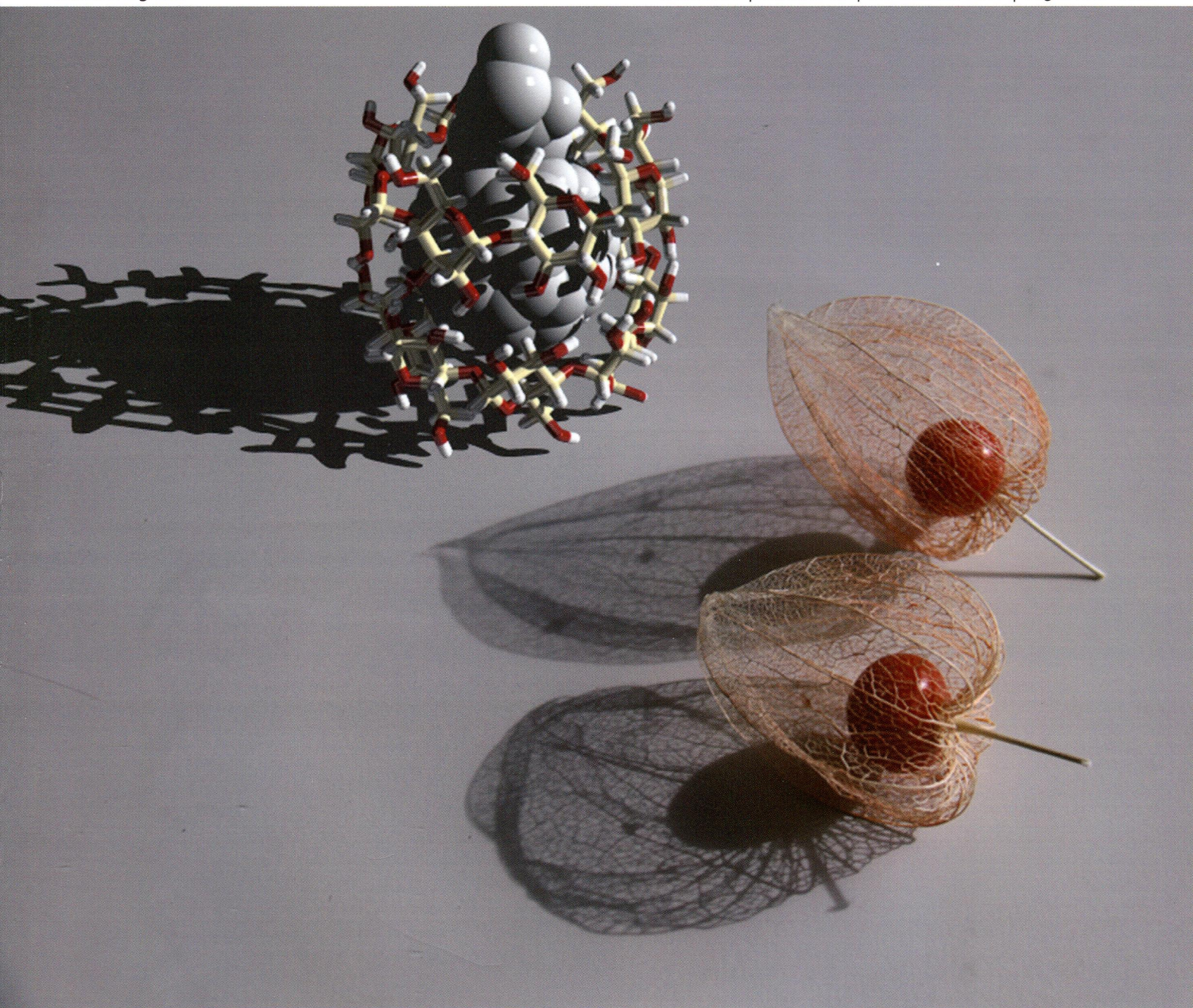


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# Organic & Biomolecular Chemistry

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**PAPER**

Atsushi Ikeda *et al.*

Effect of different substituents on the water-solubility and stability properties of 1:2 [60]fullerene derivative- $\gamma$ -cyclodextrin complexes



1477-0520 (2013) 11:45;1-2



# Organic & Biomolecular Chemistry

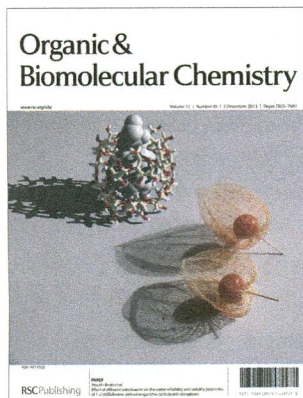
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## IN THIS ISSUE

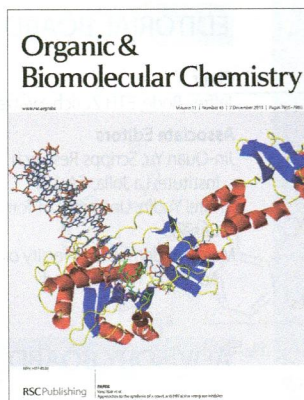
ISSN 1477-0520 CODEN OBCRAK 11(45) 7805–7980 (2013)



### Cover

See Atsushi Ikeda *et al.*, pp. 7843–7851.

