

# Chemical Science

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## IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 17(6) 2883–3362 (2026)



**Cover**  
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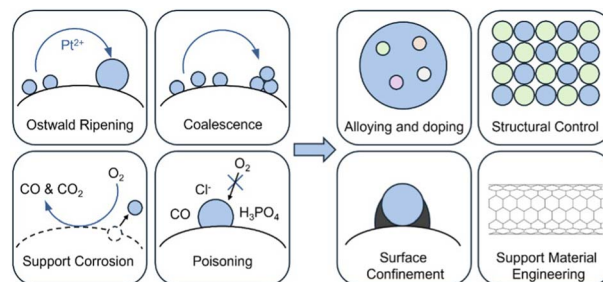
**Inside cover**  
See Benjamin Dietzek-Ivanšić, Birgit Esser *et al.*, pp. 3012–3022. Image reproduced by permission of Evgenia Ryndin from *Chem. Sci.*, 2026, **17**, 3012. Cover design by Evgenia Ryndin.

## PERSPECTIVE

2897

### Emerging strategies for durable Pt catalysts in PEMFCs

Yuliang Chen, Linghang Meng, Haobo Sun, Honghong Lin and Shouheng Sun\*

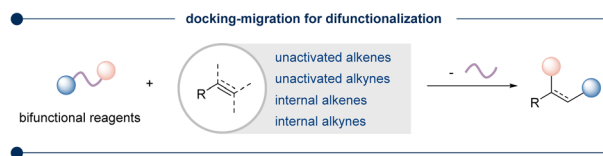


## REVIEWS

2913

### Radical docking–migration: a powerful strategy for difunctionalization of alkenes and alkynes

Zhu Cao, Fushan Chen and Chen Zhu\*



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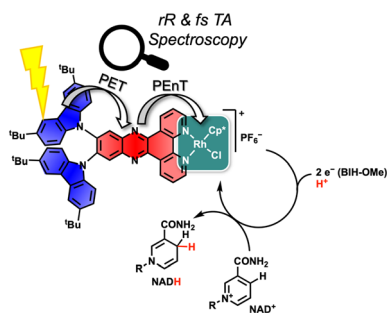
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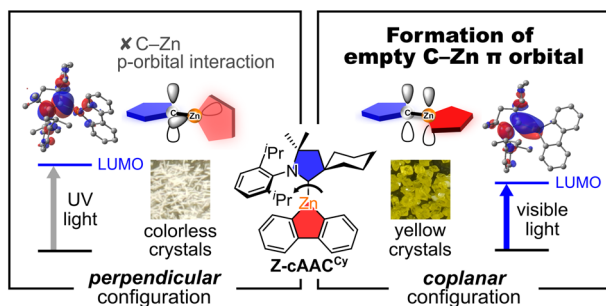
3012



### A donor–acceptor photosensitizer-catalyst dyad for light-driven nicotinamide hydrogenation

Alexander Tombrink, Mohini Semwal, Tamar Maisuradze, Alexander K. Mengele, Daniel Straub, Alexander J. C. Kuehne, Sven Rau, Stephan Kupfer, Benjamin Dietzek-Ivanšić\* and Birgit Esser\*

