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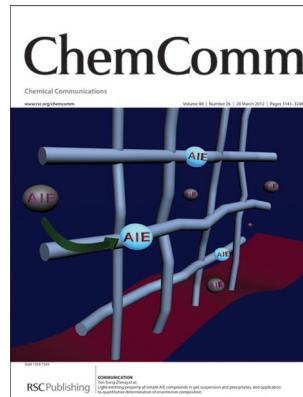
IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 48(26) 3141–3248 (2012)



Cover

See Ding Ma *et al.*,
 pp. 3155–3157.
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Inside cover

See Yan-Song Zheng *et al.*,
 pp. 3176–3178.
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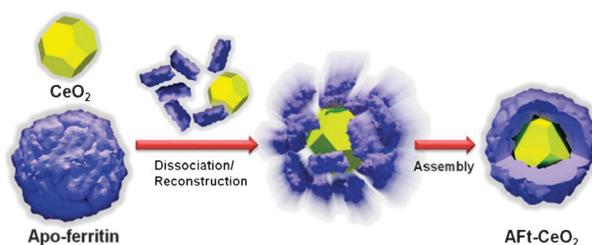
COMMUNICATIONS

3155

Apo ferritin–CeO₂ nano-truffle that has excellent artificial redox enzyme activity

Xiangyou Liu, Wei Wei, Quan Yuan, Xin Zhang, Ning Li, Yuguang Du, Guanghui Ma, Chunhua Yan and Ding Ma*

We have demonstrated a strategy to construct a novel nano-complex (Aft–CeO₂) that has proven to be by far the most active artificial redox enzyme with mimetic SOD activity.

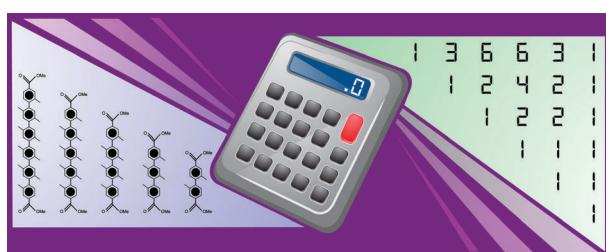


3158

Giving substance to the Losanitsch series

Sergio Grunder and J. Fraser Stoddart*

A series of oligoparaxylenes with multiple axes of chirality was synthesized and their atropisomers were found by variable temperature ¹H NMR spectroscopy to obey the Losanitsch series.



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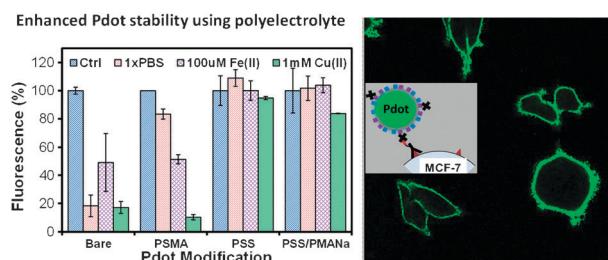
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COMMUNICATIONS

3161

Generation of functionalized and robust semiconducting polymer dots with polyelectrolytesYuhui Jin, Fangmao Ye, Changfeng Wu,
Yang-Hsiang Chan and Daniel T. Chiu*

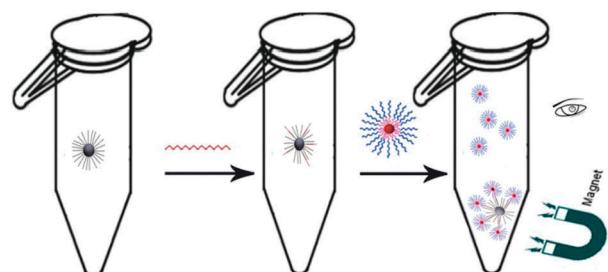
We describe a method to functionalize semiconducting polymer dots (Pdots) with polyelectrolytes, which improve the stability of Pdots in solutions of high ionic strength or which contain bivalent metal ions.



