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See Chengchao Xu, Huan Tang, Jigang Wang et al., pp. 4313–4321. Image reproduced by permission of Jigang Wang from *Chem. Sci.*, 2024, 15, 4313.



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PERSPECTIVES

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Bioorthogonal chemistry of polyoxometalates – challenges and prospects

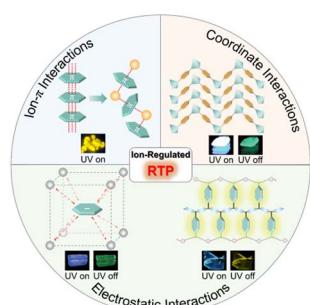
Stanislav K. Petrovskii, Elena V. Grachova and Kirill Yu. Monakhov*



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Recent progress in ion-regulated organic room-temperature phosphorescence

Wenbo Dai, Yitian Jiang, Yunxiang Lei, Xiaobo Huang, Peng Sun, Jianbing Shi, Bin Tong, Dongpeng Yan,* Zhengxu Cai* and Yuping Dong





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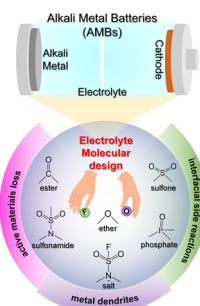
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Fundamental questions
Elemental answers

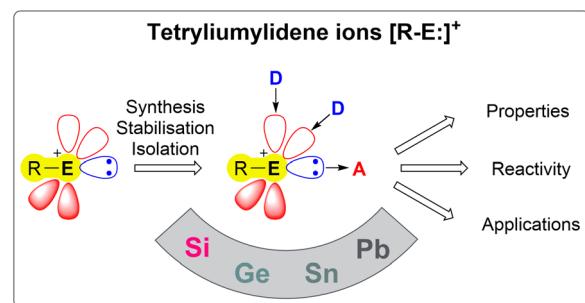
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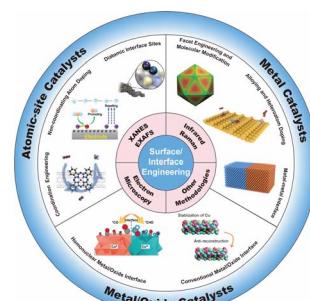
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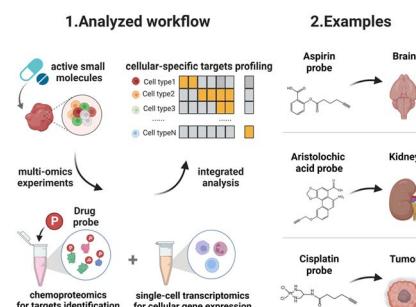
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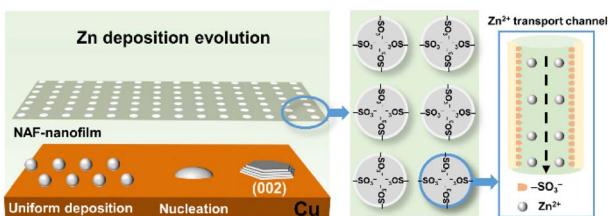
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Piao Luo, Ying Zhang, Fei Xia, Liwei Gu, Yin Kwan Wong,
Qiaoli Shi, Chengchao Xu,* Huan Tang*
and Jigang Wang*

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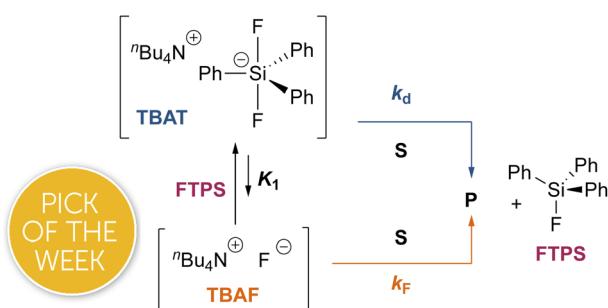
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In situ Nafion-nanofilm oriented (002) Zn electrodeposition for long-term zinc-ion batteries

Da Zhang, Ziyang Song, Ling Miao, Yaokang Lv, Lihua Gan and Mingxian Liu*

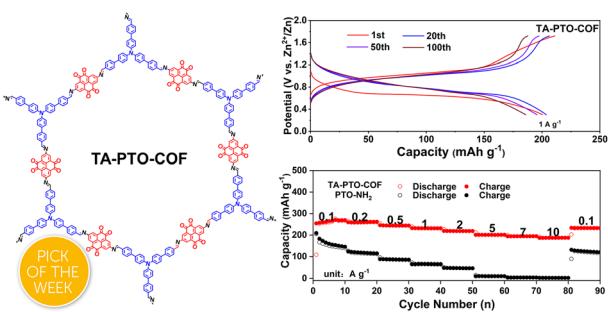
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Speciation and kinetics of fluoride transfer from tetra-*n*-butylammonium difluorotriphenylsilicate ('TBAT')

Maciej M. Kucharski, Allan J. B. Watson and Guy C. Lloyd-Jones*

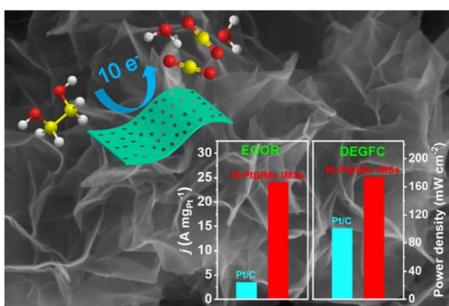
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A covalent organic framework as a dual-active-center cathode for a high-performance aqueous zinc-ion battery

