols were smoothly oxidized to their corresponding carbonyl compounds with good to excellent yields, even in large-scale operations. The catalysts could be reused for at least four runs without significant loss of catalytic activity.

Room temperature nucleophilic trifluoromethylthiolation of benzyl bromides with (bpy)Cu(SCF₃)

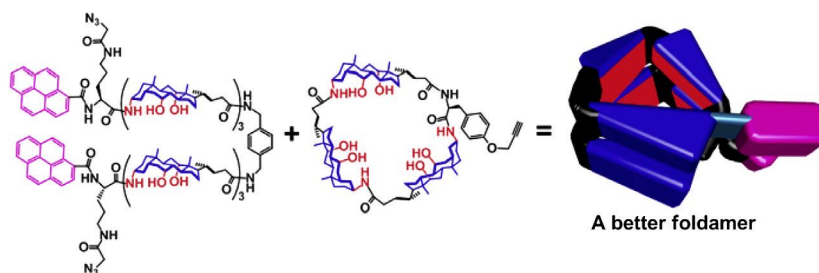
pp 6046–6050

Dedao Kong, Zhou Jiang*, Shaogang Xin, Zhengshuai Bai, Yaofeng Yuan, Zhiqiang Weng*


Oligocholate foldamer with ‘prefolded’ macrocycles for enhanced folding in solution and surfactant micelles

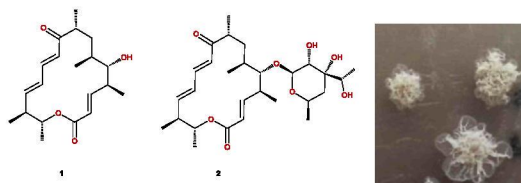
pp 6051–6059

Xueshu Li, Yan Zhao*


Tianchimycins A–B, 16-membered macrolides from the rare actinomycete *Saccharothrix xinjiangensis*

pp 6060–6064

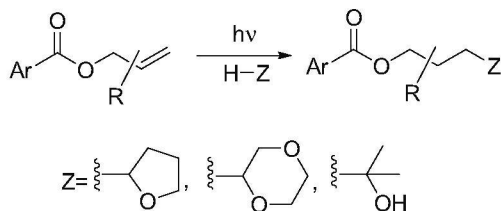
Xiaoling Wang, Jioji Tabudravu, Marcel Jaspars, Hai Deng*



Photochemical functionalization of allyl benzoates by C–H insertion

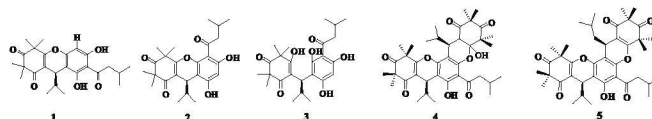
pp 6065–6069

Ivana Pibiri, Antonio Palumbo Piccionello*, Andrea Pace, Giampaolo Barone, Silvestre Buscemi

**Acylphloroglucinols from *Callistemon lanceolatus* DC.**

pp 6070–6075

Suthida Rattanaburi, Wilawan Mahabusarakam*, Souwalak Phongpaichit, Anthony R. Carroll

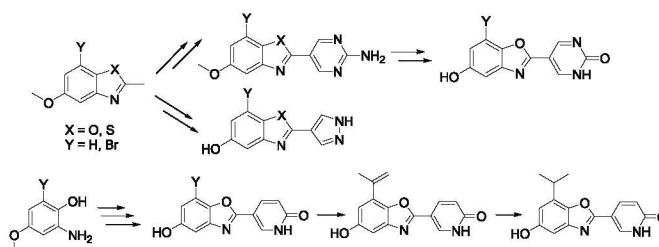


Five acylphloroglucinols, named callistenones A–E together with six known acylphloroglucinols, triterpenoids and C-methylflavonoids were isolated from the leaves of *Callistemon lanceolatus*. Their structures were characterized by spectroscopic methods. Some of the compounds showed very strong antibacterial activity.

