

# ChemComm

Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(76) 11287-11444 (2023)



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### Inside cover

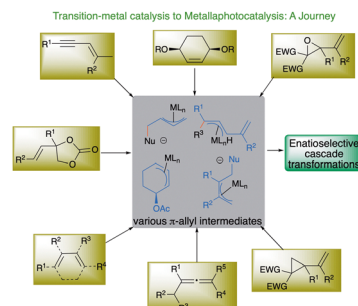
See Alex J. Plajer *et al.*, pp. 11353–11356. Image reproduced by permission of Alex J. Plajer from *Chem. Commun.*, 2023, 59, 11353.

## HIGHLIGHT

11298

### Asymmetric cascades of the $\pi$ -allyl complex: a journey from transition-metal catalysis to metallaphotocatalysis

Santosh Kumar Nanda\*

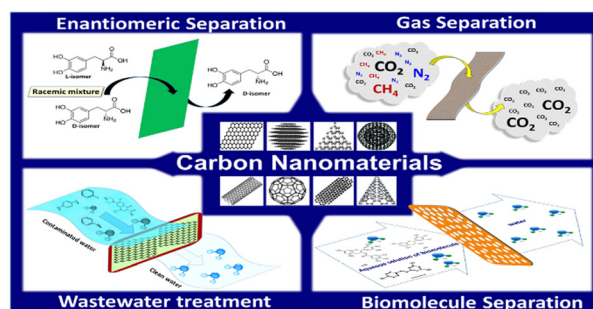


## FEATURE ARTICLES

11320

### Carbon nanomaterials for designing next-generation membranes and their emerging applications

Prarthana Bora, Chinmoy Bhuyan, Akhil Ranjan Borah and Swapnali Hazarika\*



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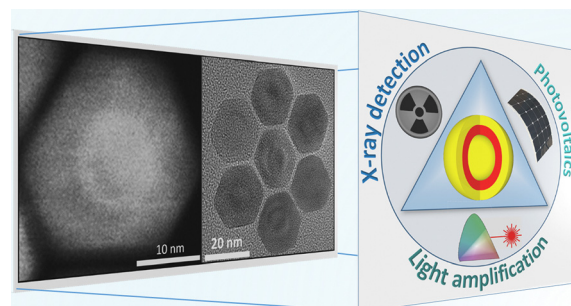


## FEATURE ARTICLES

11337

**Quantum shells *versus* quantum dots: suppressing Auger recombination in colloidal semiconductors**

Jacob Beavon, Jiamin Huang, Dulanjan Harankahage, Michael Montemurri, James Cassidy and Mikhail Zamkov\*

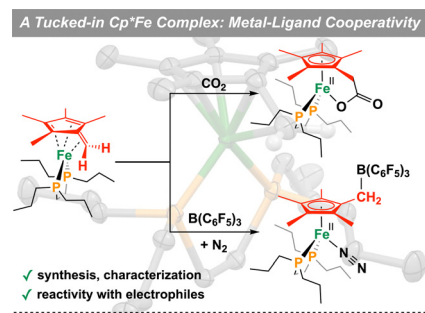


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11349

**Cooperative bond activations by a tucked-in iron complex**

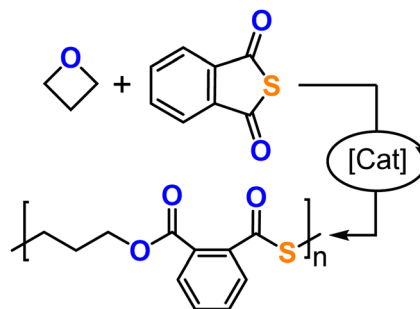
Joseph A. Zurakowski and Marcus W. Drover\*



11353

**Precise construction of weather-sensitive poly(ester-*alt*-thioesters) from phthalic thioanhydride and oxetane**

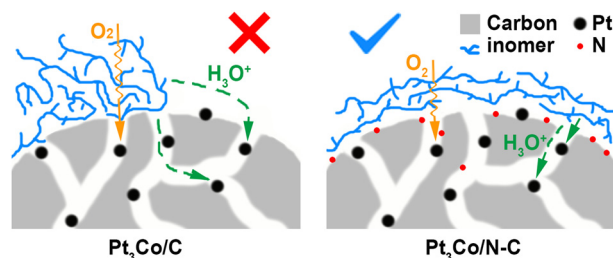
Christoph Fornacon-Wood, Merlin R. Stühler, Cesare Gallizioli, Bhargav R. Manjunatha, Volker Wachtendorf, Bernhard Schartel and Alex J. Plajer\*



