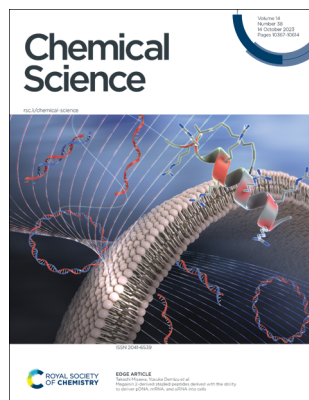


## IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 14(38) 10367–10614 (2023)



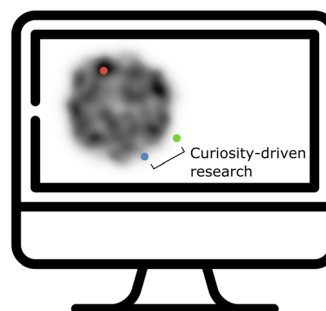
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## PERSPECTIVE

10378

### The rise of automated curiosity-driven discoveries in chemistry

Latimah Bustillo, Teodoro Laino and Tiago Rodrigues\*

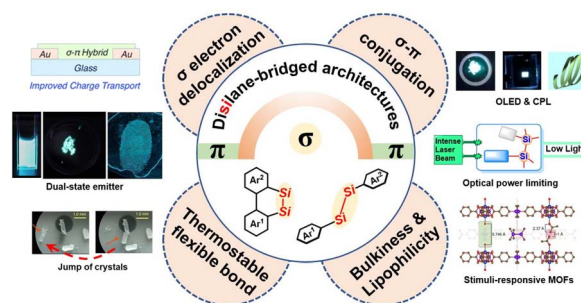


## REVIEW

10385

### Disilane-bridged architectures: an emerging class of molecular materials

Zhikuan Zhou,\* Lizhi Gai, Li-Wen Xu, Zijian Guo and Hua Lu\*



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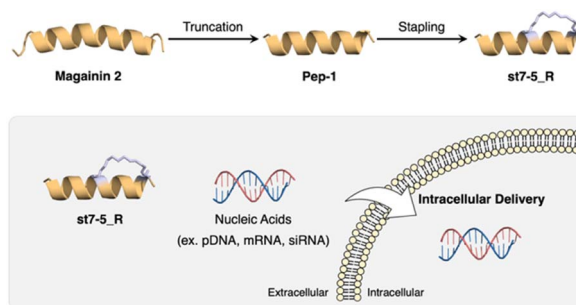
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10403

### Magainin 2-derived stapled peptides derived with the ability to deliver pDNA, mRNA, and siRNA into cells

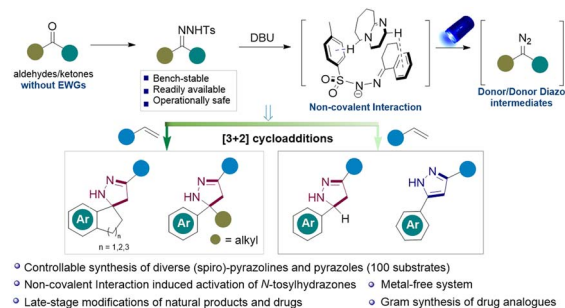
Motoharu Hirano, Hidetomo Yokoo, Chihiro Goto, Makoto Oba, Takashi Misawa\* and Yosuke Demizu\*



10411

### Visible-light-induced [3+2] cycloadditions of donor/donor diazo intermediates with alkenes to achieve (spiro)-pyrazolines and pyrazoles

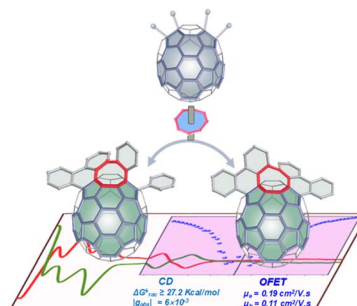
Yu Zhang, Yanchuan Li, Shao-Fei Ni, Jin-Peng Li, Dingding Xia, Xinyu Han, Jingchuan Lin, Jinxin Wang,\* Shoubhik Das\* and Wei-Dong Zhang\*