3164

Simple, rapid, homogeneous oligonucleotides colorimetric detection based on non-aggregated gold nanoparticlesYizhen Liu, Zitong Wu, Guohua Zhou, Zhike He,
Xiaodong Zhou, Aiguo Shen and Jiming Hu*

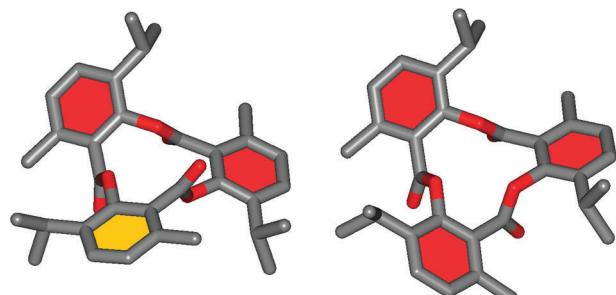
A non-aggregated gold nanoparticles based colorimetry that looks at the other side of the coin.



3167

The dynamic chromatographic behavior of tri-*o*-thymotide on HPLC chiral stationary phasesStefano Levi Mortera, Rocchino Sabia, Marco Pierini,
Francesco Gasparrini and Claudio Villani*

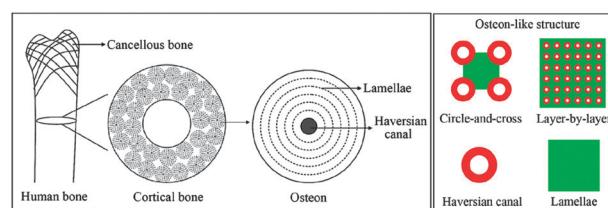
The interconverting stereoisomers of tri-*o*-thymotide have been separated by HPLC on chiral stationary phases and the dynamic chromatographic patterns interpreted in terms of exchange between enantiomeric helical and propeller conformations.



3170

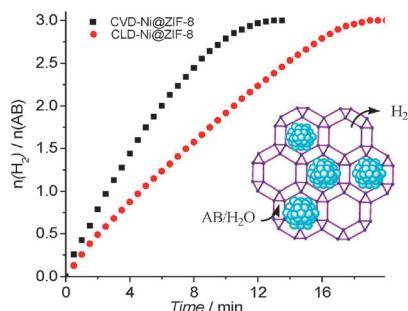
Bottom-up approach to build osteon-like structure by cell-laden photocrosslinkable hydrogelYicong Zuo, Wenqian Xiao, Xiaoqin Chen, Yajun Tang,
Hongrong Luo and Hongsong Fan*

Based on photocrosslinkable PEGDMA and GelMA hydrogels, two “bottom-up” approaches (“circle-and-cross” and “layer-by-layer”) were successfully developed to construct osteon-like structures with microchannel networks.



COMMUNICATIONS

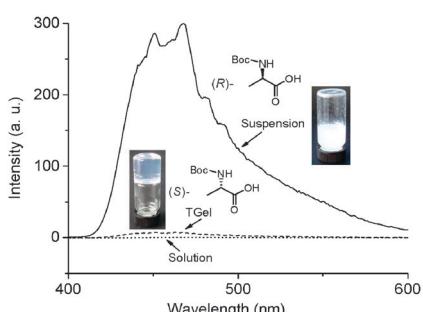
3173

**ZIF-8 immobilized nickel nanoparticles: highly effective catalysts for hydrogen generation from hydrolysis of ammonia borane**

Pei-Zhou Li, Kengo Aranishi and Qiang Xu*

Highly dispersed Ni nanoparticles have been immobilized by ZIF-8, which show high catalytic activity and long durability for hydrogen generation from hydrolysis of aqueous ammonia borane at room temperature.

