

# Chemical Science

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## IN THIS ISSUE

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### Cover

See Selvan Demir *et al.*, pp. 5577–5592.  
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### Inside cover

See Jatish Kumar *et al.*, pp. 5593–5601.  
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## COMMENTARY

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### A focus on aromaticity: fuzzier than ever before?

Henrik Ottosson

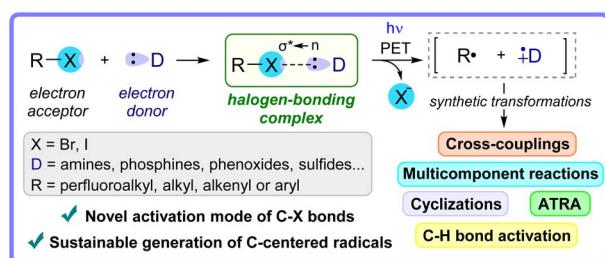


## REVIEW

5545

### Shining light on halogen-bonding complexes: a catalyst-free activation mode of carbon–halogen bonds for the generation of carbon-centered radicals

Helena F. Piedra, Carlos Valdés and Manuel Plaza\*



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## PERSPECTIVE

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## Aromaticity: Quo Vadis

Gabriel Merino,\* Miquel Solà,\* Israel Fernández,\* Cina Foroutan-Nejad,\* Paolo Lazzaretti,\* Gernot Frenking,\* Harry L. Anderson, Dage Sundholm, Fernando P. Cossío, Marina A. Petrukhina, Jishan Wu, Judy I. Wu and Albeiro Restrepo

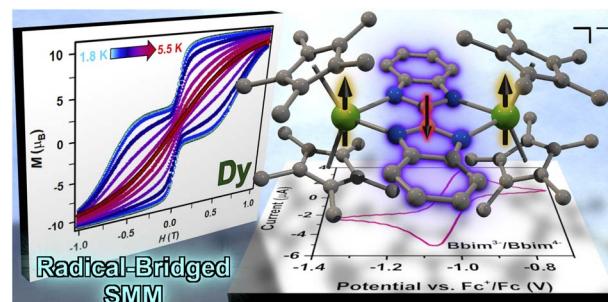


## EDGE ARTICLES

5577

## Magnetic hysteresis and large coercivity in bisbenzimidazole radical-bridged dilanthanide complexes

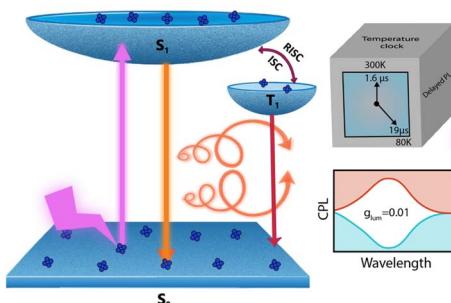
Florian Benner, Léo La Droitte, Olivier Cadot, Boris Le Guennic and Selvan Demir\*



5593

## Delayed luminescence guided enhanced circularly polarized emission in atomically precise copper nanoclusters

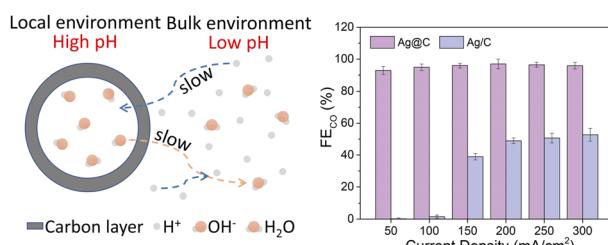
Camelia Dutta, Sonia Maniappan and Jatish Kumar\*



5602

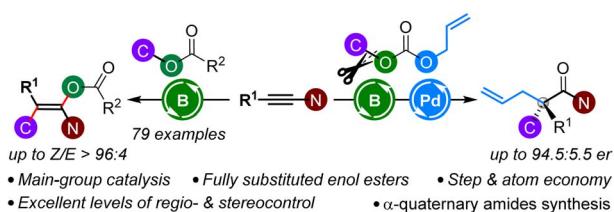
Confinement of an alkaline environment for electrocatalytic CO<sub>2</sub> reduction in acidic electrolytes

Xiaozhi Li, Peng Zhang, Lili Zhang, Gong Zhang, Hui Gao, Zifan Pang, Jia Yu, Chunlei Pei, Tuo Wang and Jinlong Gong\*