**Synthesis of substituted 2-heteroarylbenzazol-5-ol derivatives as potential ligands for estrogen receptors**

pp 6076–6082

Sina Rezazadeh, Latifeh Navidpour*, Abbas Shafiee

**N-Tosylhydrazine-mediated deoxygenative hydrogenation of aldehydes and ketones catalyzed by Pd/C**

pp 6083–6087

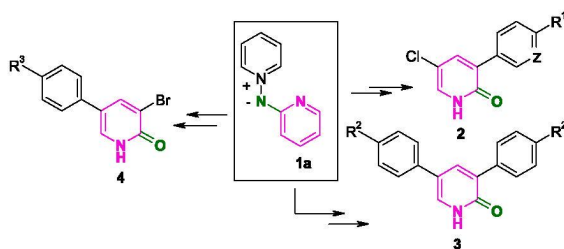
Lei Zhou, Zhenxing Liu, Yizhou Liu, Yan Zhang*, Jianbo Wang*



A facile synthesis of 3,5-halo and aryl 1*H*-pyridin-2-ones from pyridinium *N*-(pyridin-2-yl)aminide

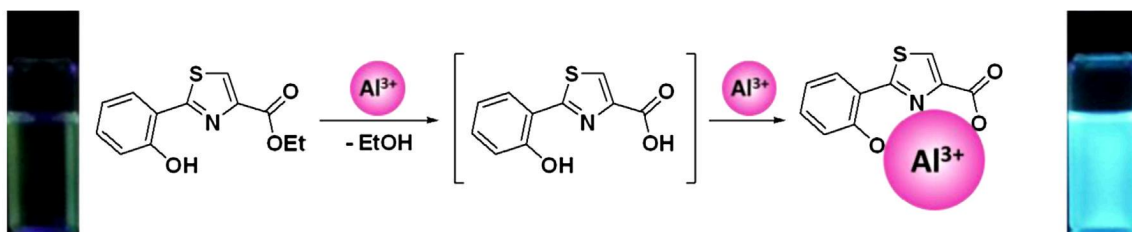
pp 6088–6094

Fabiana Filace, David Sucunza, M. Luisa Izquierdo, Carolina Burgos*, Julio Alvarez-Builla*


A highly selective fluorescent turn-on probe for Al³⁺ via Al³⁺-promoted hydrolysis of ester

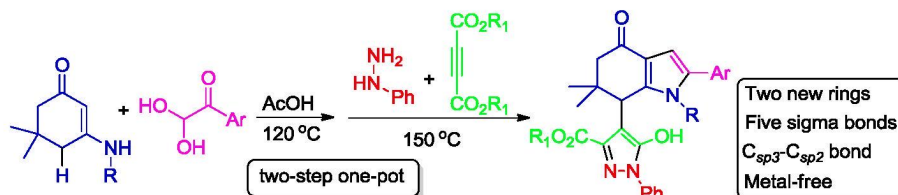
pp 6095–6099

Aasif Helal, Sang Hyun Kim, Hong-Seok Kim*


A novel allylic substitution strategy to four-component synthesis of pyrazole-substituted fused pyrroles

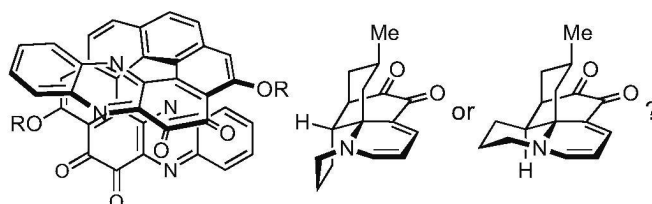
pp 6100–6107

Xing-Chao Tu, Wei Fan, Bo Jiang*, Shu-Liang Wang, Shu-Jiang Tu*


The reliability and utility of high reported specific rotations: reports and predictions of molecules with extremely high specific rotations, and high specific rotations suggest revision of the structures of huperzines E' and F'

pp 6108–6115

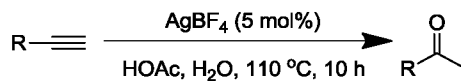
Robert A. Pascal, Jr.*, Anthony P. West, Jr.