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### Inside cover

See Vasu Nair *et al.*, pp. 7852–7858.

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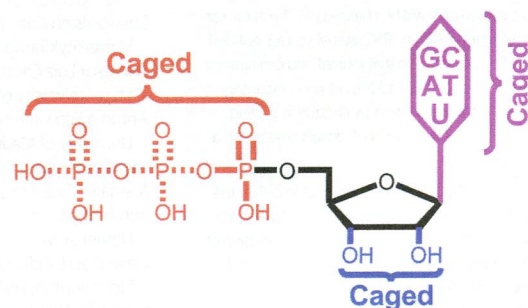
## REVIEW

7814

### Caged nucleotides/nucleosides and their photochemical biology

Xinjing Tang,\* Jinhao Zhang, Jingjing Sun, Yuan Wang, Junzhou Wu and Lihe Zhang

Photolabile nucleotides are important tools for studying many biological events and useful reagents for next-generation sequencing and labeling.



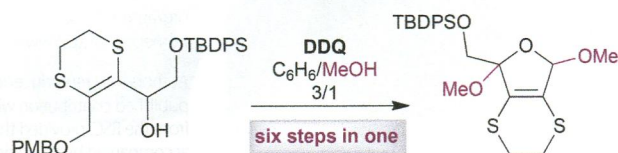
## COMMUNICATIONS

7825

### Sulfur-assisted domino access to bicyclic dihydrofurans: case study and early synthetic applications

Concetta Paoella, Daniele D'Alonzo,\* Giovanni Palumbo and Annalisa Guaragna\*

A DDQ-mediated domino reaction (up to six steps in a single process) has been developed to selectively provide substituted dihydrofurans from a common starting material containing a cyclic bis-thioenol ether.



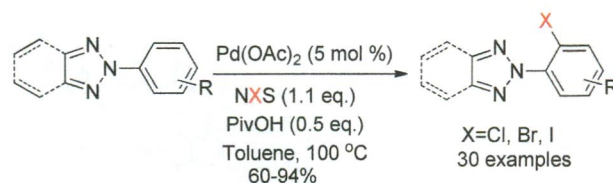
Федеральное государственное бюджетное учреждение науки  
Центральная научная библиотека  
Уральского отделения  
Российской академии наук (ЦНБ УрО РАН)



7830

**Regioselective halogenation of 2-substituted-1,2,3-triazoles via  $sp^2$  C–H activation**

Qingshan Tian, Xianmin Chen, Wei Liu, Zechao Wang, Suping Shi and Chunxiang Kuang\*

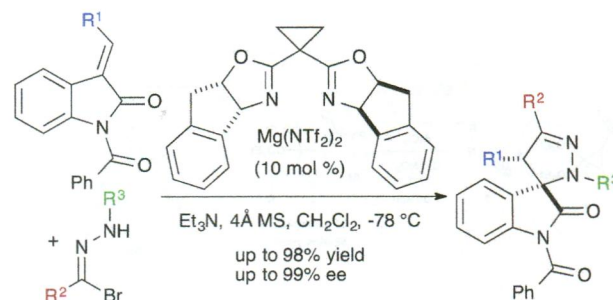
A highly regioselective halogenation of 2-substituted-1,2,3-triazoles was developed via  $sp^2$  C–H activation.

7834

**Catalytic, enantioselective 1,3-dipolar cycloadditions of nitrile imines with methyleneindolinones**

Anthony L. Gerten, Michael C. Slade, Kelsie M. Pugh and Levi M. Stanley\*

Catalytic, enantioselective 1,3-dipolar cycloadditions of nitrile imines with methyleneindolinones are reported to form spiro[pyrazolin-3,3'-oxindoles] in good yields with high enantioselectivity.