10420

### Buckybowl and its chiral hybrids featuring eight-membered rings and helicene units

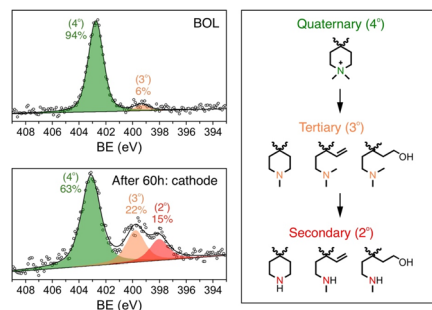
Yuxiao Duan, Meng Chen, Hironobu Hayashi, Hiroko Yamada, Xinyue Liu and Lei Zhang\*



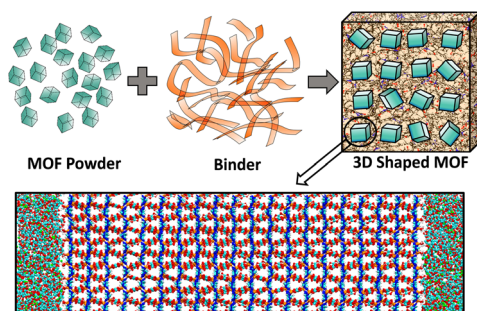
10429

### Ionomer degradation in catalyst layers of anion exchange membrane fuel cells

Qihao Li, Meixue Hu, Chuangxin Ge, Yao Yang, Li Xiao,\* Lin Zhuang\* and Héctor D. Abruña\*



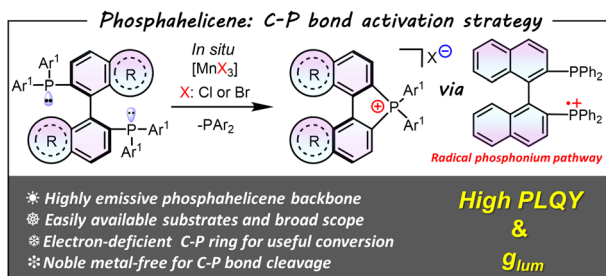
10435



### Microscopic insight into the shaping of MOFs and its impact on CO<sub>2</sub> capture performance

Supriyo Naskar, Dong Fan, Aziz Ghoufi and Guillaume Maurin\*

10446

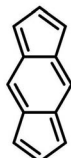


### Mn(III)-mediated C-P bond activation of diphosphines: toward a highly emissive phosphahelicene cation scaffold and modulated circularly polarized luminescence

Bo Yang, Suqiong Yan, Chengbo Li, Hui Ma, Fanda Feng, Yuan Zhang and Wei Huang\*

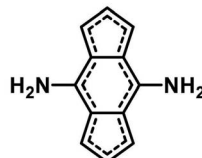
10458

**Localized** double bonds (C<sub>2h</sub>)



$$E(S_1-T_1) = +1460 \text{ meV}$$

**Delocalized** double bonds (D<sub>2h</sub>)

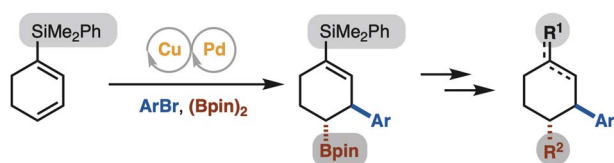


$$E(S_1-T_1) = -72 \text{ meV}$$

### Double-bond delocalization in non-alternant hydrocarbons induces inverted singlet-triplet gaps

Marc H. Garner,\* J. Terence Blaskovits and Clémence Corminboeuf\*

10467



### Cu/Pd-catalyzed arylation of a 1-silyl-1,3-cyclohexadiene for stereocontrolled and diverse cyclohexane/ene synthesis

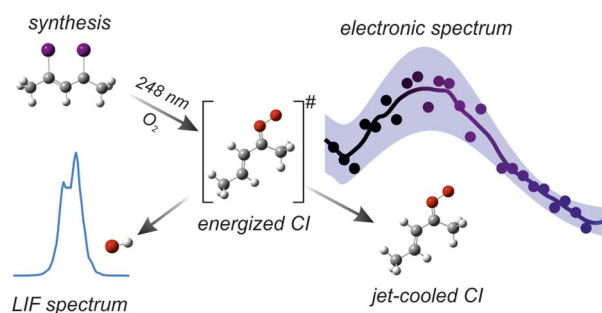
Phillip F. Crook, Alan R. Lear, Suman Das and M. Kevin Brown\*