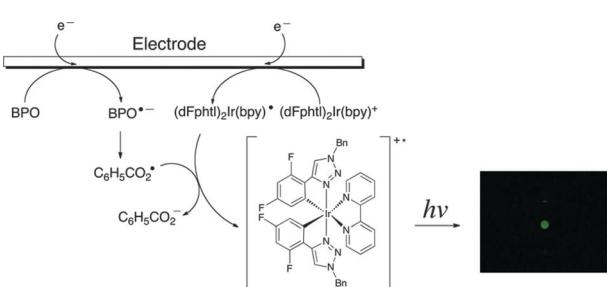
3176

**Light-emitting property of simple AIE compounds in gel, suspension and precipitates, and application to quantitative determination of enantiomer composition**

Dong-Mi Li, Huan Wang and Yan-Song Zheng*

It was found that simple AIE compounds could emit different intensity of fluorescence in gel, suspension and precipitates for the first time, which could be applied to fluorescence switches and quantitative determination of enantiomer composition.

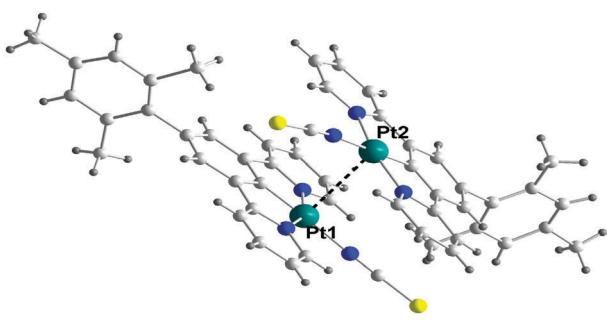
3179

**Bright electrochemiluminescence of iridium(III) complexes**

Kalen N. Swanick, Sébastien Ladouceur, Eli Zysman-Colman* and Zhifeng Ding*

Bright electrochemiluminescence of four iridium(III) complexes containing aryltriazole ligands is reported in both annihilation and coreactant paths.

3182

**From red to near infra-red OLEDs: the remarkable effect of changing from X = -Cl to -NCS in a cyclometallated [Pt(N^C^N)X] complex {N^C^N = 5-mesityl-1,3-di-(2-pyridyl)benzene}**

Ester Rossi, Alessia Colombo, Claudia Dragonetti, Dominique Roberto,* Francesco Demartin, Massimo Cocchi,* Pierpaolo Brulatti, Valeria Fattori and J. A. Gareth Williams*

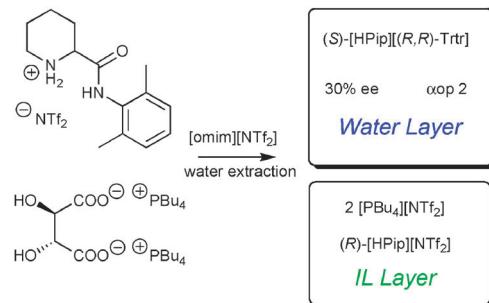
[PtL⁶NCS] generates OLEDs that emit squarely in the challenging NIR region ($\lambda_{\text{max}} = 855 \text{ nm}$) due to short Pt...Pt interactions.

COMMUNICATIONS

3185

Synthesis of chiral ionic liquids by ion cross-metathesis: en route to enantioselective water–ionic liquid extraction (EWILE), an eco-friendly variant of the ELLE process

Viacheslav Zgonnik, Chantal Zedde, Yves Génisson, Marie-Rose Mazières and Jean-Christophe Plaquevent*

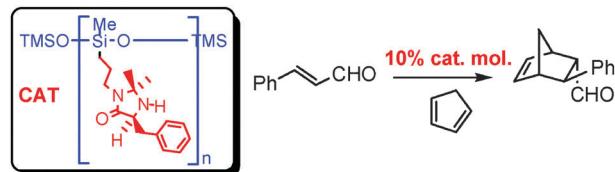
From two initial ILs two other ILs are obtained by simultaneous ion exchange giving access to an eco-friendly *ELLE* process.