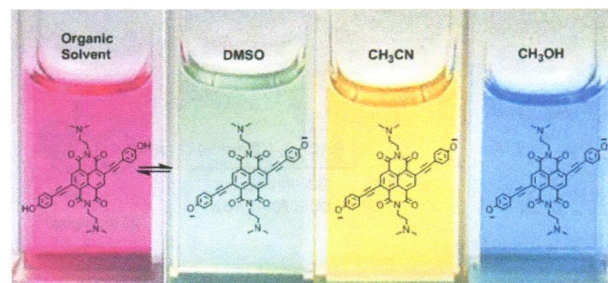


7838

**Hydrosoluble and solvatochromic naphthalene diimides with NIR absorption**

Filippo Doria,\* Caroline Marie Gallati and Mauro Freccero\*

Conjugated naphthalene diimides have been synthesized as probes for micro-polarity and proticity. NIR absorption and solvatochromic properties are described.

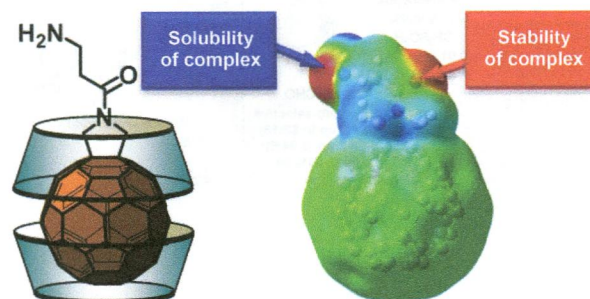


## PAPERS

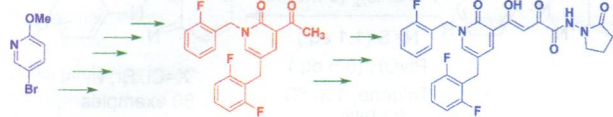
7843

**Effect of different substituents on the water-solubility and stability properties of 1 : 2 [60]fullerene derivative-gamma-cyclodextrin complexes**

Atsushi Ikeda,\* Akiko Hirata, Michiko Ishikawa, Jun-ichi Kikuchi, Shunsuke Mieda and Wataru Shinoda

The solubilities and stabilities of the  $\gamma$ -CDx-complexes of  $\text{C}_{60}$  derivatives are affected by the hydrophobicity of the terminal group and the polarity of the substituent group in the vicinity of the upper rim of the  $\gamma$ -CDx, respectively.

7852

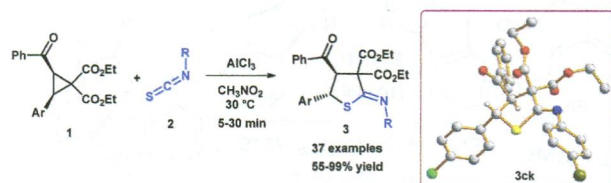


### Approaches to the synthesis of a novel, anti-HIV active integrase inhibitor

Maurice Okello, Malik Nishonov, Pankaj Singh, Sanjay Mishra, Naveen Mangu, Byung Seo, Machindra Gund and Vasu Nair\*

Efficient methodologies for the synthesis of a novel, multifunctional compound with potent antiviral activity.

7859

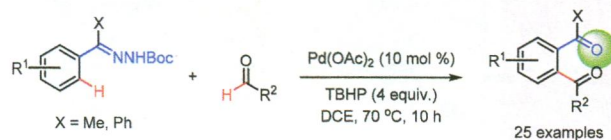


### AlCl<sub>3</sub>-promoted [3 + 2] annulation of *cis*-2,3-disubstituted cyclopropane 1,1-diester with isothiocyanates: stereoselective synthesis of densely substituted 2-iminodihydrothiophenes

Yongxian Sun, Gaosheng Yang,\* Zhuo Chai,\* Xiaolong Mu and Jun Chai

AlCl<sub>3</sub>-promoted [3 + 2]-annulations of *cis*-2,3-disubstituted cyclopropane 1,1-diester with isothiocyanates were realized to provide various densely substituted 2-iminodihydrothiophenes.

7869

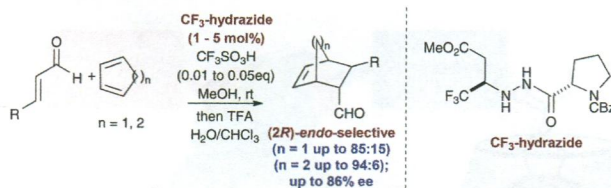


### Pd(II)-catalyzed direct C–H acylation of *N*-Boc hydrazones with aldehydes: one-pot synthesis of 1,2-diacylbenzenes

Satyasheel Sharma, Aejin Kim, Jihye Park, Mirim Kim, Jong Hwan Kwak, Young Hoon Jung, Jung Su Park\* and In Su Kim\*

A palladium(II)-catalyzed direct acylation of acetophenone *N*-Boc hydrazones with aldehydes *via* C–H bond activation is described.

