

# ChemComm

Chemical Communications

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## IN THIS ISSUE

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### Cover

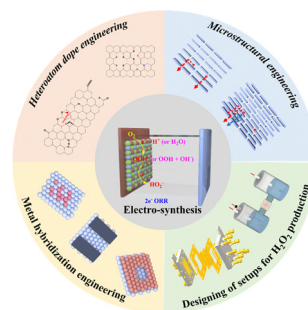
See Yasuyuki Nakamura, Chih-Feng Huang *et al.*, pp. 5270–5273. Image reproduced by permission of Yasuyuki Nakamura from *Chem. Commun.*, 2024, 60, 5270.

## HIGHLIGHT

5232

### Recent advances in electrosynthesis of $H_2O_2$ via two-electron oxygen reduction reaction

Ao Yu, Shengwen Liu and Yang Yang\*

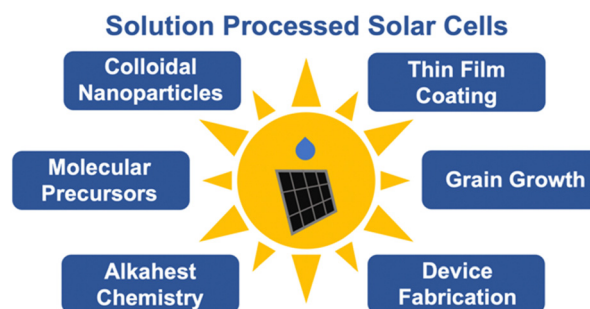


## FEATURE ARTICLE

5245

### Solution processed metal chalcogenide semiconductors for inorganic thin film photovoltaics

Jonathan W. Turnley and Rakesh Agrawal\*



# RSC Applied Interfaces

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with an applied focus

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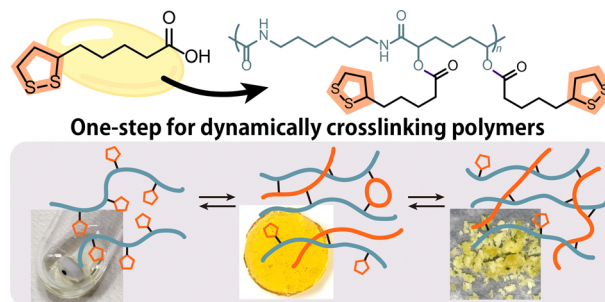
Fundamental questions  
Elemental answers

## COMMUNICATIONS

5270

### Passerini polymerization of $\alpha$ -lipoic acid for dynamically crosslinking 1,2-dithiolane-functionalized polymers

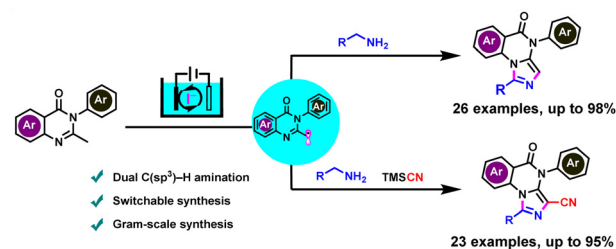
Yasuyuki Nakamura,\* Yi-Shen Huang,  
Chih-Feng Huang\* and Sadaki Samitsu



5274

### Electrochemical dual oxidative C(sp<sup>3</sup>)-H amination: switchable synthesis of imidazo-fused quinazolines

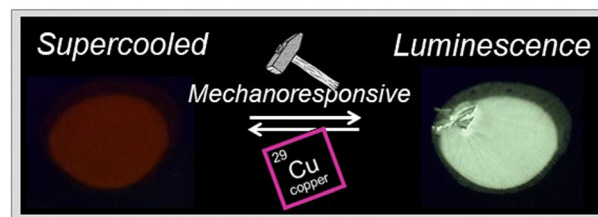
Chengbin Du, Yan Zhang, Tong Li, Zhenggen Zha and  
Zhiyong Wang\*



5278

### Mechanoresponsive luminescence triggered by phase transition of a supercooled copper(i) complex

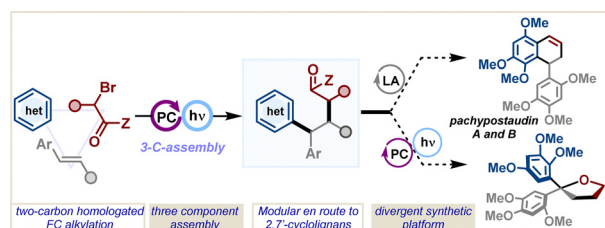
Jérémy Delafoulhouze, Marie Cordier, Jean-Yves Mevellec,  
Florian Massuyeau, Olivier Hernandez, Camille Latouche  
and Sandrine Perruchas\*