## EDGE ARTICLES

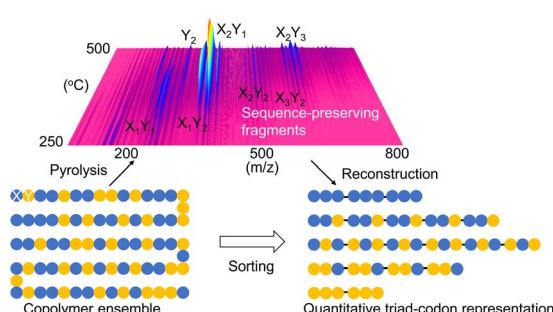
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**Atom-economic and stereoselective catalytic synthesis of fully substituted enol esters/carbonates of amides in acyclic systems enabled by boron Lewis acid catalysis**

Yuanjiu Xiao, Lei Tang, Tong-Tong Xu, Jiang-Yi-Hui Sheng, Zhongyan Zhou, Lei Yue, Guoqiang Wang,\* Martin Oestreich\* and Jian-Jun Feng\*

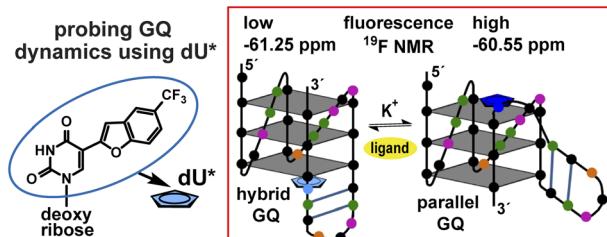
5619



**A data-driven sequencer that unveils latent "codons" in synthetic copolymers**

Yusuke Hibi,\* Shiho Uesaka and Masanobu Naito\*

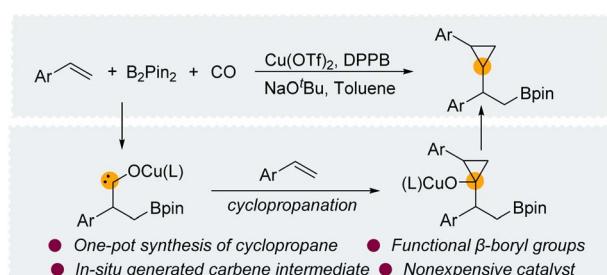
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**Probing juxtaposed G-quadruplex and hairpin motifs using a responsive nucleoside probe: a unique scaffold for chemotherapy**

Saddam Y. Khatik, Sruthi Sudhakar, Satyajit Mishra, Jeet Kalia, P. I. Pradeepkumar and Seergazhi G. Srivatsan\*

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**Copper-catalyzed synthesis of  $\beta$ -boryl cyclopropanes via 1,2-borocyclopropanation of aryl olefins with CO as the C1 source**

Hui-Qing Geng and Xiao-Feng Wu\*

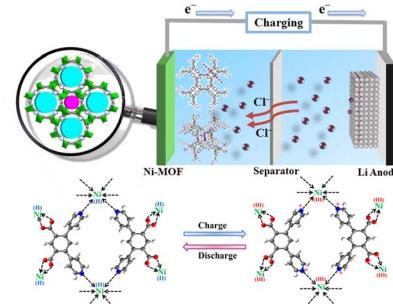


## EDGE ARTICLES

5643

**A nickel-based metal–organic framework as a new cathode for chloride ion batteries with superior cycling stability**

Qing Yin, Zhihao Song, Shuhan Yang, Gang-Ding Wang, Yanwei Sui,\* Jiqiu Qi, Danyang Zhao, Lei Hou\* and Yong-Zhi Li\*



5650

**Synthesis of spirooxindoles via formal acetylene insertion into a common palladacycle intermediate**

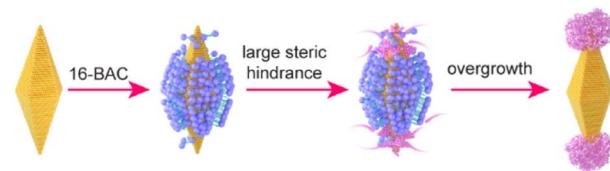
Xavier Abel-Snape, Colton E. Johnson, Bianca Imbriaco and Mark Lautens\*