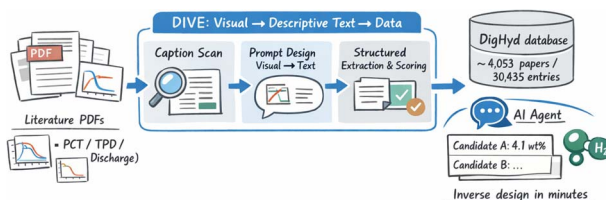
3023



### Zincafluorene complex with an empty C–Zn $\pi$ orbital that captures visible light

Hidemitsu Iwamoto, Yusuke Sunada and Yoshimasa Wada\*

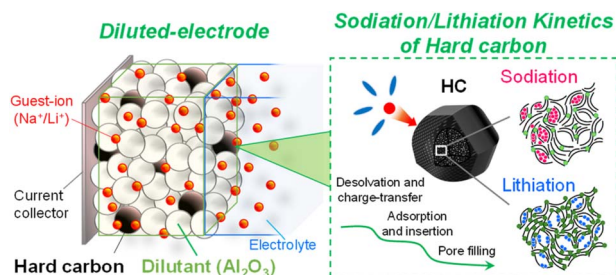
3031



### “DIVE” into hydrogen storage materials discovery with AI agents

Di Zhang,\* Xue Jia, Hung Ba Tran, Seong Hoon Jang, Linda Zhang, Ryuhei Sato, Yusuke Hashimoto, Toyoto Sato, Kiyoe Konno, Shin-ichi Orimo\* and Hao Li\*

3043



### Revealing the kinetic limits of sodiation and lithiation at hard carbon using the diluted electrode method

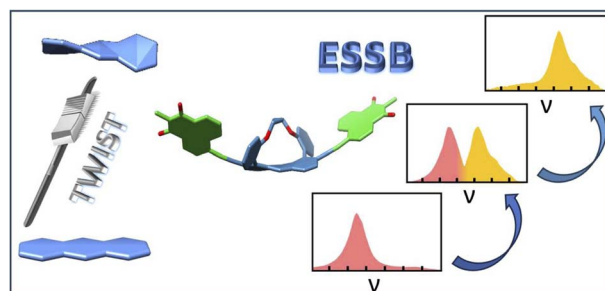
Yuki Fujii, Zachary T. Gossage, Ryoichi Tataru and Shinichi Komaba\*



3056

**Exciton trapping with a twist**

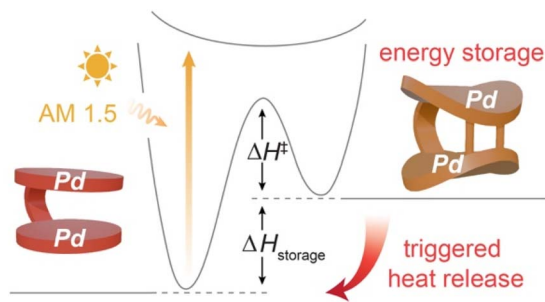
Chinju Govind, Israa Shioukhi, Yinon Deree, Jhon Sebastian Oviedo Ortiz, Jeanne Crassous, Ori Gidron\* and Eric Vauthey\*



3066

**Visible photon energy storage by [2+2] cycloaddition of Pd-oxazolones**

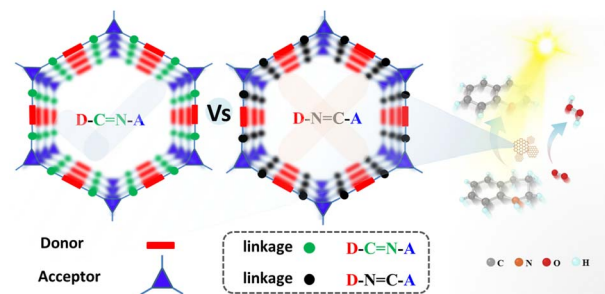
Qianfeng Qiu, Junichi Usuba, Wai Lean Koay, Vincent J. O. Conrad, Nathan M.-W. Wu, Shao-Liang Zheng, Vinh Xuan Truong and Grace G. D. Han\*



3075

**Directing robust built-in electric fields via imine linkage orientation in COFs for efficient dehydrogenative organic transformation coupled with H<sub>2</sub>O<sub>2</sub> photosynthesis**