3188

Poly(methylhydrosiloxane)-supported chiral imidazolinones: new versatile, highly efficient and recyclable organocatalysts for stereoselective Diels–Alder cycloaddition reactions

Stefania Guizzetti, Maurizio Benaglia* and Jay S. Siegel*

New, recyclable PMHS-supported chiral imidazolinones promoted the Diels–Alder reaction of dienes with unsaturated aldehydes (up to 93% ee).

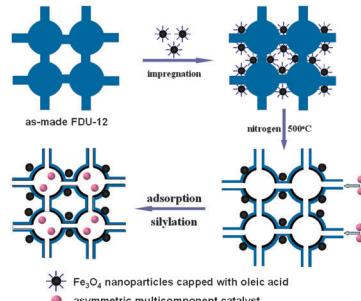


3191

Enantioselective carbonyl–ene reaction on BINOLate/titanium catalyst encapsulated in magnetic nanoreactors

Xiao Liu, Shiyang Bai, Yan Yang, Bo Li, Bing Xiao, Can Li and Qihua Yang*

An asymmetric multicomponent catalyst encapsulated in the magnetic nanoreactor exhibits higher activity than the homogeneous counterpart, owing to the confinement effect.

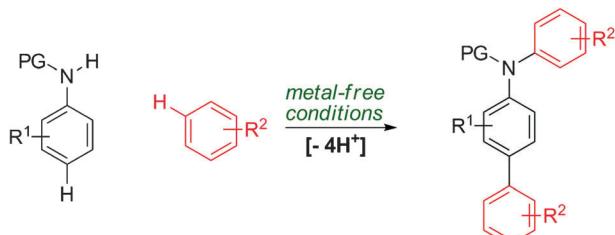


3194

Metal-free direct oxidative intermolecular diarylation of anilides at ambient temperature assisted by cascade selective formation of C–C and C–N bonds

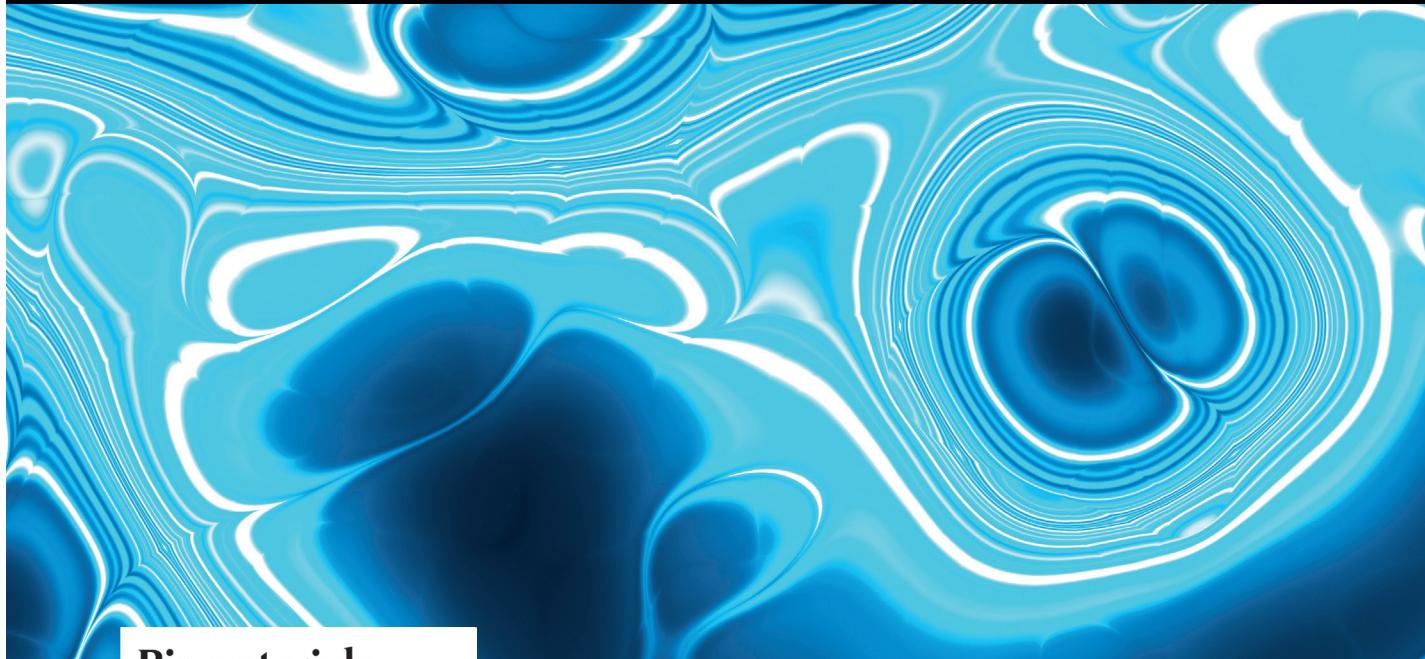
Rajarshi Samanta, Jonas Lategahn and Andrey P. Antonchick*