5656

**Steric hindrance-induced selective growth of rhodium on gold nanobipyramids for plasmon-enhanced nitrogen fixation**

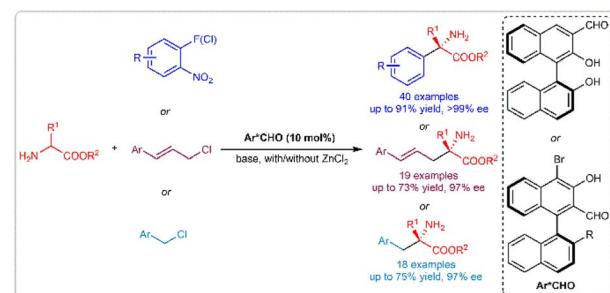
Henglei Jia, Fan Li, Yuanyuan Yang, Mengxuan Zhao, Jingzhao Li and Chun-ying Zhang\*



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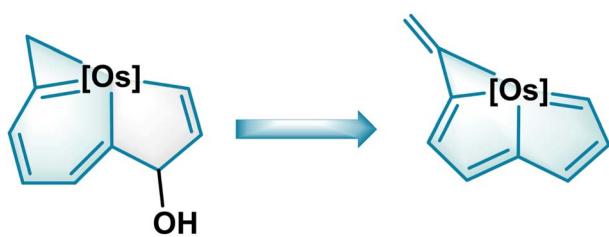
**Chiral aldehyde catalysis enables direct asymmetric  $\alpha$ -substitution reaction of N-unprotected amino acids with halohydrocarbons**

Hao-Ran Shen, Chao-Xing Li, Xin Jiang, Yao Lin, Jian-Hua Liu, Fang Zhu, Zhu-Lian Wu, Tian Cai, Wei Wen,\* Rong-Xing He and Qi-Xiang Guo\*



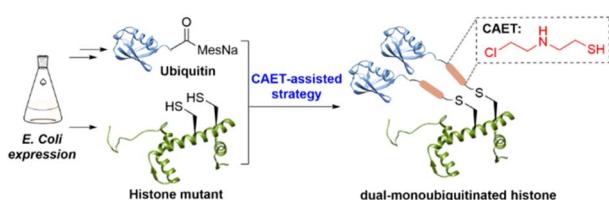
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**Reshaping aromatic frameworks: expansion of aromatic system drives metallabenzenoids to metallapentalenes**

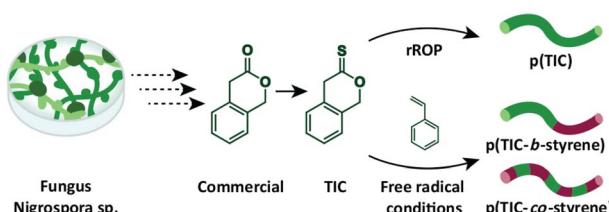
Qian Li, Jiawei Fei, Kaidong Ruan, Yuhui Hua, Dafa Chen, Ming Luo\* and Haiping Xia\*

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**The expedient, CAET-assisted synthesis of dual-monoubiquitinated histone H3 enables evaluation of its interaction with DNMT1**

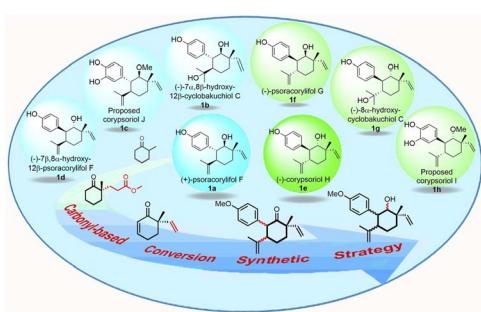
Zichen Li, Zebin Tong, Qingyue Gong, Huasong Ai,\* Shuai Peng, Cong Chen, Guo-Chao Chu and Jia-Bin Li\*

5689


**Radical ring-opening polymerization of sustainably-derived thionoisochromanone**

Emily A. Prebihalo, Anna M. Luke, Yernaidu Reddi, Christopher J. LaSalle, Vijay M. Shah, Christopher J. Cramer and Theresa M. Reineke\*

5699


**Enantioselective total syntheses of six natural and two proposed meroterpenoids from *Psoralea corylifolia***

Xiao-Wei Chen, Zi-Chao Hou, Chi Chen, Ling-Hui Zhang, Meng-En Chen and Fu-Min Zhang\*