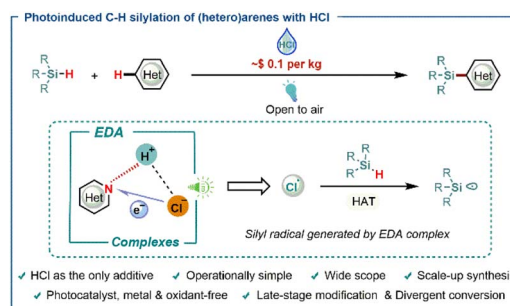
Chang He, Weixu Liu, Enwei Zhu,\* Yongfa Zhu\* and Chen Chen\*



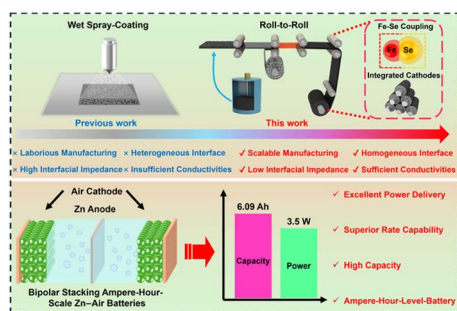
3084

**HCl-mediated silylation of C–H bonds in (hetero)arenes with trialkylsilanes**

You Su, Meiqi Zhu, João C. A. Oliveira, Xiangnan Zhang, Zheng-Jun Wang, Lutz Ackermann\* and Dingyi Wang\*



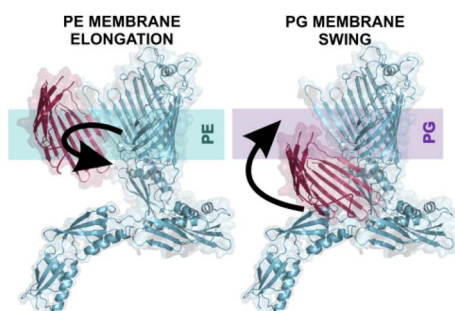
3092



### Roll-to-roll fabrication of integrated cathodes enabled by asymmetric dual-atom catalysts for bipolar stacking ampere-hour-scale Zn-air batteries

Yuanhao Wei, Yuanjie Ma, Jingjing Huang, Chenbao Lu, Longbin Li, Xuejiao J. Gao,\* Dirk Lützenkirchen-Hecht, Xiaodong Zhuang, Kai Yuan\* and Yiwang Chen\*

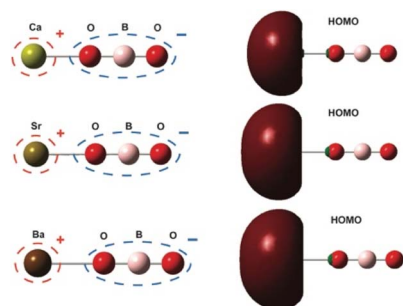
3103



### Lipid-regulated assembly mechanisms and functional energetics of the essential bacterial chaperone Bama

Anjana George, Anusree Mulanthala Raj, Akanksha Gajanan Patil, Varsha Kumari and Radhakrishnan Mahalakshmi\*

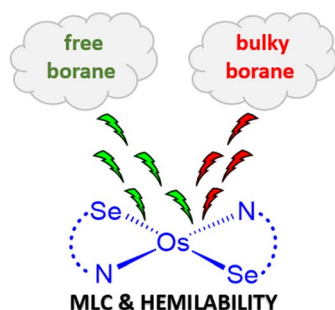
3122



### High resolution photoelectron imaging of cryogenically cooled alkaline-earth metal complexes with the $\text{BO}_2$ superhalogen, $\text{MBO}_2^-$ ( $\text{M} = \text{Ca}, \text{Sr}, \text{Ba}$ )

Han-Wen Gao, Jie Hui, Xin-Yu Zhang and Lai-Sheng Wang\*

3129



### Cooperative borane activation by tuning hemilability of different $\text{Os}-\kappa^2\text{-N,Se}$ -chelated complexes