7877



### The development of highly active acyclic chiral hydrazides for asymmetric iminium ion organocatalysis

Eoin Gould, Tomas Lebl, Alexandra M. Z. Slawin, Mark Reid, Tony Davies and Andrew D. Smith\*

A hydrazone catalyst, derived from methanolysis of a chiral pyrazolidinone precursor, displays preferential *endo* diastereoselectivity and good enantioselectivity in asymmetric iminium ion promoted Diels–Alder reactions at catalyst loadings as low as 1 mol%.

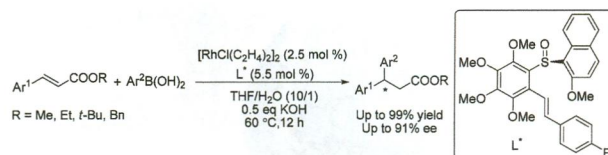


7893

### Chiral olefin–sulfoxide as ligands for rhodium-catalyzed asymmetric conjugate addition of arylboronic acids to unsaturated esters

Feng Xue, Dongping Wang, Xincheng Li and Boshun Wan\*

An efficient rhodium/olefin–sulfoxide catalyzed asymmetric conjugate addition of organoboronic acids to various unsaturated esters has been developed. The corresponding products were obtained with up to 99% yield and 91% ee.

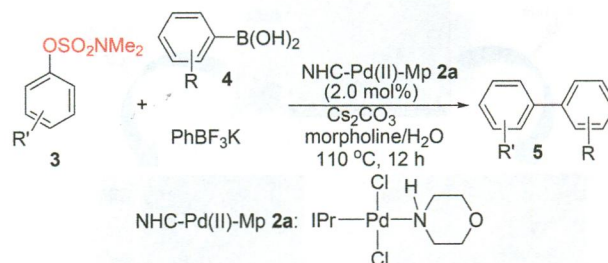


7899

### Palladium-catalyzed Suzuki–Miyaura coupling of aryl sulfamates with arylboronic acids

Zhan-Yong Wang, Qin-Na Ma, Ren-Hao Li and Li-Xiong Shao\*

Readily available NHC–Pd(II)–Mp complexes **2** showed efficient catalytic activity toward the Suzuki–Miyaura coupling of aryl sulfamates with arylboronic acids or potassium phenyltrifluoroborate, giving the expected coupling products in good to high yields.

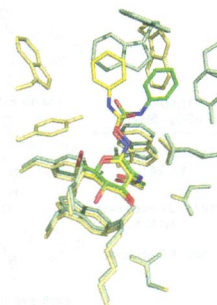


7907

### Inhibition of the family 20 glycoside hydrolase catalytic modules in the *Streptococcus pneumoniae* *exo*- $\beta$ -D-*N*-acetylglucosaminidase, StrH

Benjamin Pluvinage, Keith A. Stubbs, Mitchell Hattie, David J. Vocadlo and Alisdair B. Boraston\*

Understanding the molecular basis of how PUGNAC inhibits the *S. pneumoniae* *exo*- $\beta$ -D-*N*-acetylglucosaminidase, StrH.

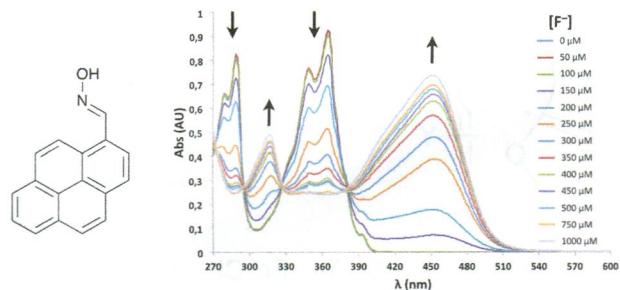


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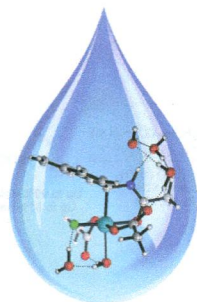
### Efficient colorimetric and fluorescent detection of fluoride in DMSO–water mixtures with arylaloximes

Christian B. Rosen, Dennis J. Hansen and Kurt V. Gothelf\*

Simple arylaloximes have been revealed to be efficient sensors for fluoride.