10471

### A five-carbon unsaturated Criegee intermediate: synthesis, spectroscopic identification, and theoretical study of 3-penten-2-one oxide

Tarun Kumar Roy, Tianlin Liu, Yujie Qian, Christopher A. Sojda, Marisa C. Kozlowski and Marsha I. Lester\*

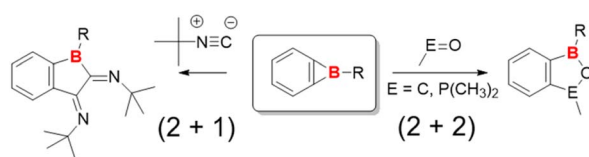


10478

### Accessing unusual heterocycles: ring expansion of benzoborirenes by formal cycloaddition reactions

Marvin Sindlinger, Markus Ströbele, Jörg Grunenberg\* and Holger F. Bettinger\*

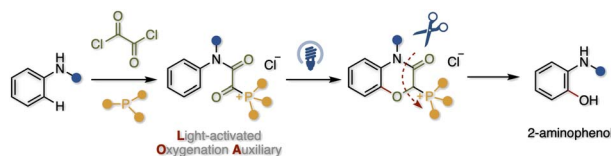
#### Strain Release Driven Synthesis of B-Heterocycles



10488

### Biomimetic design of an $\alpha$ -ketoacylphosphonium-based light-activated oxygenation auxiliary

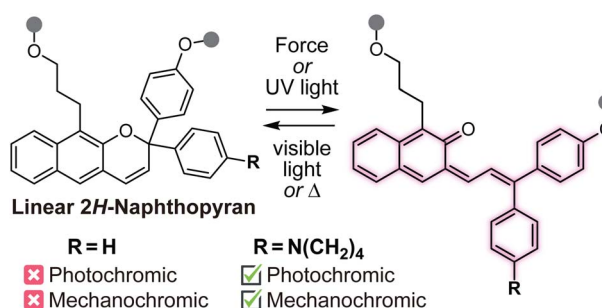
Ryoto Oya, Kenji Ota, Masaaki Fuki, Yasuhiro Kobori, Masahiro Higashi, Kazunori Nagao\* and Hirohisa Ohmiya\*



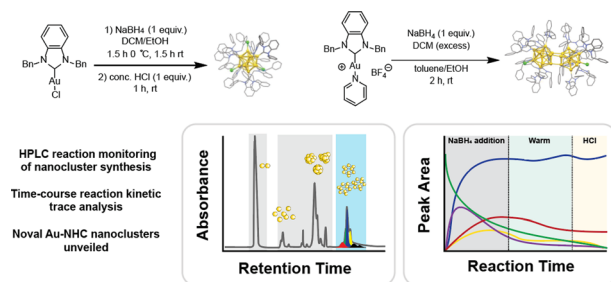
10494

### Anomalous photochromism and mechanochromism of a linear naphthopyran enabled by a polarizing dialkylamine substituent

Yan Sun, Molly E. McFadden, Skylar K. Osler, Ross W. Barber and Maxwell J. Robb\*



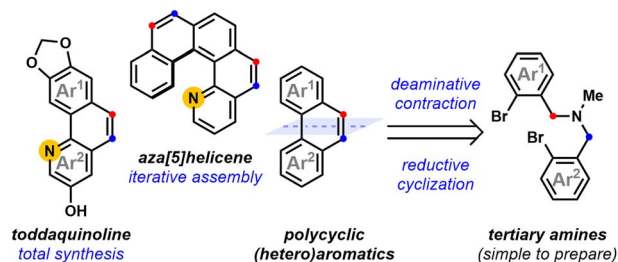
10500



### Insights into the synthesis of NHC-stabilized Au nanoclusters through real-time reaction monitoring

Junliang Liu, Yusuke Sato, Viveka K. Kulkarni, Angus I. Sullivan, Wenyu Zhang, Cathleen M. Crudden\* and Jason E. Hein\*