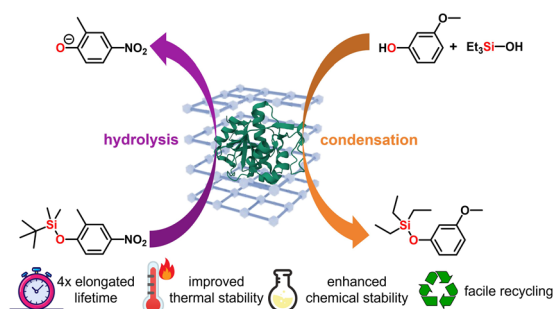
Faneesha Assanar, Sourav Gayen, Deepak Kumar Patel, Thalappil Pradeep\* and Sundargopal Ghosh\*



3141

### Enhanced stability and reusability of recombinant silicatein upon biomimetic metal–organic framework crystallization

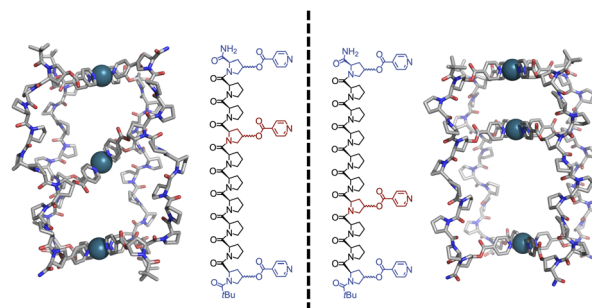
Tongtong Zhang, Xiangyu Wang, Jack D. Wright, George F. S. Whitehead, Jeremiah P. Tidey, Lu Shin Wong\* and Imogen A. Riddell\*



3148

### Peptide ligand isomerism drives divergent stability and guest binding in Pd<sub>3</sub>L<sub>4</sub> metal-peptidic cages

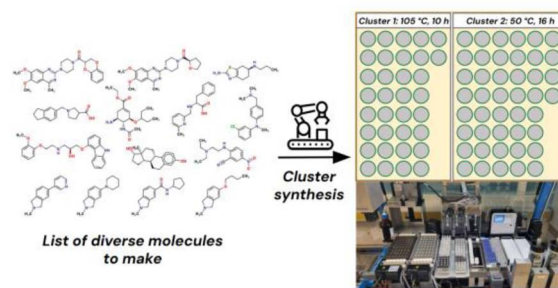
Ben E. Barber, Ellen M. G. Jamieson, Leah E. M. White and Charlie T. McTernan\*



3157

### Thinking outside the library: cluster synthesis of diverse molecules on a single robotic platform

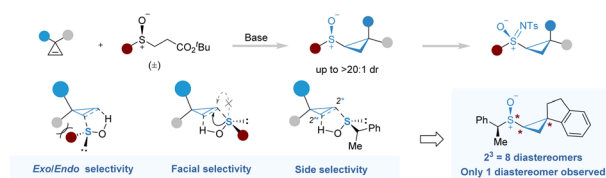
Franck Le Vaillant,\* Luidgi Gromat, Clémentine Pescheteau, Nicolas Ducrot, Aurélien Demilly, Jean-Christophe Meillon, Nicolas Do Huu and Quentin Perron



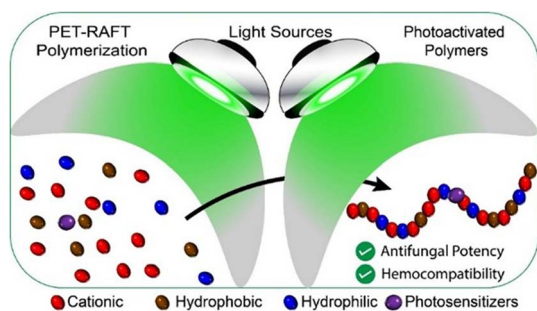
3171

### Diastereoselective synthesis of cyclopropyl sulfoxides via hydrosulfenation

Liyan Yuwen, Jiazhong Tang, Yayu Qi, Tianyi Zou, Shaotong Zhang, Ya-Qian Zhang and Qing-Wei Zhang\*



