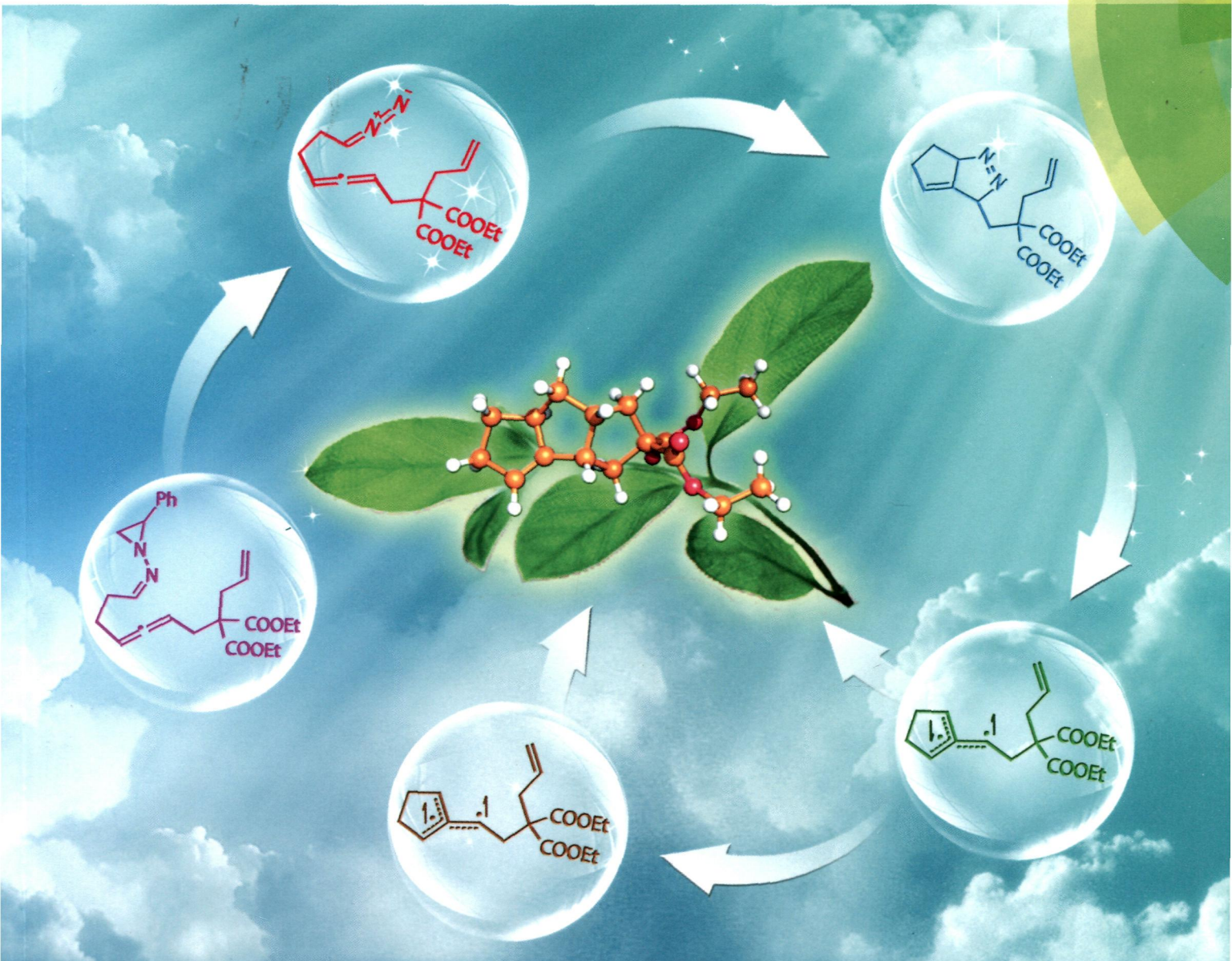


Organic & Biomolecular Chemistry

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PAPER

Yan Qiao and Ke-Li Han

Theoretical investigations toward the tandem reactions of *N*-aziridinyl imine compounds forming triquinanes via trimethylenemethane diyls: mechanisms and stereoselectivity

Organic & Biomolecular Chemistry

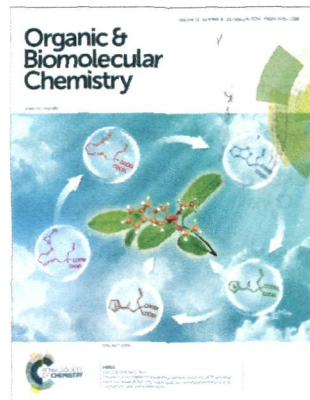
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IN THIS ISSUE