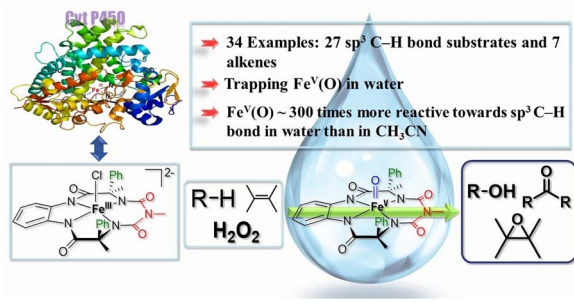
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### Deaminative ring contraction for the synthesis of polycyclic heteroaromatics: a concise total synthesis of totdaquinoline

Emily K. Kirkeby, Zachary T. Schwartz, Myles A. Lovasz and Andrew G. Roberts\*

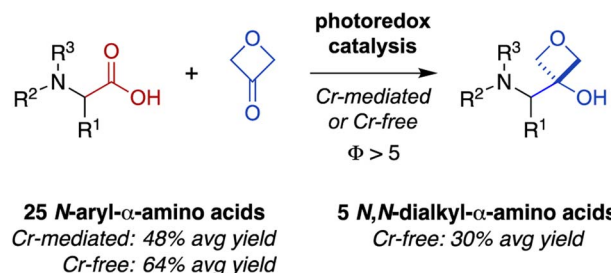
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### Highly regioselective oxidation of C–H bonds in water using hydrogen peroxide by a cytochrome P450 mimicking iron complex

Sandipan Jana, Puja De, Chinmay Dey, Somdatta Ghosh Dey,\* Abhishek Dey\* and Sayam Sen Gupta\*

10524



### Direct conversion of amino acids to oxetanols bioisosteres via photoredox catalysis

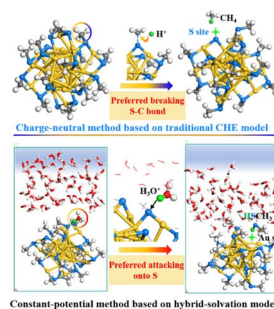
Avelyn Mae V. Delos Reyes, Christopher S. Nieves Escobar, Alberto Muñoz, Maya I. Huffman and Derek S. Tan\*



10532

### –SR removal or –R removal? A mechanistic revisit on the puzzle of ligand etching of Au<sub>25</sub>(SR)<sub>18</sub> nanoclusters during electrocatalysis

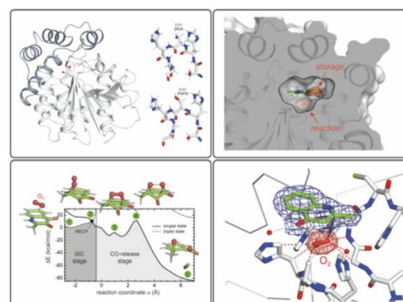
Fang Sun, Lubing Qin, Zhenghua Tang,\* Guocheng Deng, Megalamane S. Bootharaju, Zidong Wei,\* Qing Tang\* and Taeghwan Hyeon



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### Evolutionary adaptation from hydrolytic to oxygenolytic catalysis at the $\alpha/\beta$ -hydrolase fold

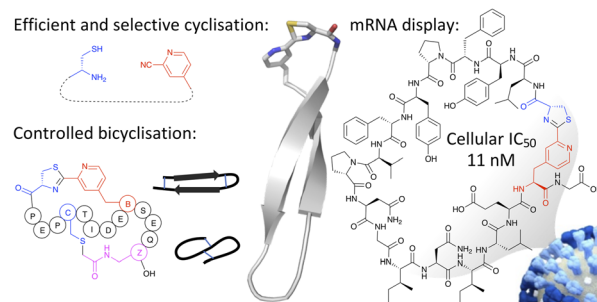
Soi Bui, Sara Gil-Guerrero, Peter van der Linden, Philippe Carpentier, Matteo Ceccarelli,\* Pablo G. Jambrina\* and Roberto A. Steiner\*