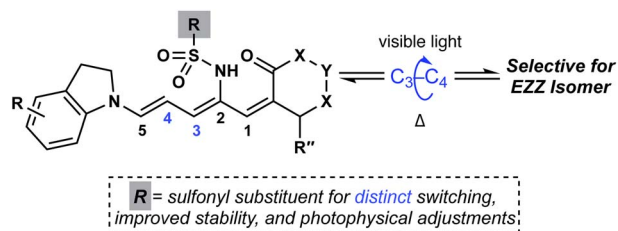
3178



### Photoactivated antifungal polymers prepared by PET-RAFT polymerization

Hatu Gmedhin, Md Aquib, Nathaniel Corrigan, Megan D. Lenardon\* and Cyrille Boyer\*

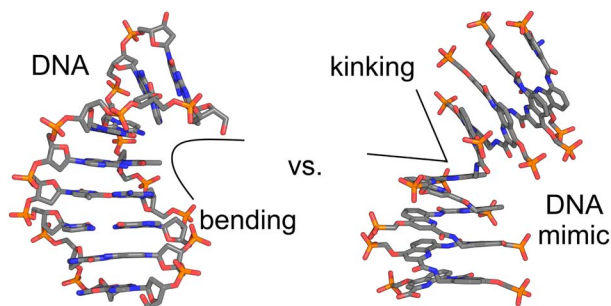
3189



### Sulfonyl-tuned amino DASAs for targeted photophysical and photoswitching control

Alexander Karr, Hye Joon Lee, A. Talim G. K, Chloe A. Ramsperger, Cesar A. Reyes, Kelly Biv and Elias Picazo\*

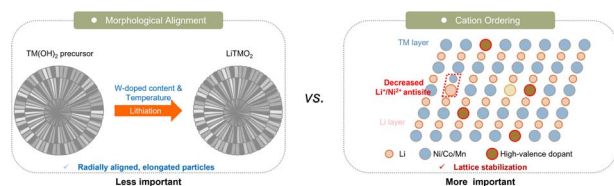
3198



### Structural dynamics of DNA mimic foldamers

Manuel Loos, Lion Thurecht, Jiaojiao Wu, Valentina Corvaglia, Zhiwei Liu, Vojislava Pophrstic, Martin Zacharias\* and Ivan Huc\*

3212



### Revisiting high-valence dopant mechanisms in Ni-rich cathodes: cation ordering dominates over morphological alignment for enhanced stability

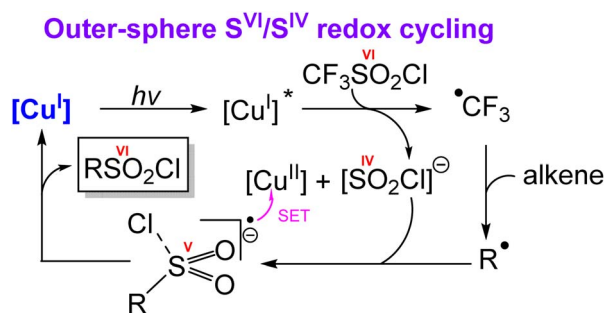
Shuo Wang, Siqi Chen, Xiaohong Liu,\* Guilin Feng, Bin Zhang, Wangyan Xing, Yao Xiao,\* Hao Liu\* and Wei Xiang\*



3224

### Uncovering outer-sphere mechanisms governing chemoselectivity in copper-photocatalyzed ATRA reactions of $\text{CF}_3\text{SO}_2\text{Cl}$ with alkenes

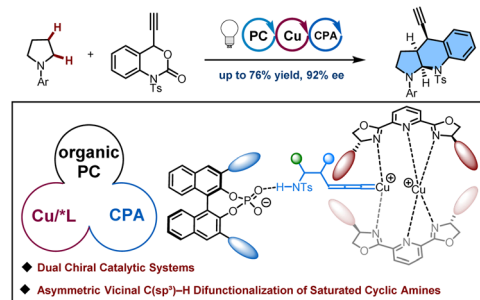
Farshad Shiri, Morteza Jamshidi, Saba Hadidi,\*  
Robert Stranger and Alireza Ariafard\*