Highly efficient AgBF₄-catalyzed synthesis of methyl ketones from terminal alkynes

pp 6116–6120

Zheng-Wang Chen*, Dong-Nai Ye, Yi-Ping Qian, Min Ye, Liang-Xian Liu*

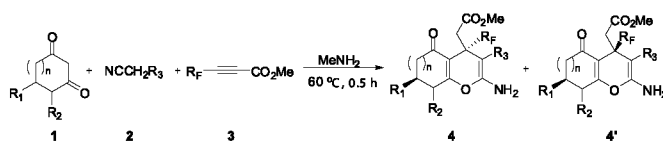


R = alkyl, aryl

Three-component synthesis of 2-amino-3-cyano-5-oxo-4-perfluoroalkyl-5,6,7,8-tetrahydro-4H-chromene derivatives

pp 6121–6128

Linglin Bian, Jiechao Xu, Liqing Xie, Jie Chen, Hongmei Deng, Min Shao, Tianling Ding*, Hui Zhang*, Weiguo Cao*

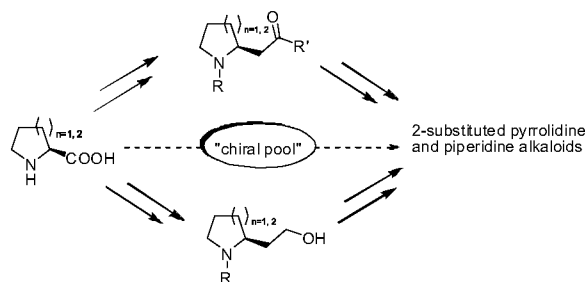


n = 1
 R₁ = H, R₂ = H, **1a**; R₁ = dimethyl, R₂ = H, **1b**; R₁ = H, R₂ = dimethyl, **1c**; R₁ = phenyl, R₂ = H, **1d**;
 R₁ = methyl, R₂ = H, **1e**; R₁ = ethyl, R₂ = H, **1f**; R₁ = 4-fluorophenyl, R₂ = H, **1g**;
 n = 0
 R₁ = H, R₂ = H, **1h**.
 R₃ = CN, **2a**; R₃ = CO₂Et, **2b**; R_F = CF₃, **3a**; R_F = C₂F₅, **3b**; R_F = n-C₃F₇, **3c**.

Henry–Nef reaction: a practical and versatile chiral pool route to 2-substituted pyrrolidine and piperidine alkaloids

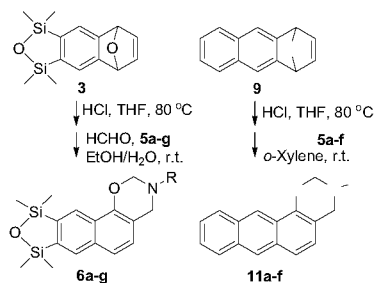
pp 6129–6143

Chinmay Bhat, Santosh G. Tilve*

**Synthesis and characterization of oxadisilole-fused-3,4-dihydro-2H-naphtho[2,1-e]-1,3-oxazines and 3,4-dihydro-2H-anthra[2,1-e]-1,3-oxazines**

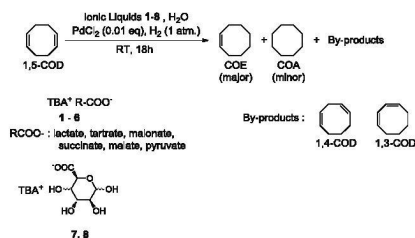
pp 6144–6149

Di Xu, Yibei Lin, Yali Chen*, Jie Zhang, Weiguo Cao, Jie Chen, Man Shing Wong*



Biomass derived ionic liquids: synthesis from natural organic acids, characterization, toxicity, biodegradation and use as solvents for catalytic hydrogenation processes pp 6150–6161

Nadège Ferlin, Matthieu Courty, Sylvain Gatard, Marcel Spulak, Brid Quilty, Ian Beadham, Mukund Ghavre, Annette Haiß, Klaus Kümmerer, Nicholas Gathergood*, Sandrine Bouquillon*