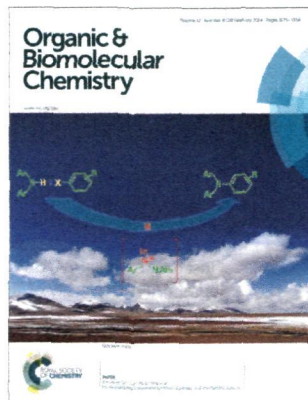
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Cover

See Yan Qiao and Ke-Li Han, pp. 1220–1231.

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Inside cover

See Xin-Heng Fan, Lian-Ming Yang et al., pp. 1232–1236.

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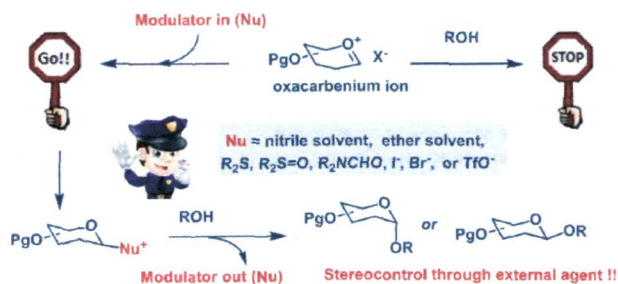
REVIEW

1184

Modulating glycosylation with exogenous nucleophiles: an overview

Shaheen K. Mulani, Wei-Cheng Hung, Arun B. Ingle, Kai-Sheng Shiau and Kwok-Kong Tony Mong*

Control of stereochemistry in glycosidic bond formation through exogenous nucleophiles.



COMMUNICATIONS

1198

NBS mediated nitriles synthesis through C=C double bond cleavage

Xiaolin Zong, Qing-Zhong Zheng and Ning Jiao*

An NBS mediated nitrile synthesis through C=C double bond cleavage has been developed.

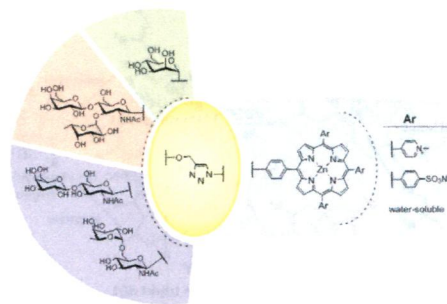


1203

Huisgen-based conjugation of water-soluble porphyrins to deprotected sugars: towards mild strategies for the labelling of glycans

Francesca Giuntini, Francesca Bryden, Robin Daly, Eoin M. Scanlan and Ross W. Boyle*

Fully deprotected alkyne-functionalised mono- and oligosaccharides undergo CuAAC-based conjugation with water-soluble porphyrin azides in aqueous environments.

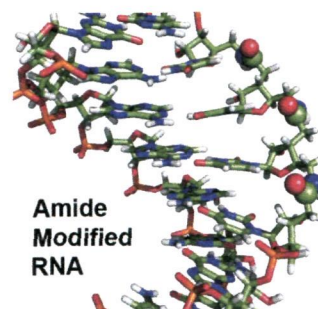


1207

Synthesis, biophysical studies and RNA interference activity of RNA having three consecutive amide linkages

Paul Tanui, Scott D. Kennedy, Benjamin D. Lunstad, Amanda Haas, Devin Leake and Eriks Rozners*

RNA sequences having up to three consecutive internal amide linkages were synthesized and studied using UV and NMR spectroscopy and RNA interference activity assays.

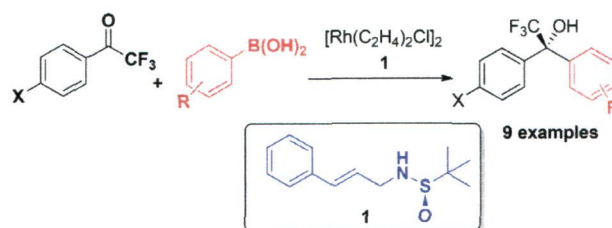


1211

"Sulfolefin": a mixed sulfinamido-olefin ligand in enantioselective rhodium-catalyzed addition of arylboronic acids to trifluoromethyl ketones

Victoria Valdivia, Inmaculada Fernández* and Noureddine Khair*

Trifluoromethyl-substituted tertiary alcohols were obtained with good yields and enantioselectivities using the shelf stable sulfolefin-**1** as a catalyst precursor.