3240

### Asymmetric vicinal $\text{C}(\text{sp}^3)\text{-H}$ difunctionalization of saturated cyclic amines *via* synergistic photoredox, copper and chiral phosphoric acid catalysis

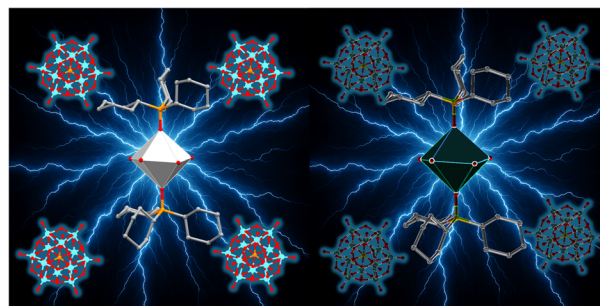
Teng-Fei Xiao, Ke-Rui Jian, Yu-Cheng Gu, Guo-Qiang Xu\*  
and Peng-Fei Xu\*



3248

### Highly reducible polyoxometalate– $\text{Dy}(\text{III})$ SMM hybrid materials with exceptional charge stability

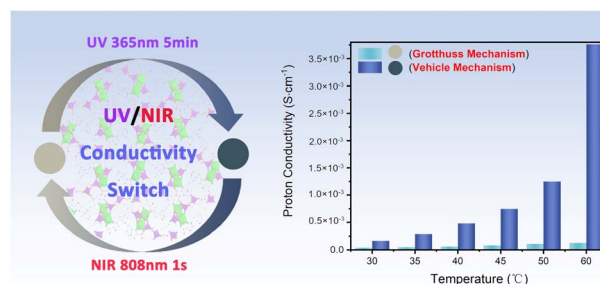
Ethan Lowe, Mathieu Rouzières, Sarah K. Dugmore,  
Christopher Kelly, Claire Wilson, Angelos B. Canaj,  
Rodolphe Clérac\* and Mark Murrie\*



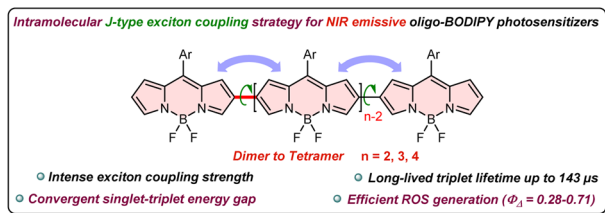
3259

### Switchable proton conduction driven by UV/NIR-induced electron transfer in an inorganic–organic hybrid gallium phosphate–oxalate open-framework

Shuai Huang, Zhihui Yi, Zhuopeng Wang, Tan Su,  
Junbiao Wu,\* Zhiqiang Liang and Jiyang Li\*



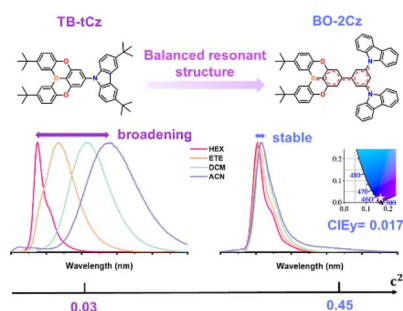
3267



### Intramolecular exciton coupling modulates the convergent singlet-triplet energy gap toward NIR-emissive heavy-atom-free Oligo-BODIPY photosensitizers

Chunyan Pan, Jinsong Shao, Zhengxin Kang,\* Fan Lv, Xiankang Zhang, Jiangan Gao, Xinsheng Xu, Yaxiong Wei,\* Erhong Hao\* and Lijuan Jiao\*