Novel O,N,N,O-tetradentate ligand from tartaric acid

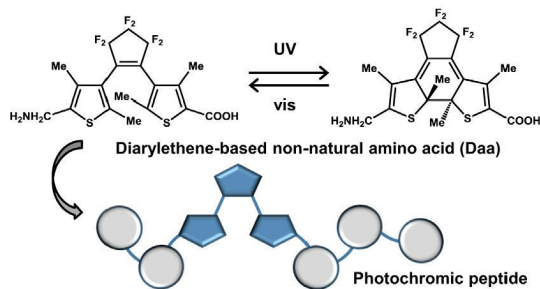
Kaluvu Balaraman, Ravichandran Vasanthan, Venkitasamy Kesavan*

pp 6162–6169


Development of a new class of photochromic peptides by using diarylethene-based non-natural amino acids

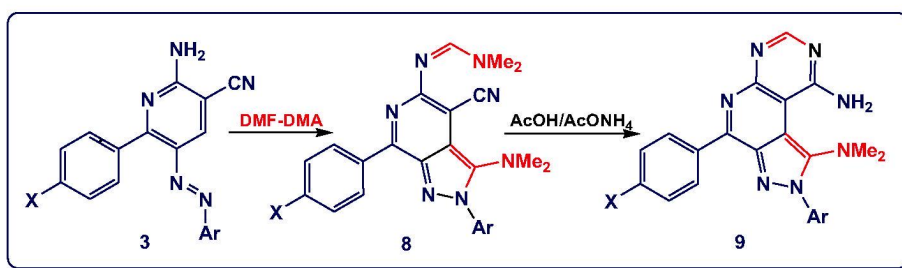
Kazuhisa Fujimoto*, Tatsuya Maruyama, Yohei Okada, Tatsuya Itou, Masahiko Inouye*

pp 6170–6175


Non-concerted nucleophilic [4 + 1] cycloaddition of (dimethylamino)methoxycarbene to arylazonicotinates in the synthesis of pyrazolo[3,4-c]pyridines and pyrazolo[4,3':4,5]pyrido[2,3-d]pyrimidines

Haider Behbehani*, Hamada Mohamed Ibrahim, Mohamed H. Elnagdi

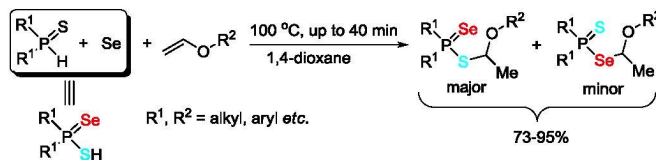
pp 6176–6184



Three-component reaction between secondary phosphine sulfides, elemental selenium and vinyl ethers: the first examples of Markovnikov addition of thioselenophosphinic acids to double bond

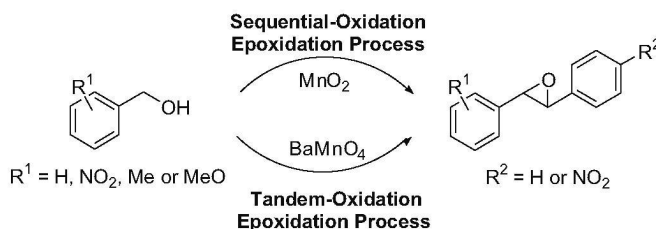
pp 6185–6195

Ludmila A. Oparina, Alexander V. Artem'ev, Oksana V. Vysotskaya, Nikita A. Kolyvanov, Irina Yu. Bagryanskaya, Evgeniya P. Doronina, Nina K. Gusarova*

**Sequential- and tandem-oxidation–epoxidation reactions employing guanidine bases**

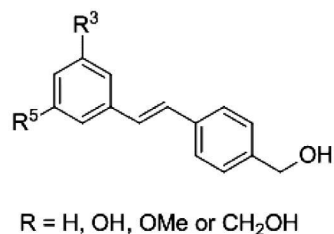
pp 6196–6202

David J. Phillips, Joseline L. Kean, Andrew E. Graham*

**Novel analogues of resveratrol: metabolism and inhibition of colon cancer cell proliferation**

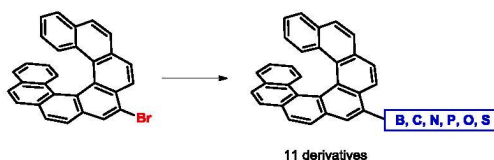
pp 6203–6212

Charles Simon, Robert G. Britton*, Hong Cai, Andreas J. Gescher, Karen Brown, Paul R. Jenkins