A new mild and environmentally benign arylation of aniline derivatives mediated by hypervalent iodine is described.



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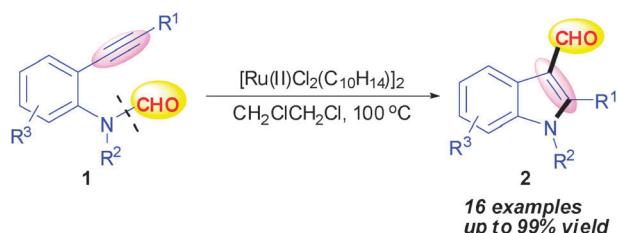
COMMUNICATIONS

3197

Ruthenium-catalyzed annulation of alkynes with amides via formyl translocation

Cui-Yan Wu, Ming Hu, Yu Liu, Ren-Jie Song, Yong Lei, Bo-Xiao Tang, Rong-Jiang Li and Jin-Heng Li*

The first example of Ru-catalyzed intramolecular annulation of alkynes with amides *via* formyl translocation is presented.

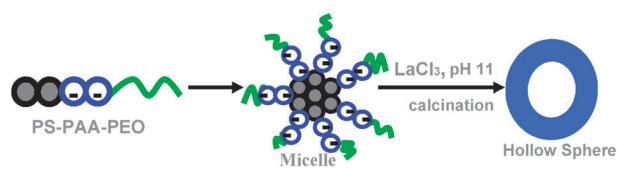


3200

La₂O₃ hollow nanospheres for high performance lithium-ion rechargeable batteries

Manickam Sasidharan, Nanda Gunawardhana,
Masamichi Inoue, Shin-ichi Yusa, Masaki Yoshio and
Kenichi Nakashima

Novel La₂O₃ hollow nanospheres of size about 30 nm exhibit high charge capacity and cycling performance in lithium-ion rechargeable batteries, which was investigated for the first time.

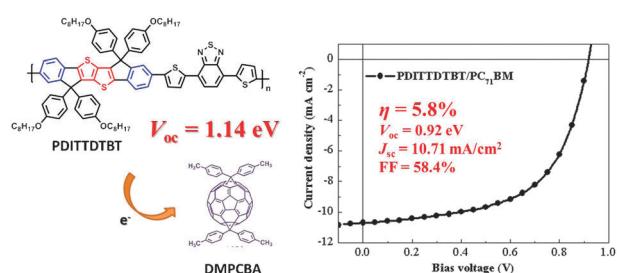


3203

Diindenothieno[2,3-*b*]thiophene arene for efficient organic photovoltaics with an extra high open-circuit voltage of 1.14 eV

Yen-Ju Cheng,* Sheng-Wen Cheng, Chih-Yu Chang,
Wei-?Shun Kao, Ming-Hung Liao and Chain-Shu Hsu*

A new diindenothieno[2,3-*d*]thiophene-based donor–acceptor copolymer **PDITTDTB**T was developed to achieve a high PCE of 5.8% with an extra high V_{oc} .