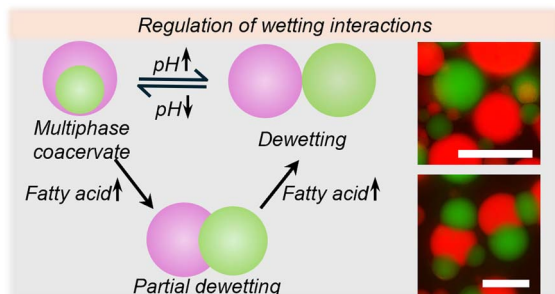
3278



### Modulating resonance structures toward highly efficient violet-blue organic light-emitting diodes with narrow emission

Xinyu Wang, Hanlin Gan, Mingliang Xie, Wenle Tan, Pengfei Niu, Mingke Li, Xinru Liao, Bohan Wang, Lei Ying, Yue Yu\* and Yuguang Ma

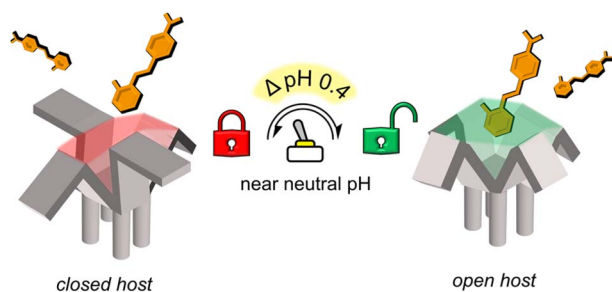
3285



### pH-responsive regulation of multiphase coacervate wetting via phase selective enrichment of fatty acids

Preeti Sharma, Pankaj Singh Patwal and B. V. V. S. Pavan Kumar\*

3293



### N-Arylsulfonamidocalix[4]arenes with narrow pH-responsive binding near neutral pH

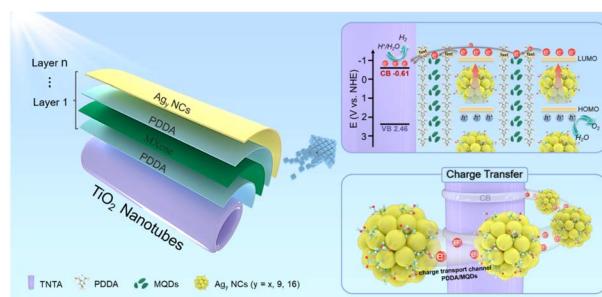
Carlos Alarcon-Miranda, Isis A. Middleton, Olivia Rusli, Nicolas Caceres-Herrera, Mohan Bhadbhade, Nicole J. Rijs, Pall Thordarson,\* Marcelo J. Kogan\* and Claudio Saitz\*



3300

### Optimization of electron transfer pathways in atomically precise metal nanoclusters: catalyzing a leap in solar water oxidation

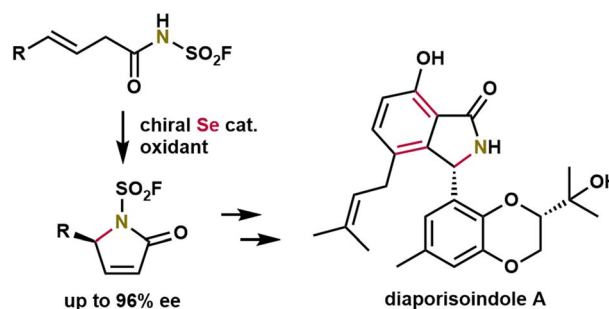
Peng Su, Jia-Liang Liu and Fang-Xing Xiao\*



3313

### Se-catalyzed enantioselective lactamization enabled by a *N*-fluorosulfonyl group: total synthesis of diaporisoindole A