**Exploration of 9-bromo[7]helicene reactivity**

pp 6213–6218

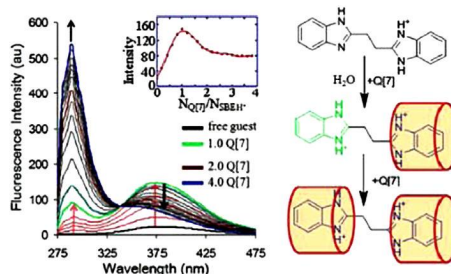
Jaroslav Žádný, Petr Velíšek, Martin Jakubec, Jan Sýkora, Vladimír Církva, Jan Storch*



Supramolecular interactions of bisbenzimidazolyl derivatives with cucurbit[7]uril, potential axle molecules bearing a novel fluorescent signal response

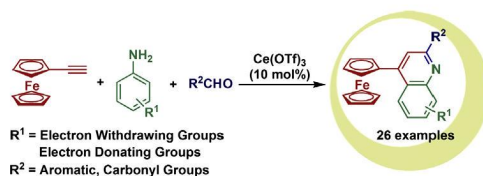
pp 6219–6222

Xin-Long Ni*, Jun-Ming Yi, Sen Song, Yun-Qian Zhang, Sai-Feng Xue, Qian-Jiang Zhu, Zhu Tao*


Ce(OTf)₃-catalyzed multicomponent domino cyclization–aromatization of ferrocenylacetylene, aldehydes, and amines: a straightforward synthesis of ferrocene-containing quinolines

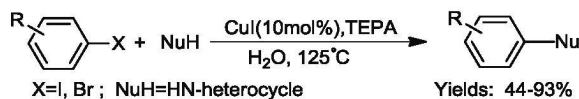
pp 6223–6229

Shufeng Chen*, Ling Li, Haiying Zhao, Baoguo Li*


N-Arylation of heterocycles promoted by tetraethylenepentamine in water

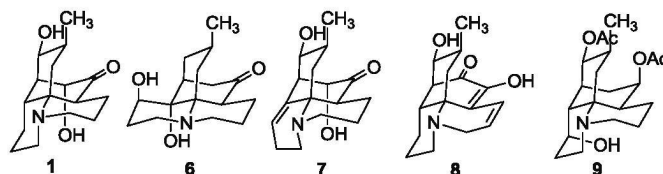
pp 6230–6233

Qichao Yang, Yufang Wang, Li Yang, Mingjie Zhang*


Nine new lycopodium-type alkaloids from *Lycopodium japonicum* Thunb.

pp 6234–6240

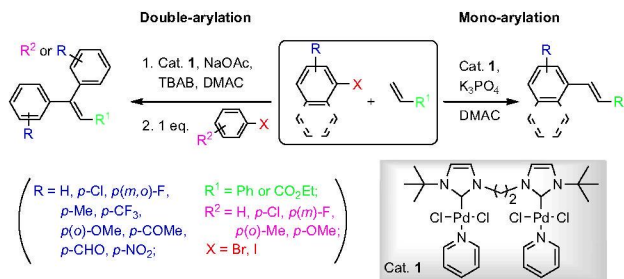
Xiao-Jing Wang, Li Li, Yi-Kang Si, Shi-Shan Yu*, Shuang-Gang Ma, Xiu-Qi Bao, Dan Zhang, Jing Qu, Yun-Bao Liu, Yong Li



Controlled mono- and double-Heck reaction catalyzed by a dicarbene dipalladium complex