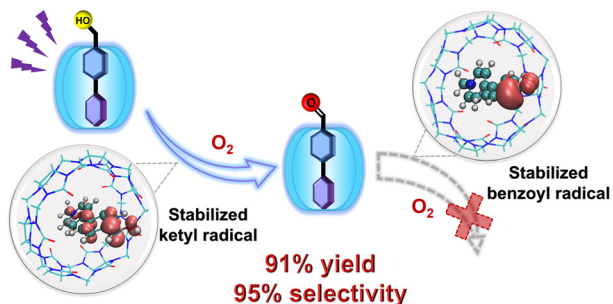
5282

### A two carbon homologation of Friedel–Crafts alkylation enabled by photochemical alkene stitching: modular assembly of cyclolignans

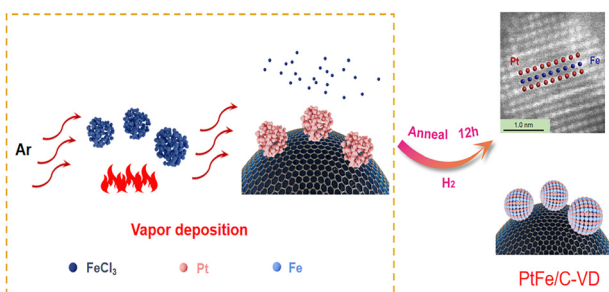
Shyamal Pramanik, Apurba Samanta and Soumitra Maity\*



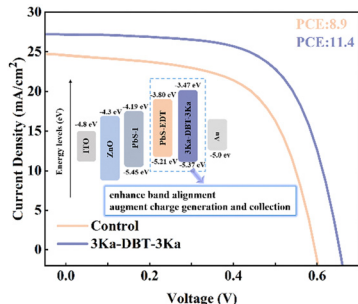
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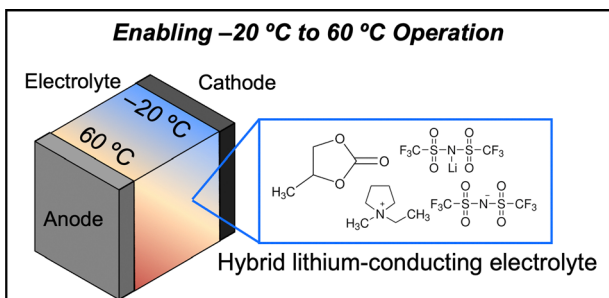
5290



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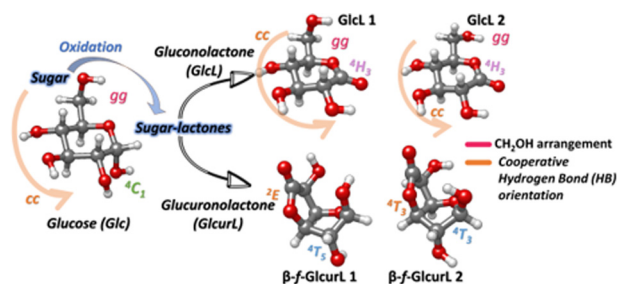
5298



5302

### Structural effects of oxidation on sugars: glucose as a precursor of gluconolactone and glucuronolactone

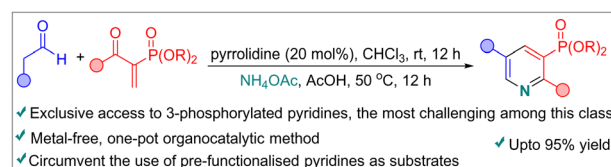
Maidar Parra-Santamaria, Aran Insausti, Elena R. Alonso, Francisco J. Basterretxea and Emilio J. Cocinero\*



5306

### Organocatalytic access to 3-pyridylphosphonates from vinyl phosphonates and aldehydes

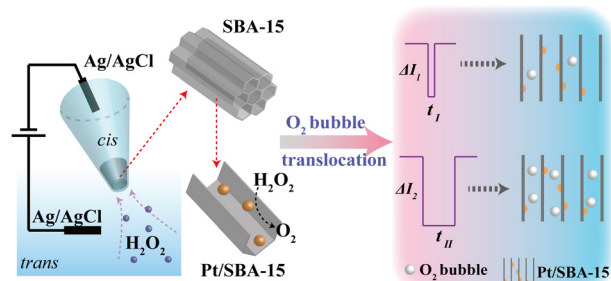
Ram Subhawan Verma, Anil Kumar Khatana, Deepika Verma and Bhoopendra Tiwari\*



5310

### Catalytic ability characterization of *in situ* synthesized Pt NP coated SBA-15 within a sub-micropipette

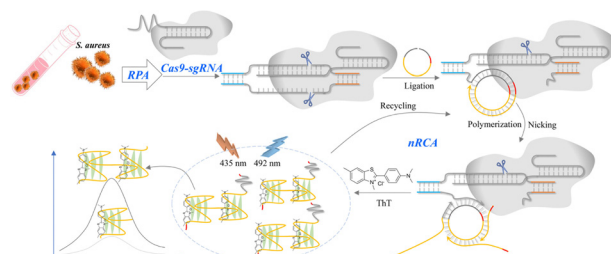
Rui Zhang, Qiang Zeng,\* Min Wang and Lishi Wang\*