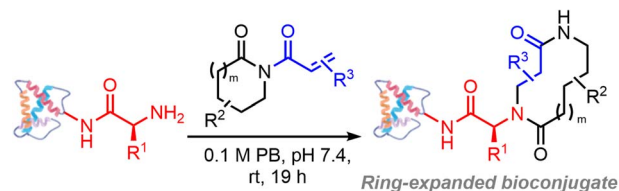
Daiki Yamamoto, Shun Yamasaki and Takuya Hashimoto\*



3320

### *N*-terminal protein-macrocycles enabled by conjugate addition/ring expansion cascade reactions

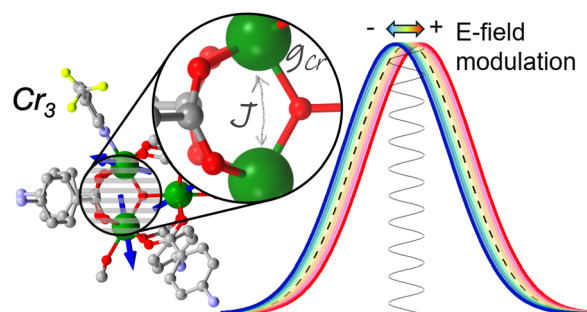
Owen R. Hughes, Afzaal Tufail, Esme Hutton, Joe Nabarro, Rachel Howarth, Nicholas D. Yates, Adrian C. Whitwood, Craig N. Robson, Nathalie Signoret, Martin A. Fascione,\* Christopher D. Spicer\* and William P. Unsworth\*



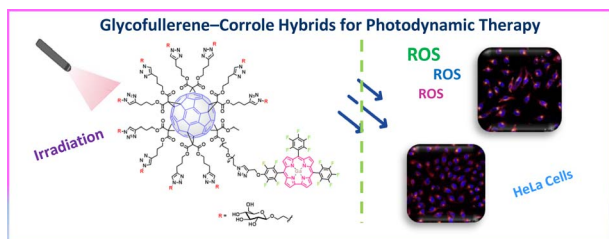
3329

### Sensitive detection of spin-electric coupling in a Cr<sub>3</sub> antiferromagnetic triangle

Leonardo Tacconi, Shubham Bisht, Alberto Cini, Mauro Perfetti, Tomas Orlando, Maria Fittipaldi,\* Michael Shatruk\* and Roberta Sessoli\*



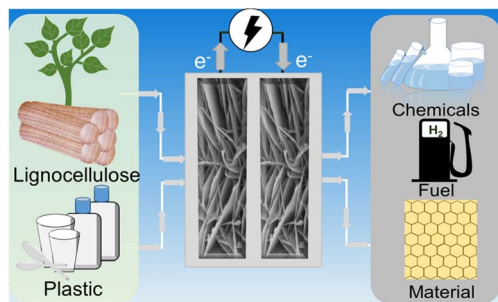
3339



### Glycofullerene–corrole hybrids: a new class of multifunctional nanomaterials with potential in targeted photodynamic therapy

Jennifer Patino-Alonso, Carla I. M. Santos,\* Adriana F. Cruz, Sandra Pinto, Justo Cabrera-González, M. Amparo F. Faustino, M. Graça P. M. S. Neves, Ermelinda M. S. Maçôas,\* Nazario Martin\* and Beatriz M. Illescas\*

3351



### Selective electrochemical oxidation of biomass and waste plastic at higher current densities for simultaneous hydrogen generation through hybrid water electrolysis

Snehanjali Behera, Akanksha Negi, Gayatri Joshi, Chetansinh Chauhan, Dipak Suresh Kanthali, Saumyakanti Khatua\* and Biswajit Mondal\*

## CORRECTION

3360

### Correction: Large-area thin-film synthesis of photoactive $\text{Cu}_3\text{PS}_4$ thiophosphate semiconductor with 0–14 pH stability range

Lena A. Mittmann,\* Javier Sanz Rodrigo, Eugène Bertin, Giulia Dalmonte, Jean-Claude Grivel, Ivano E. Castelli and Andrea Crovetto\*