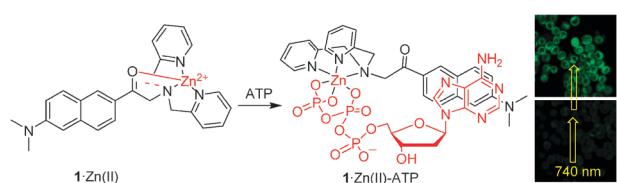


3206

A turn-on two-photon fluorescent probe for ATP and ADP

Alla Sreenivasa Rao, Dokyoung Kim, Hyoseok Nam,
Hunho Jo, Ki Hean Kim,* Changill Ban* and
Kyo Han Ahn*

A novel two-photon fluorescent probe for ATP is developed for the first time, which is used for imaging ATP in live cells.



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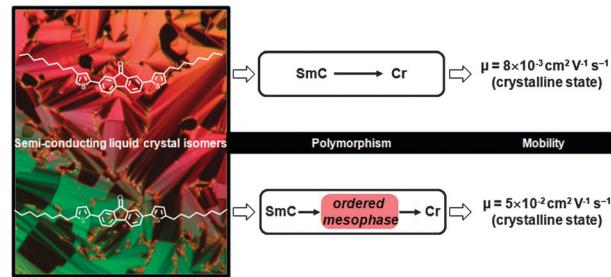
COMMUNICATIONS

3209

Influence of polymorphism on charge transport properties in isomers of fluorenone-based liquid crystalline semiconductors

Frédéric Lincker, André-Jean Attias, Fabrice Mathevet,* Benoît Heinrich, Bertrand Donnio,* Jean-Louis Fave, Patrice Rannou and Renaud Demadrille*

The role of isomerism in charge transport properties of fluorenone-based mesomorphic organic semiconductors is investigated.

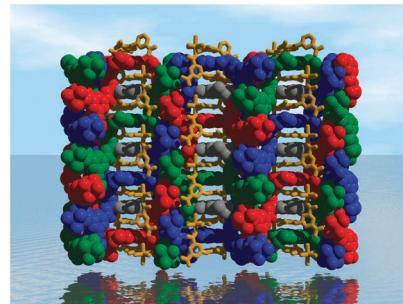


3212

A new type of entangled coordination network: coexistence of polythreading and polyknotting involved molecular braids

Zhi-Guo Gu,* Xin-Xin Xu, Wen Zhou, Chun-Yan Pang, Fei-Fei Bao and Zaijun Li

A fascinating polythreaded coordination network formed by 1D crankshaft shaped chains threading into a 2D undulated sheet in a one-over/one-under interweaving fashion was reported, in which the 2D layer exhibits an unusual polyknotted entanglement containing triple-stranded molecular braids.

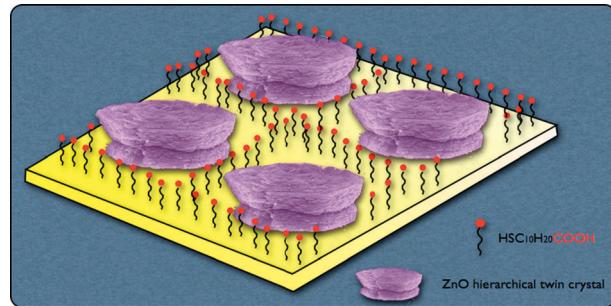


3215

Biomimetic ZnO plate twin-crystals periodical arrays

Yao-Hung Tseng, Ming-Han Liu, Yu-Wei Kuo, Peilin Chen, Chiang-Ting Chen, Yang-Fang Chen and Chung-Yuan Mou*

Inspired by biomimetic crystallization, ZnO hierarchical twin crystals were periodically grown on a patterned substrate surface through a soft solution process.