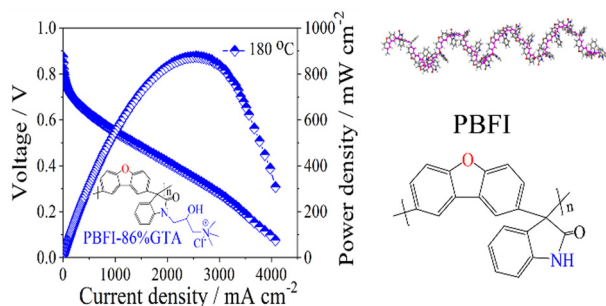
5314

### Integrating recombinase polymerase amplification with CRISPR/Cas9-initiated nicking-rolling circle amplification in *Staphylococcus aureus* assay

Jianguo Xu,\* Tong Zhou, Danni Xue, Zhuqi Sui, Haidong Yang, Xinyue Yuan and Qi Wang\*



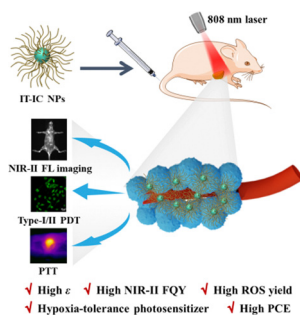
5318



### Preparation of novel membranes with multiple hydrogen bonding sites and $\pi$ -conjugated structure for high temperature proton exchange membrane fuel cells

Qian Wang, Lele Wang, Meichen Zhang, Zhen Peng, Yao Lu, Peiru Lv and Jingshuai Yang\*

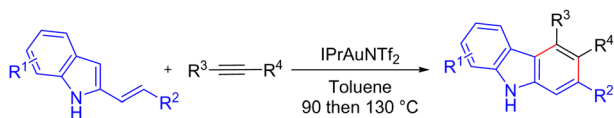
5322



### An NIR-II-emitting type-I photosensitizer for efficient hypoxic tumor phototheranostics

Qi Wang, Ruoqing Wang, Xiaoyuan Wang, Mingxuan Fu, Yicong Gao, Jianfeng Feng, Renyong Geng,\* Zhen Yuan, Quli Fan and Feng Lu\*

5326

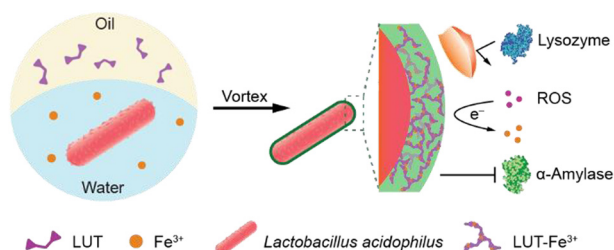


- readily available starting materials
- broad substrate scope
- low catalyst loading (1-2 mol %)
- functionalized carbazoles

### Gold-catalyzed benzannulations of 2-alkenylindoles with alkynes: a protecting-group-free regioselective approach to carbazoles

Pathan Mosim Amin, Weilin Wang, Chao Wang, Junrui Zhou and Youliang Wang\*

5330



### Biphasic water–oil systems for functional augmentation of probiotic *Lactobacillus acidophilus* nanoencapsulated in luteolin-Fe<sup>3+</sup> shells

Duc Tai Nguyen, Sang Yeong Han, Filip Kozlowski, Gulaim A. Seisenbaeva, Vadim G. Kessler, Beom Jin Kim and Insung S. Choi\*

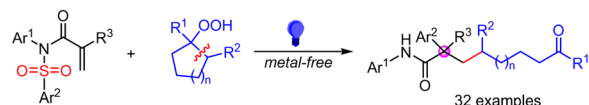


## COMMUNICATIONS

5334

### Photoredox-catalyzed alkylarylation of activated alkenes *via* a ring-opening/Truce–Smiles rearrangement cascade

Jin-Hua Zhang, Hong-Jie Miao, Hong Xin, Gang Wang, Xiaoyu Yang, Xianjun Wang, Pin Gao, Xin-Hua Duan and Li-Na Guo\*



32 examples  
up to 78% yield

- ✓ free of metal and additives
- ✓ mild and redox-neutral conditions
- ✓ keto-amides containing 4° carbon center
- ✓ excellent functional group compatibility

5338

### Ultralong-life and high-capacity magnesium/sodium hybrid-ion battery using a ternary CoSe/NiSe<sub>2</sub>/CuSe<sub>2</sub> cathode and dual-ion electrolyte

Ting Zhou, Yajun Zhu, Yun Shen, Hui Qiu, Tianli Han, Jinjin Li\* and Jinyun Liu\*