10561

### Selective thiazoline peptide cyclisation compatible with mRNA display and efficient synthesis

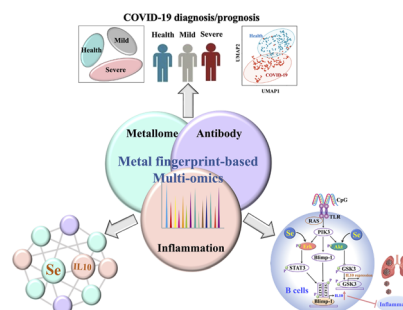
Minglong Liu, Richard Morewood, Ryoji Yoshisada, Mirte N. Pascha, Antonius J. P. Hopstaken, Eliza Tarcoveanu, David A. Poole, III, Cornelis A. M. de Haan, Christoph Nitsche\* and Seino A. K. Jongkees\*



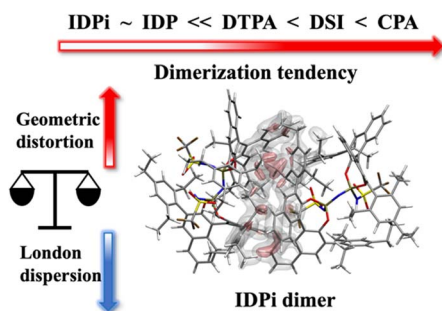
10570

### Metal-coding assisted serological multi-omics profiling deciphers the role of selenium in COVID-19 immunity

Ying Zhou, Shuofeng Yuan, Fan Xiao, Hongyan Li, Ziwei Ye, Tianfan Cheng, Cuiting Luo, Kaiming Tang, Jianpiao Cai, Jianwen Situ, Siddharth Sridhar, Wing-Ming Chu, Anthony Raymond Tam, Hin Chu, Chi-Ming Che, Lijian Jin, Ivan Fan-Ngai Hung, Liwei Lu, Jasper Fuk-Woo Chan\* and Hongzhe Sun\*



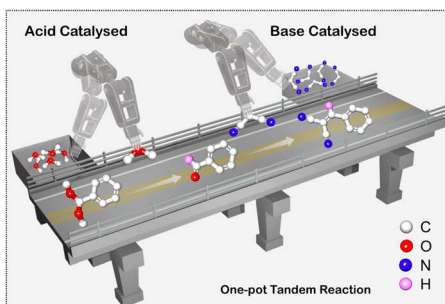
10580



### Dimerization of confined Brønsted acids in enantioselective organocatalytic reactions

Ingolf Harden, Frank Neese and Giovanni Bistoni\*

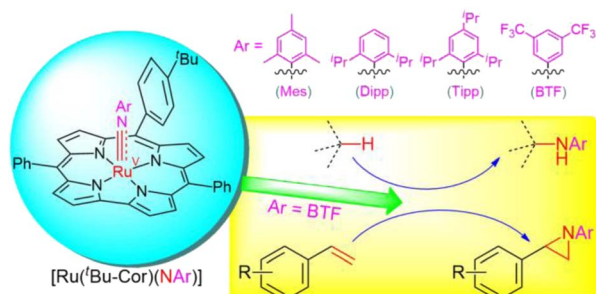
10591



### Organic porous heterogeneous composite with antagonistic catalytic sites as a cascade catalyst for continuous flow reaction

Sumanta Let, Gourab K. Dam, Sahel Fajal and Sujit K. Ghosh\*

10602



### Ruthenium(IV) terminal arylimido corroles: isolation, spectroscopic characterization and reactivity

Ka-Pan Shing, Lin Qin, Liang-Liang Wu, Jie-Sheng Huang\* and Chi-Ming Che\*

## CORRECTIONS

10610

### Correction: Liquid electrolyte chemistries for solid electrolyte interphase construction on silicon and lithium-metal anodes

Sewon Park, Saehun Kim, Jeong-A Lee, Makoto Ue and Nam-Soon Choi\*





## CORRECTIONS

10611

**Correction: Magnetic coupling between Fe(NO) spin probe ligands through diamagnetic Ni<sup>II</sup>, Pd<sup>II</sup> and Pt<sup>II</sup> tetrathiolate bridges**

Manuel Quiroz, Molly M. Lockart, Shan Xue, Dakota Jones, Zachary Martinez, Yisong Guo, Brad S. Pierce, Kim R. Dunbar,\*  
Michael B. Hall\* and Marcetta Y. Darensbourg\*