7923

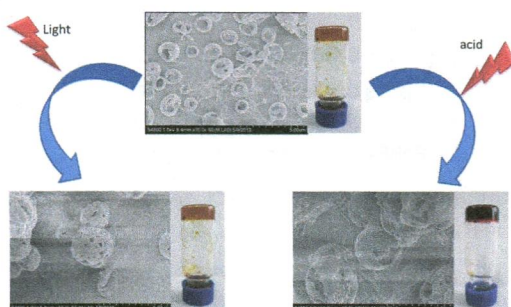


### Investigation on the mechanism of water-assisted palladium-catalyzed benzylic C–H amination by *N*-fluorobenzenesulfonimide

Yiying Zheng, Tao Xiong, Yunhe Lv, Jingping Zhang\* and Qian Zhang\*

Water plays a crucial role in the title reaction by stabilizing Pd<sup>IV</sup>-species. A novel *spiro*-cyclopalladation intermediate was investigated.

7931

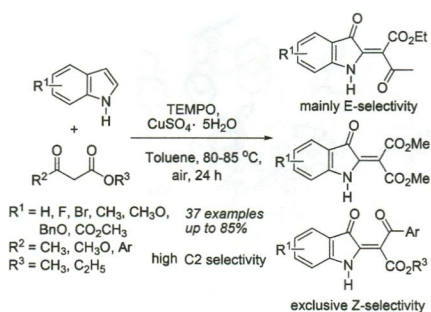


### Light and acid dual-responsive organogel formation based on *m*-methyl red derivative

Xinhua Cao,\* Aiping Gao, Haiting Lv, Yan Wu, Xiuxiu Wang and Yang Fan\*

Colour and morphology were changed using light or acid stimulation in a *m*-methyl red derivative organogel.

7938

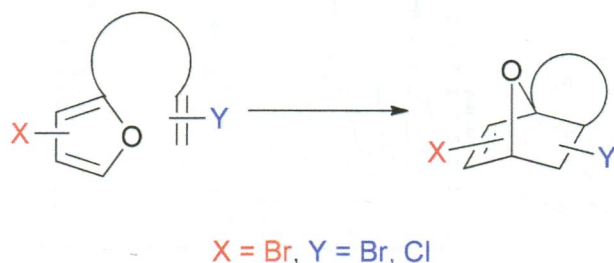


### Cu(II)-catalyzed highly regio- and stereoselective construction of C–C double bonds: an efficient method for the ketonization–olefination of indoles

Yun-Hong Bao, Jia-Yi Zhu, Wen-Bing Qin, Yu-Bo Kong, Zheng-Wang Chen, Shao-Bin Tang and Liang-Xian Liu\*

A general and efficient method for the cross-coupling of indoles with  $\beta$ -keto esters by using TEMPO/CuSO<sub>4</sub>·5H<sub>2</sub>O in air as oxidant has been developed.

7946



### Halogenation effects in intramolecular furan Diels–Alder reactions: broad scope synthetic and computational studies

Robert L. Rae, Justyna M. Żurek, Martin J. Paterson\* and Magnus W. P. Bebbington\*

Halogenation of intramolecular furan Diels–Alder cycloaddition substrates allows enhanced understanding of the fundamental parameters controlling this important process.

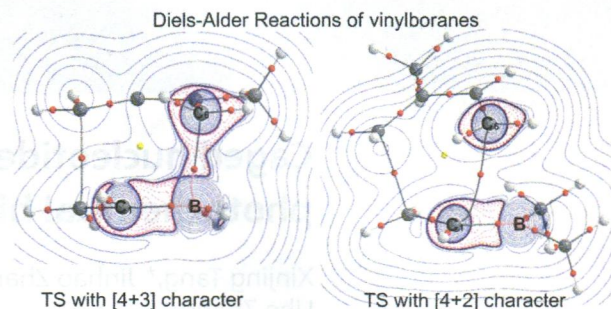


7953

### [4 + 3] and [4 + 2] mechanisms of the Diels–Alder reactions of vinylboranes: an analysis of the electron charge density distribution

Margarita M. Vallejos,\* Nélica M. Peruchena and Silvana C. Pellegrinet\*

The Diels–Alder (DA) reactions of isoprene with vinylborane, dimethylvinylborane and dichlorovinylborane have been studied using the density functional theory and the quantum theory of atoms in molecules.



7966

### Palladium-catalyzed tandem N–H/C–H arylation: regioselective synthesis of *N*-heterocycle-fused phenanthridines as versatile blue-emitting luminophores

Lipeng Yan, Dongbing Zhao, Jingbo Lan,\* Yangyang Cheng, Qiang Guo, Xiaoyu Li, Ningjie Wu and Jingsong You\*

Varieties of blue-emitting *N*-heterocycle-fused phenanthridines have been obtained via the regioselective tandem N–H/C–H arylation reaction.