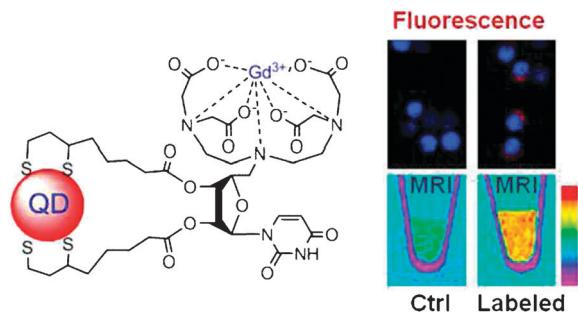


3218

A DTTA-ligated uridine–quantum dot conjugate as a bimodal contrast agent for cellular imaging

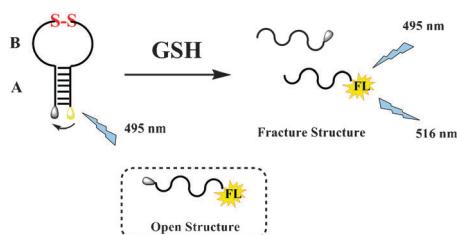
Junwon Park, Sankarprasad Bhuniya, Hyunseung Lee, Young-Wook Noh, Yong Taik Lim, Jong Hwa Jung, Kwan Soo Hong* and Jong Seung Kim*

A uridine–quantum dot conjugate, a multimodal imaging agent was synthesized with high T_1 relaxivity. This bimodal (MR/FR) nanoprobe used as cellular labeling of phagocytic cell.



COMMUNICATIONS

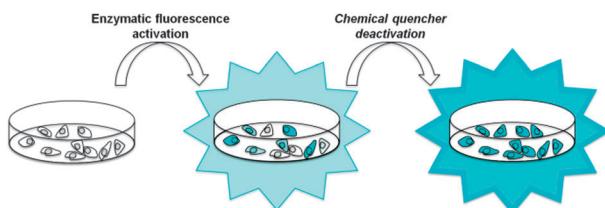
3221

**A disulfide bound-molecular beacon as a fluorescent probe for the detection of reduced glutathione and its application in cells**

Yingshu Guo,* Hao Wang, Yuanshun Sun and Bin Qu

A disulfide-bound molecular beacon (MB) was reported to respond sensitively to changing levels of glutathione *in vitro*.

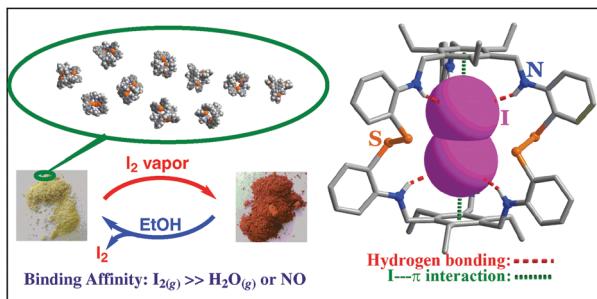
3224

**A FRET-based probe with a chemically deactivatable quencher**

Geoffray Leriche, Ghyslain Budin, Zeinab Darwich, Denis Weltin, Yves Mély, Andrey S. Klymchenko and Alain Wagner*

A new concept of a chemically deactivatable quencher is proposed for a FRET-based probe that turns-on its fluorescence by either an enzymatic cleavage or a chemical reagent (sodium dithionite).