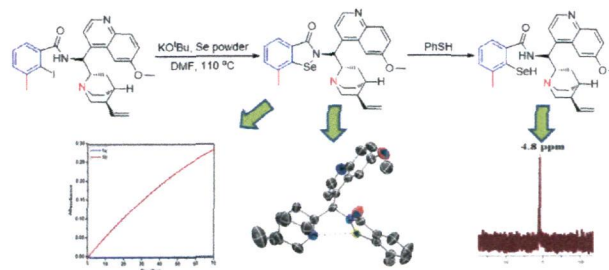


1215

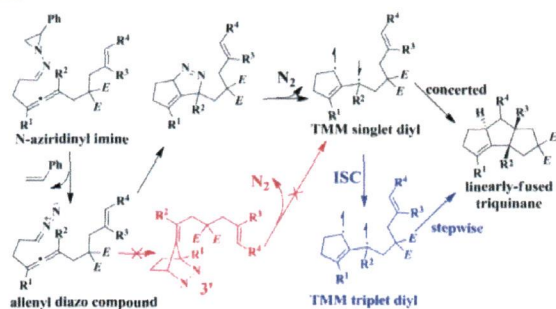
An ebselen like catalyst with enhanced GPx activity via a selenol intermediate

Shah Jaimin Balkrishna, Shailesh Kumar, Gajendra Kumar Azad, Bhagat Singh Bhakuni, Piyush Panini, Navjeet Ahalawat, Raghuvir Singh Tomar, Michael R. Detty and Sangit Kumar*

Benzamide ring-substituted, quinine-derived ebselen analogue is synthesized which exists in selenol form upon addition of PhSH. It catalyses oxidation of PhSH with H₂O₂ faster (10³-fold) than ebselen.



1220

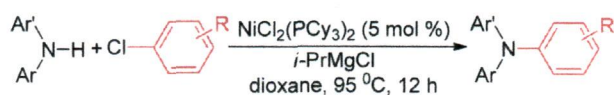


Theoretical investigations toward the tandem reactions of *N*-aziridinyl imine compounds forming triquinanes via trimethylenemethane diyls: mechanisms and stereoselectivity

Yan Qiao and Ke-Li Han*

A theoretical study on the mechanism and stereoselectivity of tandem reactions of *N*-aziridinyl imine compounds forming triquinanes via trimethylenemethane diyls.

1232

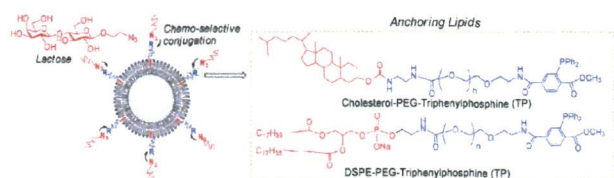


Nickel-catalyzed triarylamine synthesis: synthetic and mechanistic aspects

Xin-Le Li, Wei Wu, Xin-Heng Fan* and Lian-Ming Yang*

Triarylamine was synthesised from nickel-catalyzed amination, and the reaction mechanism of a $\text{Ni}^{\text{I}}\text{-Ni}^{\text{III}}$ cycle is proposed.

1237

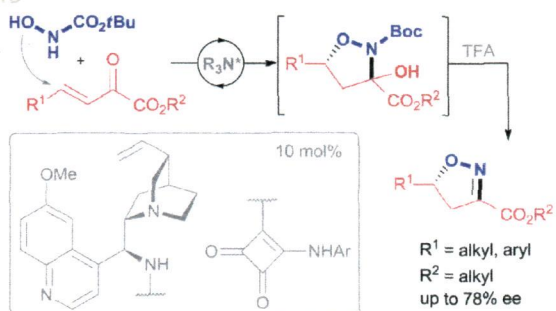


Liposome surface functionalization based on different anchoring lipids via Staudinger ligation

Pratima Vabbilisetty and Xue-Long Sun*

Glyco-functionalized liposome systems based on two kinds of anchoring lipids were prepared and studied for stability, encapsulation and releasing capacity of the liposomes and accessibility of their grafted carbohydrate residues.