11357

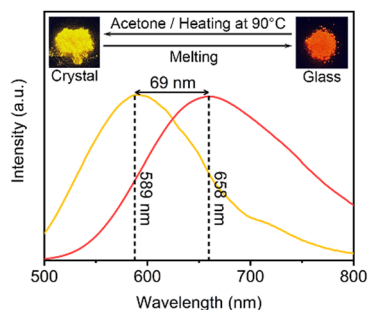
**Tailoring ionomer distribution in the catalyst layer *via* heteroatom-functionalization toward superior PEMFC performance**

Dianding Sun, Zhong Zhao, Meng Jin\* and Haimin Zhang\*



## COMMUNICATIONS

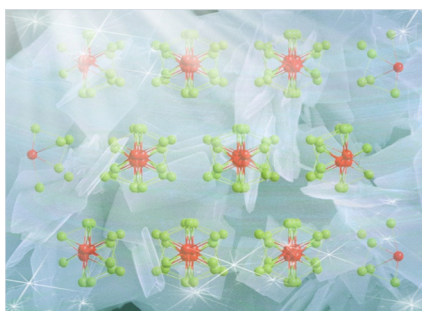
11361



### Crystal-glass phase transition enabling reversible fluorescence switching in zero-dimensional antimony halides

Meijuan Yin, Bohan Li, Zishuo Yi, Yuchi Zhang, Zhiguo Xia\* and Yan Xu\*

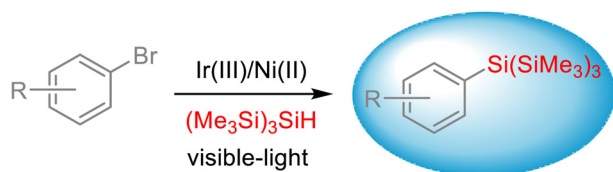
11365



### Controllable fabrication of vanadium selenium nanosheets for a high-performance Na-ion battery anode

Lin Liu, Shitan Xu, Fang Tang, Meng Wu, Wenjing Yang, Chen Xu\* and Xianhong Rui\*

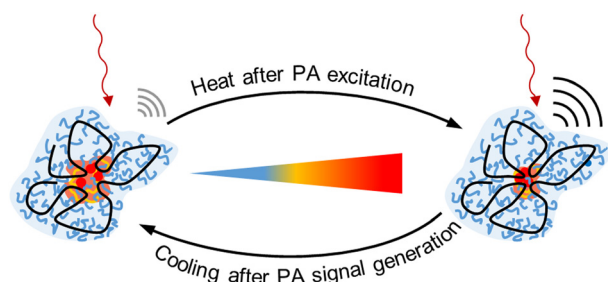
11369



### Dual photoredox nickel-catalyzed silylation of aryl/heteroaryl bromides using hydrosilanes

Shuai Liu, Frédéric Robert and Yannick Landais\*

11373



### Thermoresponsive swelling of photoacoustic single-chain nanoparticles

Justus F. Thümmeler, Ramesh Maragani, Franz-Josef Schmitt, Guo Tang, Samira Mahmoudi Rahmanlou, Jan Laufer, Henrike Lucas, Karsten Mäder and Wolfgang H. Binder\*

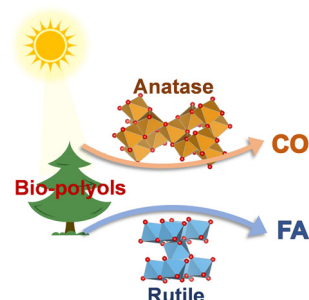


## COMMUNICATIONS

11377

Phase-dependent selectivity control over  $\text{TiO}_2$  in the photocatalytic oxidation of bio-polyols