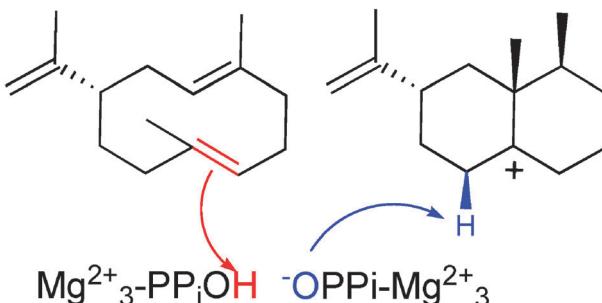
3227

**Selective capture of volatile iodine using amorphous molecular organic solids**

Pin-Shen Huang, Chih-Hong Kuo, Chang-Chih Hsieh and Yih-Chern Horng*

Small intrinsic cavities within amorphous shape-persistent organic cages can enable molecular recognition of gases.

3230

**The role of aristolochene synthase in diphosphate activation**

Juan A. Faraldo, Veronica Gonzalez and Rudolf K. Allmann*

Farnesyl diphosphate is the likely source of the active site acid/base during catalysis by aristolochene synthase from *Penicillium roqueforti*.

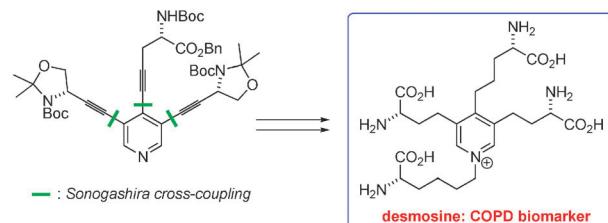
COMMUNICATIONS

3233

Total synthesis of COPD biomarker desmosine that crosslinks elastin

Toyonobu Usuki,* Haruka Yamada, Takahiro Hayashi, Hiroto Yanuma, Yohei Koseki, Noriyuki Suzuki, Yoshiro Masuyama and Yong Y. Lin

The first total synthesis of COPD biomarker (+)-desmosine, a crosslinking amino acid of elastin, was achieved utilizing stepwise and regioselective Sonogashira cross-coupling reactions.

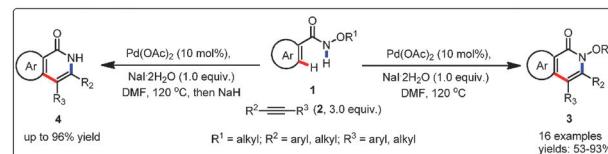


3236

Pd-catalysed synthesis of isoquinolinones and analogues via C–H and N–H bonds double activation

Hongban Zhong, Dan Yang, Songqing Wang and Jianhui Huang*

An atom economical synthesis of isoquinolinones and analogues *via* Pd-catalysed C–H and N–H double activations was developed. A series of isoquinolinones were obtained in good to excellent yields. Good regioselectivities were also observed during the activation reactions with unsymmetrical alkynes.

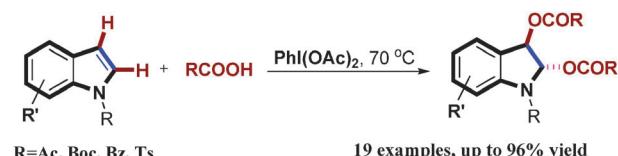


3239

A *trans* diacyloxylation of indoles

Qiang Liu, Qing Yong Zhao, Jie Liu, Pan Wu, Hong Yi and Aiwen Lei*

Trans diacyloxylation of indoles was achieved.

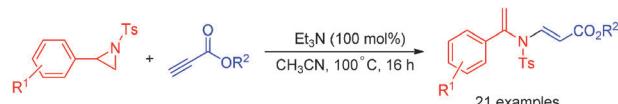


3242

Et₃N-promoted tandem ring-opening reaction of *N*-tosylaziridines with terminal alkynoates: a straightforward synthesis of functionalized enamines

Ling-Guo Meng and Lei Wang*

A tandem ring-opening reaction of *N*-tosylaziridines with terminal alkynoates promoted by triethylamine to generate functionalized enamines was developed.



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