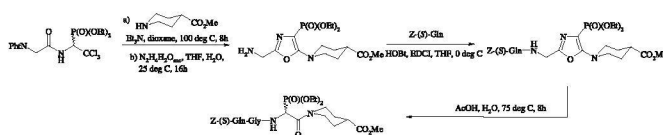
pp 6241–6250

Yunfei Li, Gang Liu, Changsheng Cao*, Shuzhan Wang, Yuling Li, Guangsheng Pang, Yanhui Shi*

**Synthesis of 5-amino-2-aminoalkyl-1,3-oxazol-4-ylphosphonic acid derivatives and their use in the preparation of phosphorylated peptidomimetics**

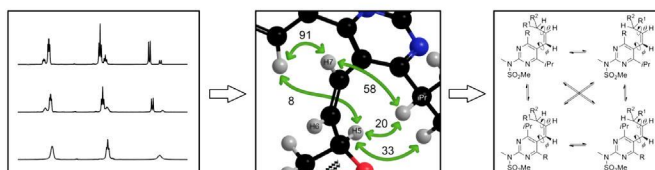
pp 6251–6261

Kostyantyn M. Kondratyuk, Olena I. Lukashuk, Aleksandr V. Golovchenko, Igor V. Komarov, Volodymyr S. Brovarets*, Valery P. Kukhar

**Conformational analysis of *E/Z*-isomeric pairs of rosvastatin and its lactonized analogues**

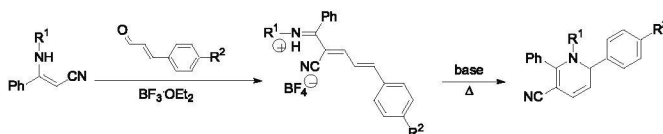
pp 6262–6268

Jan Fabris, Damjan Makuc, Zdenko Časar, Janez Plavec*

**A novel strategy for the synthesis of 2,6-diaryl-1,2-dihydropyridines via 6π-electrocyclization**

pp 6269–6274

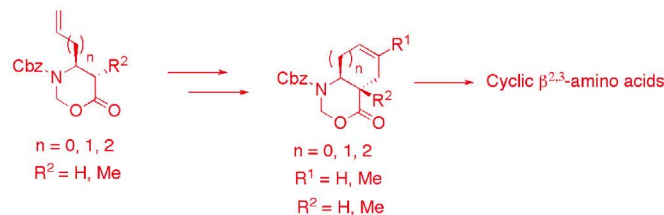
Zoltán Vincze, Péter Nemes*



Diastereoselective synthesis of cyclic $\beta^{2,3}$ -amino acids utilizing 4-substituted-1,3-oxazinan-6-ones

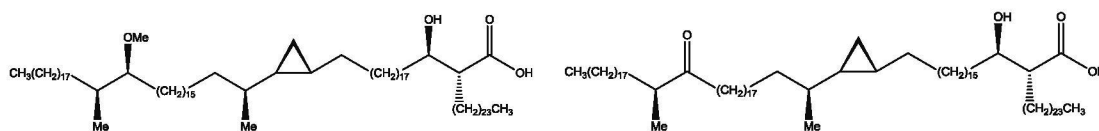
pp 6275–6284

Brad E. Sleebs, Nghi H. Nguyen, Andrew B. Hughes*

**The synthesis of methoxy and keto mycolic acids containing methyl-*trans*-cyclopropanes**

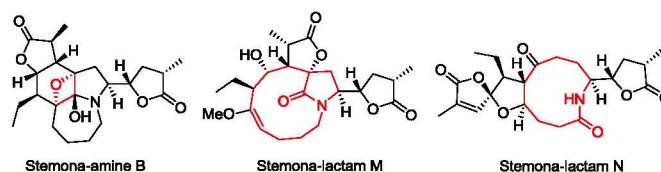
pp 6285–6296

Gani Koza, Maged Muzael, Richard R. Schubert-Rowles, Cornelia Theunissen, Juma'a R. Al Dulayymi, Mark S. Baird*