1245



Organocatalysed synthesis of isoxazolines initiated by a chemoselective oxa-Michael reaction of *N*-BocNHOH

R. Noël, V. Gembus, V. Levacher and J.-F. Brière*

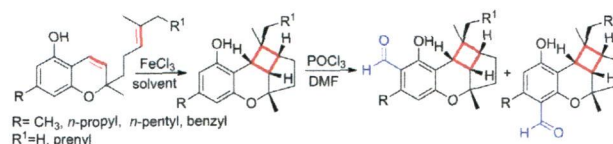
An organocatalysed and chemoselective one-pot oxa-Michael-cyclocondensation reaction of *N*-BocNHOH to unsaturated α -ketoesters is reported which affords an original entry to enantioenriched 3-isoxazoline carboxylate derivatives as biorelevant heterocyclic frameworks.

1250

Efficient and novel one-pot synthesis of polycycles bearing cyclols by FeCl₃-promoted [2 + 2] cycloaddition: application to cannabicyclol, cannabicyclovarin, and ranhuadjuanine A

Xin Li and Yong Rok Lee*

Polycycles bearing a cyclol moiety were synthesized *via* FeCl₃-promoted [2 + 2] cycloaddition reactions, which were further converted into the formylated compounds.

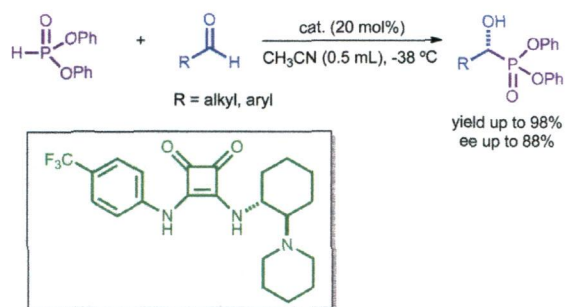


1258

Organocatalytic enantioselective hydrophosphonylation of aldehydes

Juan V. Alegre-Requena, Eugenia Marqués-López, Pablo J. Sanz Miguel and Raquel P. Herrera*

We report our results concerning the first squaramide-catalysed hydrophosphonylation of aldehydes.

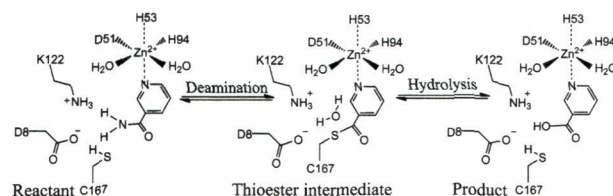


1265

A QM/MM study of the catalytic mechanism of nicotinamidase

Xiang Sheng and Yongjun Liu*

The reaction pathway, the detail of each elementary step, the reaction energetics, and the roles of key residues and the Zn-binding site of nicotinamidase (Pnc1) are illustrated by a QM/MM study.

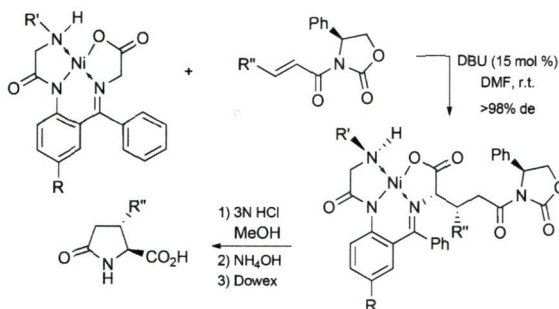


1278

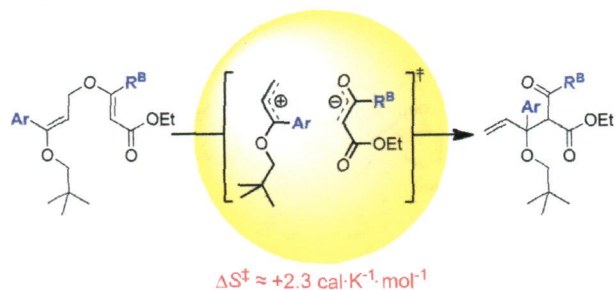
NH-type of chiral Ni(II) complexes of glycine Schiff base: design, structural evaluation, reactivity and synthetic applications

Mackenzie Bergagnini, Kazunobu Fukushi, Jianlin Han, Norio Shibata, Christian Roussel, Trevor K. Ellis, José Luis Aceña and Vadim A. Soloshonok*

Readily available "N–H"-type of Ni(II) complexes derived from glycine undergo highly diastereoselective alkylation and Michael addition reactions, as a convenient method for the synthesis of amino acids.