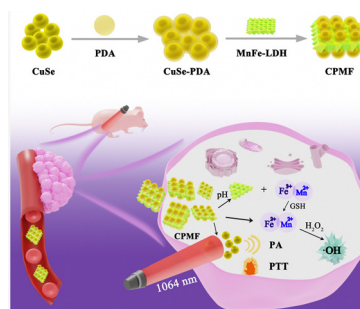
Fuao Jia, Hongru Zhou and Min Wang\*



11381

## NIR-II photoacoustic imaging-guided synergistic cancer therapy with a tumor-targeting copper selenide-iron manganese layered double hydroxide nanocomplex

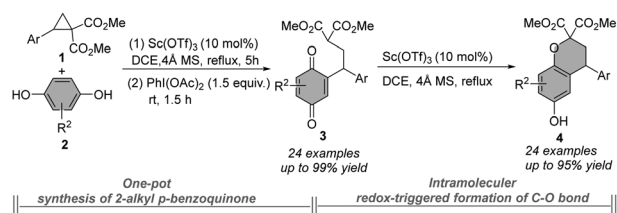
Yanting Yang, Shulong Wang,\* Shengqiang Hu, Yanni Luo, Zongyi He and Shulin Zhao\*



11385

 $\text{Sc}(\text{OTf})_3$  catalyzed intramolecular single-electron transfer of 2-alkyl-1,4-benzoquinones: synthesis of 6-chromanols from donor-acceptor cyclopropanes

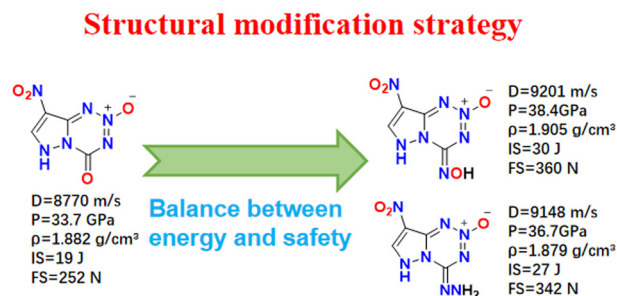
Yi-Lin Wang, Xin-Xin Lei, Xin-Chen Jin, Xin-Yu Zhang, Peng-Fei Xu\* and Yong-Chun Luo\*



11389

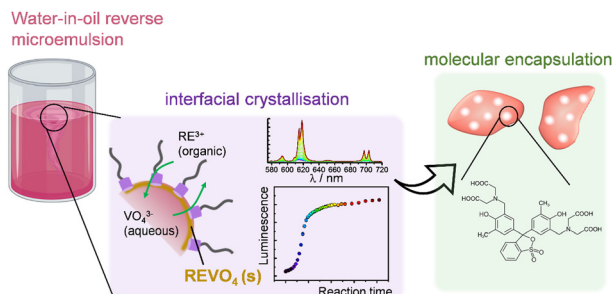
## Synthesis of fused energetic compounds using structural modification from local carbonyl to hydroxylamine/hydrazone

Caijin Lei, Chuan Xiao, Jie Tang, Hongwei Yang,\* Qinghua Zhang and Guangbin Cheng\*



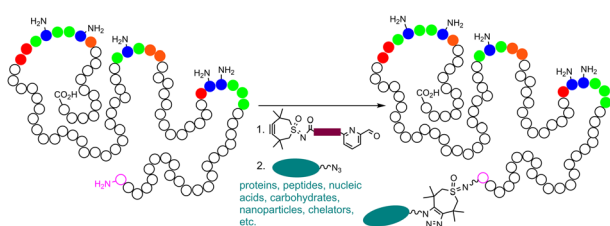
## COMMUNICATIONS

11393

Nanoporous YVO<sub>4</sub> as a luminescent host for probing molecular encapsulation

Milena Lima Brito, Steven Huband, Marc Walker, Richard I. Walton and Paulo C. de Sousa Filho\*

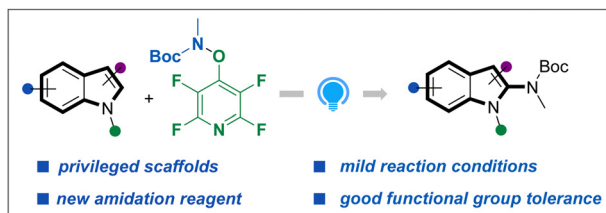
11397



## Specific N-terminal attachment of TMTHSI linkers to native peptides and proteins for strain-promoted azide alkyne cycloaddition