**Structures of stemona-amine B and stemona-lactams M–R**

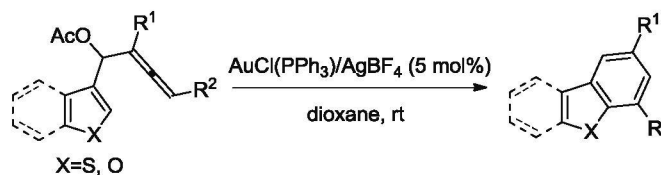
pp 6297–6304

Yukio Hitotsuyanagi, Haruhiko Fukaya, Erika Takeda, Shoko Matsuda, Yuka Saishu, Shu Zhu, Katsuko Komatsu, Koichi Takeya*

**General approach to benzo[*b*]thiophenes, benzo[*b*]furans, and dibenzofurans via gold-catalyzed cyclization of 1-heteroarylalka-2,3-dienyl acetates**

pp 6305–6312

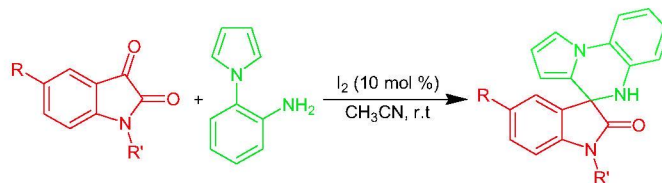
Youai Qiu, Dengke Ma, Chunling Fu, Shengming Ma*



Synthesis of spiro[indoline-3,4'-pyrrolo[1,2-a]quinoxalin]-2-one catalyzed by molecular iodine

pp 6313–6316

Abdolali Alizadeh*, Javad Mokhtari

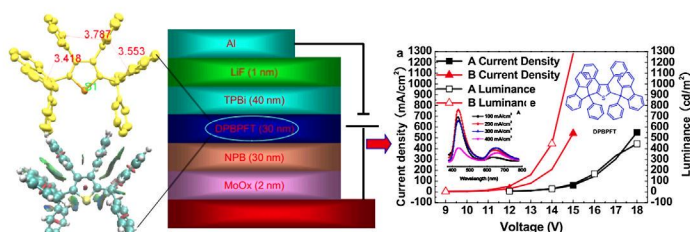


Molecular iodine catalyzed preparation of spiro[indoline-3,4'-pyrrolo[1,2-a]quinoxalin]-2-one. This reaction between *N*-(2-aminophenyl)pyrrole and isatins proceeds in CH₃CN at room temperature in good to excellent yields.

Diarylfluorenes-based π -stacked molecules: synthesis, X-ray crystallography, and supramolecular light-emitting devices

pp 6317–6322


Yang Yang, Jian-Feng Zhao, Ran-Ran Liu, Jie-Wei Li, Ming-Dong Yi, Guo-Hua Xie, Ling-Hai Xie*, Yong-Zheng Chang, Cheng-Rong Yin, Xin-Hui Zhou, Yi Zhao, Yan Qian, Wei Huang*



Intramolecular π -stacked organic complexes for supramolecular organic light-emitting devices



*Corresponding author

 Supplementary data available via SciVerse ScienceDirect

COVER

The bent bond/antiperiplanar hypothesis provides a qualitative yet novel theoretical model for understanding an ever-widening range of organic reactions. In this Perspective, the application of the hypothesis to the Diels–Alder reaction is presented. It accounts for the concerted yet asynchronous nature of the reaction, for the general features of transition state geometries, and for the regio- and stereochemical outcomes of a very wide range of experimental results. © 2013 G. Deslongchamps, P. Deslongchamps.

Available online at www.sciencedirect.com

SciVerse ScienceDirect

Full text of this journal is available, on-line from **SciVerse ScienceDirect**. Visit www.sciencedirect.com for more information.

Abstracted/indexed in: AGRICOLA, Beilstein, BIOSIS Previews, CAB Abstracts, Chemical Abstracts, Current Contents: Life Sciences, Current Contents: Physical, Chemical and Earth Sciences, Current Contents Search, Derwent Drug File, Ei compendex, EMBASE/Excerpta Medica, PASCAL, Research Alert, Science Citation Index, SciSearch. Also covered in the abstract and citation database Sciverse SCOPUS®. Full text available on Sciverse ScienceDirect®



ELSEVIER

ISSN 0040-4020