1292

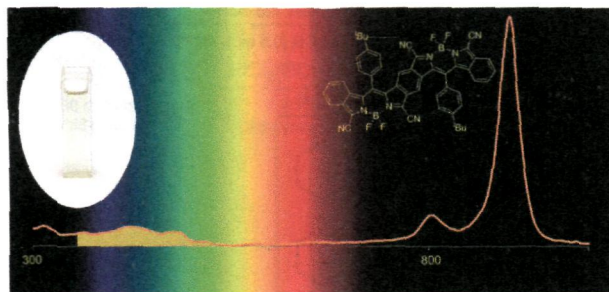


Investigation of quantitative structure–reactivity relationships in the aliphatic Claisen rearrangement of bis-vinyl ethers reveals a dipolar, dissociative mechanism

Natasha F. O'Rourke and Jeremy E. Wulff*

Kinetic investigations of substituent effects in the Claisen rearrangement of bis-vinyl ether substrates suggest a dissociative mechanism of reaction.

1309

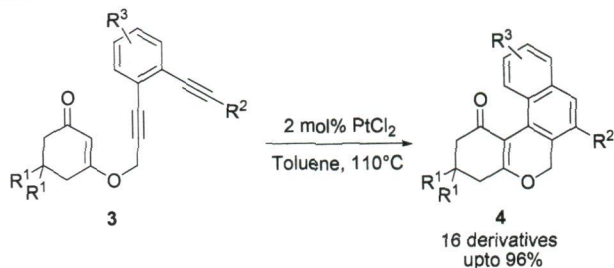


Yellow NIR dye: π -fused bisbenzoBODIPYs with electron-withdrawing groups

Mitsunori Nakamura, Manami Kitatsuka, Kohtaro Takahashi, Toshi Nagata, Shigeki Mori, Daiki Kuzuhara, Tetsuo Okujima, Hiroko Yamada, Takahiro Nakae and Hidemitsu Uno*

Stable benzene-fused bisbenzoBODIPY with four cyano groups is ideal for a NIR-selective dye, which shows strong absorption in the NIR region and good transparency in the visible region.

1318

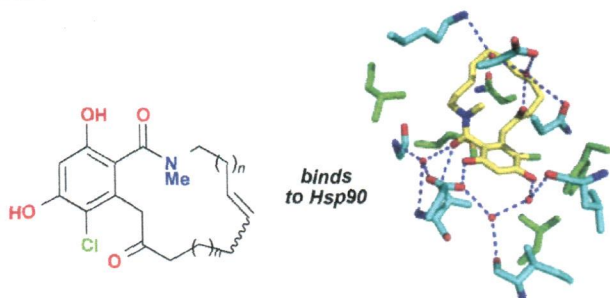


Synthesis of tetracyclic chromenones via platinum(II) chloride catalysed cascade cyclization of enediyne–enones

Mahalingam Sivaraman and Paramasivan T. Perumal*

PtCl₂ catalysed cascade cyclization of an enediyne–enone system to afford naphthalene fused chromenones in good to excellent yield and attempts to synthesize chrysene fused chromenone are reported in this manuscript.

1328



Synthesis of macrolactam analogues of radicicol and their binding to heat shock protein Hsp90

Bridie L. Dutton, Russell R. A. Kitson,* Sarah Parry-Morris, S. Mark Roe, Chrisostomos Prodromou and Christopher J. Moody*

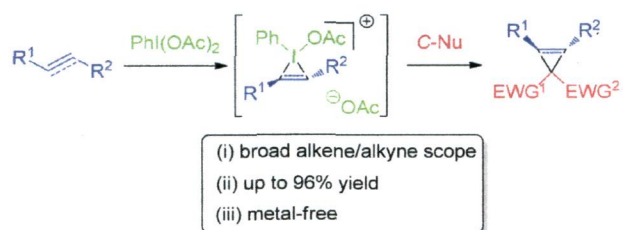
Macrolactam analogues of the natural lactone radicicol bind to Hsp90.

1341

Hypervalent iodine(III)-mediated cyclopropa(e)-nation of alkenes/alkynes under mild conditions

Shaoxia Lin, Mengru Li, Zhiyong Dong, Fushun Liang* and Jingping Zhang*

Iodobenzene diacetate-mediated cyclopropanation and propenation of alkenes and alkynes with active methylene compounds have been developed and plausible mechanisms are proposed.



1351

Synthesis of polysubstituted pyrroles *via* [3 + 2]-annulation of aziridines and β -nitroalkenes under aerobic conditions

Shaoyin Wang, Xiancui Zhu, Zhuo Chai* and Shaowu Wang*

Polysubstituted pyrroles are regioselectively synthesized *via* the copper acetate-catalyzed [3 + 2] annulation reaction of aziridines and nitroalkenes under aerobic conditions.