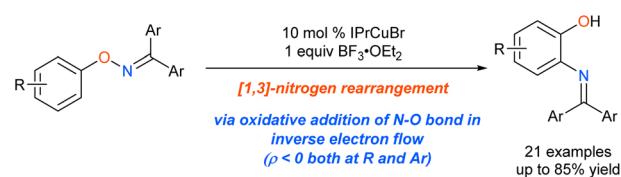


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**Copper-catalyzed [1,3]-nitrogen rearrangement of O-aryl ketoximes via oxidative addition of N–O bond in inverse electron flow**

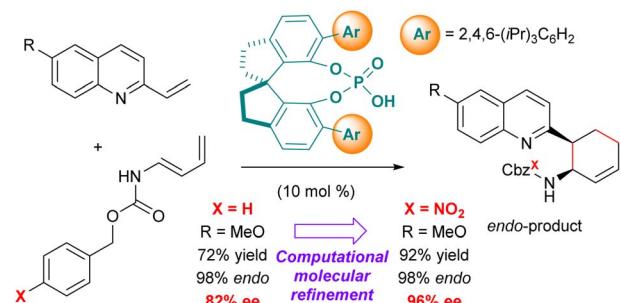
Mao Suzuki, Masahiro Terada and Itaru Nakamura\*



5712

**Computational molecular refinement to enhance enantioselectivity by reinforcing hydrogen bonding interactions in major reaction pathway**

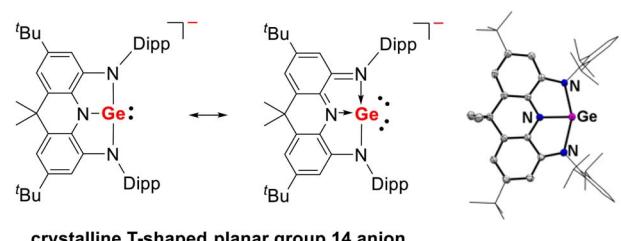
Taishi Nakanishi and Masahiro Terada\*



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**A crystalline T-shaped planar group 14 anion**

Xiaona Liu, Yuyang Dai, Manling Bao, Wenjuan Wang, Qianli Li, Chunmeng Liu, Xinpeng Wang\* and Yuanting Su\*

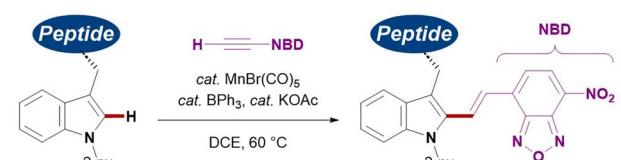


crystalline T-shaped planar group 14 anion

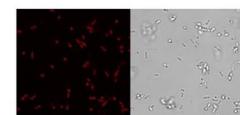
5728

**Late-stage peptide labeling with near-infrared fluorogenic nitrobenzodiazoles by manganese-catalyzed C–H activation**

Tsuyoshi Oyama, Lorena Mendive-Tapia, Verity Cowell, Adelina Kopp, Marc Vendrell\* and Lutz Ackermann\*

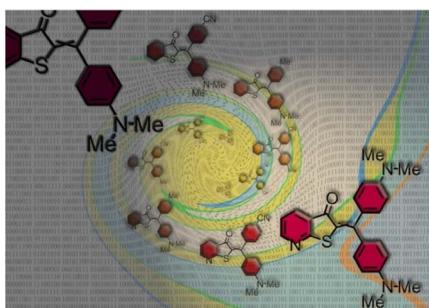


- ⊕ small and neutral NBD scaffold
- ⊕ non-toxic Mn catalyst
- ⊕ chemodivergent labeling
- ⊕ excellent fluorogenicity



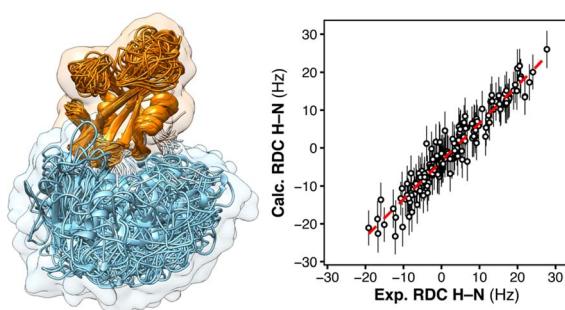
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**A cross-conjugation approach for high-performance diaryl-hemithioindigo photoswitches**