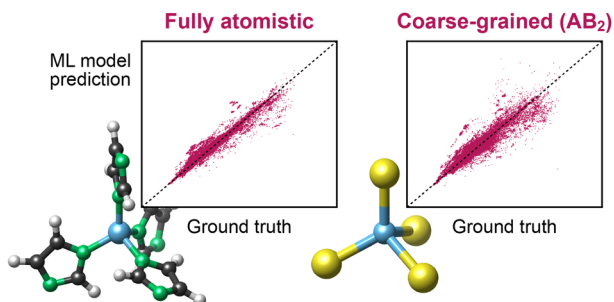
Matt Timmers,\* Wouter Peeters, Niels J. Hauwert, Cristianne J. F. Rijcken, Tina Vermonden, Ingrid Dijkgraaf\* and Rob M. J. Liskamp\*

11401

Photocatalysed C–H amidation of indoles enabled by *tert*-butyl alkyl((perfluoropyridin-4-yl)oxy)carbamate

Ke-yi Deng, Zhi-wei Wang, Zhen-zhen Xie, Jun-tao He, Jian-ping Guan, Kai Chen, Hao-yue Xiang\* and Hua Yang\*

11405



## Coarse-grained versus fully atomistic machine learning for zeolitic imidazolate frameworks

Zoé Faure Beaulieu, Thomas C. Nicholas, John L. A. Gardner, Andrew L. Goodwin\* and Volker L. Deringer\*

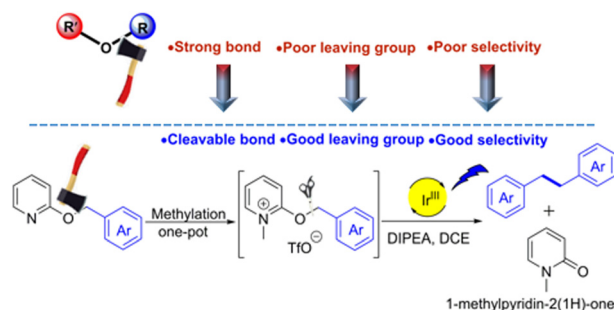


## COMMUNICATIONS

11409

**Homocoupling of benzyl pyridyl ethers via visible light-mediated deoxygenation**

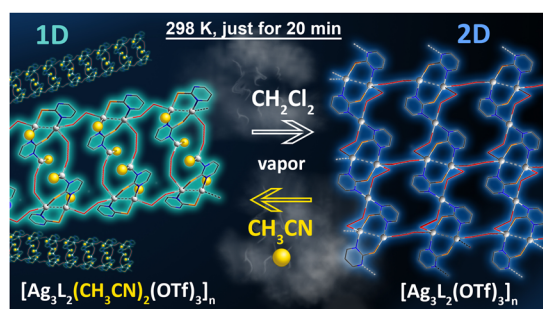
Jingtian Chen, Fan Wang, Xiang Li, Lei Wang, Wei Yu, Keju Sun\* and Jingyue Yang\*



11413

**Fast and reversible solvent-vapor-induced 1D to 2D transformation in emissive Ag(I)-organic networks**

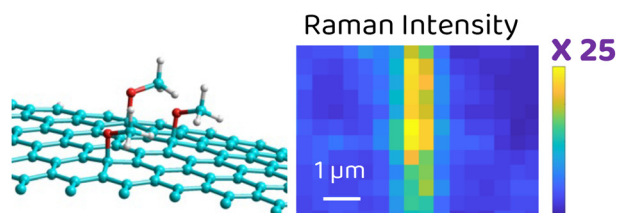
Maxim I. Rogovoy, Mariana I. Rakhmanova, Evgeniy H. Sadykov, Gia M. Carignan, Irina Yu. Bagryanskaya, Jing Li\* and Alexander V. Artem'ev\*