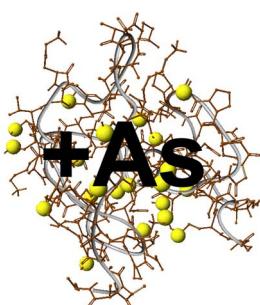
Max Zitzmann, Frank Hampel and Henry Dube\*

5743


**Experiment-guided molecular simulations define a heterogeneous structural ensemble for the PTPN11 tandem SH2 domains**

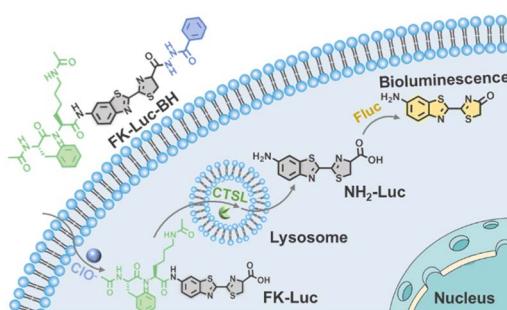
Michelangelo Marasco, John Kirkpatrick, Teresa Carloni, Jochen S. Hub and Massimiliano Anselmi\*

5756


**Arsenic binding to human metallothionein-3**

Amelia T. Yuan and Martin J. Stillman\*

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**An AND-gate bioluminescent probe for precise tumor imaging**

Chenchen Wang, Yajian Hong, Ling Dong, Hu Cheng, Duo Jin, Ronghua Zhao, Zian Yu and Yue Yuan\*

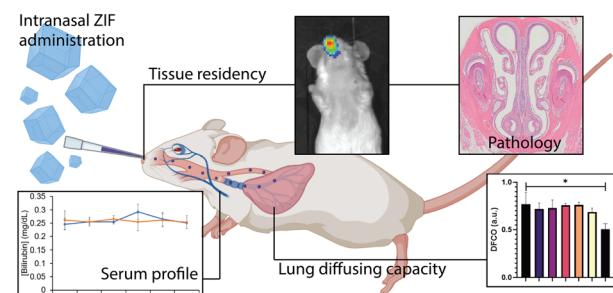


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5774

**In vivo biocompatibility of ZIF-8 for slow release via intranasal administration**

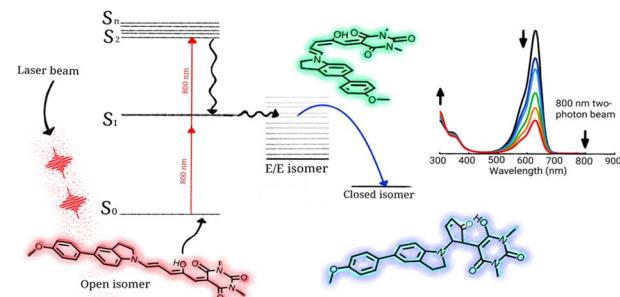
Sneha Kumari,\* Thomas S. Howlett, Rianne N. Ehrman, Shailendra Koirala, Orikeda Trashi, Ikeda Trashi, Yalini H. Wijesundara and Jeremiah J. Gassensmith\*



5783

**Two-photon isomerization properties of donor-acceptor Stenhouse adducts**

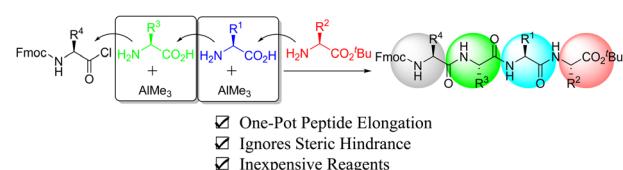
Francisco A. Reza-González, Emmanuel Villatoro, Mariana M. Reza, Jesús Jara-Cortés, Héctor García-Ortega, Edgard F. Blanco-Acuña, José G. López-Cortés, Nuria Esturau-Escofet, Alan Aguirre-Soto and Jorge Peón\*



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**Trimethylaluminum-mediated one-pot peptide elongation**

Tomohiro Hattori\* and Hisashi Yamamoto\*



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**Quantum chain amplification in nanocrystalline Dewar benzenes by intramolecular sensitization**

Edris Rivera, Indrajit Paul, Javier Fajardo, Jr and Miguel A. Garcia-Garibay\*