11417

**A light-mediated covalently patterned graphene substrate for graphene-enhanced Raman scattering (GERS)**

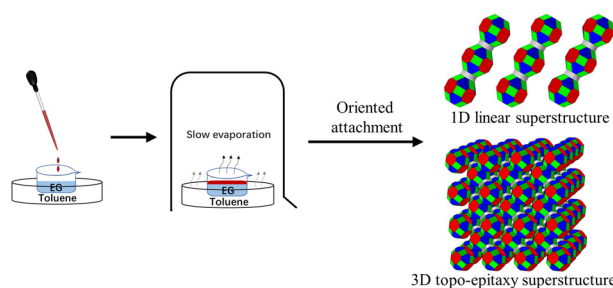
Guilin Feng, Nozomu Suzuki, Qiang Zhang, Jiangtao Li, Tomoko Inose, Farsai Taemaitree, Muhammed Shameem K. M., Shuichi Toyouchi, Yasuhiko Fujita, Kenji Hirai and Hiroshi Uji-i\*

**PICM-Graphene**

11421

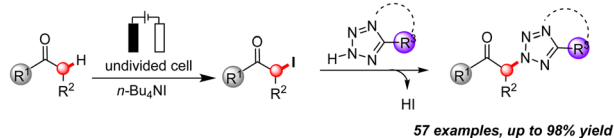
**One-dimensional and three-dimensional long-range orientated superstructures of PbSe nanocrystals**

Xu Hu, Fulin Jia and Jianxiao Gong\*



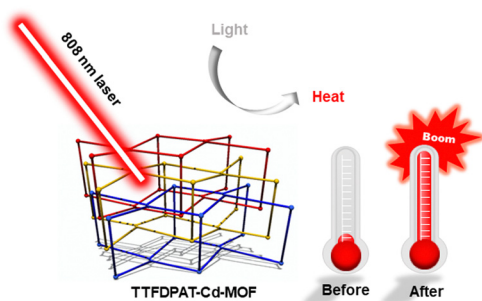
## COMMUNICATIONS

11425

The electrochemically enabled  $\alpha$ -C(sp<sup>3</sup>)-H azolation of ketones

Songlin Fang, Kaihui Zhong, Shaogao Zeng, Xinwei Hu,\* Pinghua Sun\* and Zhixiong Ruan\*

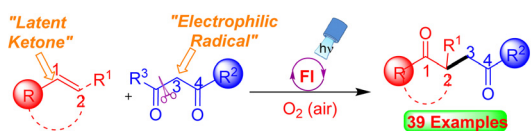
11429



## A 3D tetrathiafulvalene-based metal–organic framework with intramolecular charge transfer for efficient near-infrared photothermal conversion

Yu Zhang, Zi-Wei Xia, Liang-jun Shen, Hao Tang, Xu-Feng Luo,\* Xing Li\* and Xunwen Xiao\*

11433

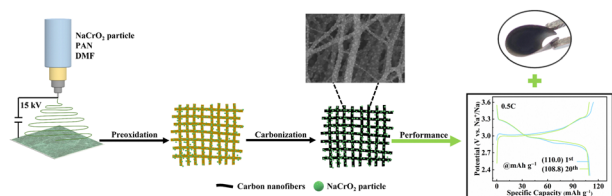


- Radical 1,2-Oxo-alkylation
- Broad scope
- Metal-free Photocatalysis
- Unsymmetrical Dicarboxyls
- Late-stage Functionalization

## Photoredox-catalyzed 1,2-oxo-alkylation of vinyl arenes with 1,3-diketones: an approach to 1,4-dicarbonyls via C–C activation

Pushbaraj Palani, Ajithkumar Arumugam, Dineshkumar Raja, Kesavan Muthu and Gopal Chandru Senadi\*

11437

A NaCrO<sub>2</sub>@C free-standing cathode via electrospinning for sodium-ion batteries

Yuanqi Yang, Jinji Liang, Wenya Li, Min Liang, Huizi Li, Chenhan Lin, Xi Ke, Zhicong Shi and Liying Liu\*



## CORRECTION

11441

**Correction: An activity-based fluorescent sensor with a penta-coordinate N-donor binding site detects Cu ions in living systems**

Kunika Gupta and Ankona Datta\*