Hongbao Li, Mengge Cao, Zhenli Fu, Quanwei Ma, Longhai Zhang, Rui Wang, Fei Liang, Tengfei Zhou and Chaofeng Zhang*

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Mesoporous Mo-doped PtBi intermetallic metallene superstructures to enable the complete electrooxidation of ethylene glycol

Xiaotong Yang, Qiang Yuan,* Tian Sheng* and Xun Wang*

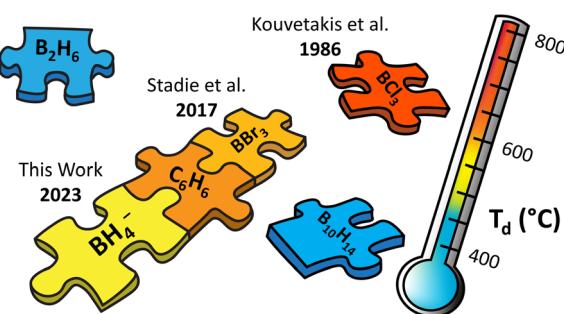


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Halide-free synthesis of metastable graphitic BC₃

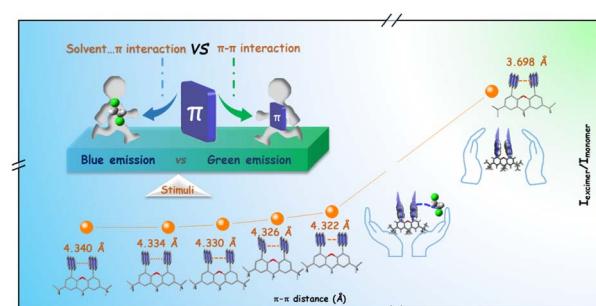
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Controllable π–π coupling of intramolecular dimer models in aggregated states

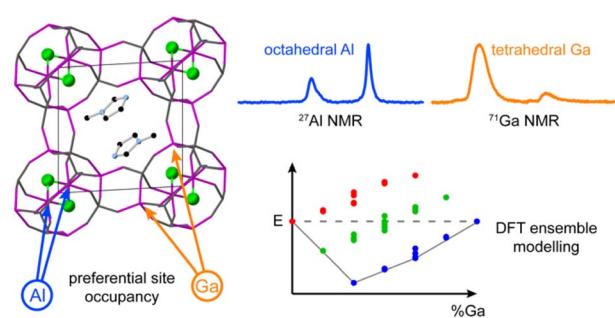
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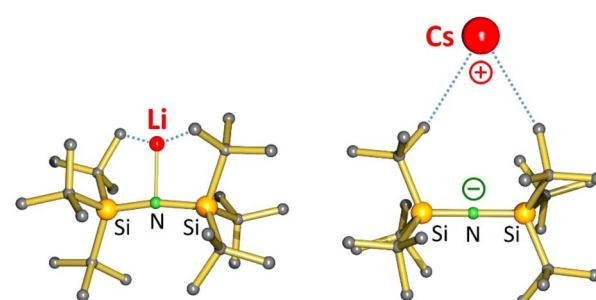
Daniel M. Dawson,* Jasmine A. Clayton, Thomas H. D. Marshall, Nathalie Guillou, Richard I. Walton* and Sharon E. Ashbrook*



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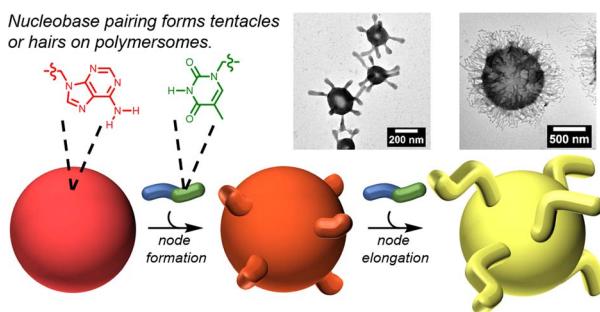
s-Block metal complexes of superbulky (^tBu₃Si)₂N⁻: a new weakly coordinating anion?

Christian Knüpfer, Lukas Klerner, Jonathan Mai, Jens Langer and Sjoerd Harder*



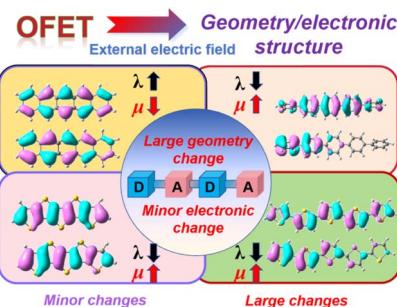
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Nucleobase pairing forms tentacles or hairs on polymersomes.**Controlled node growth on the surface of polymersomes**

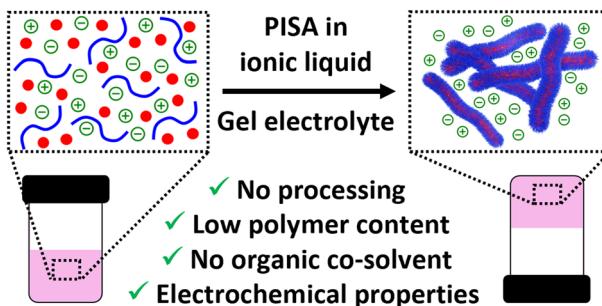
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Gui-Ya Qin, Xiao-Qi Sun, Rui Wang, Jing-Fu Guo, Jian-Xun Fan, Hui Li, Lu-Yi Zou and Ai-Min Ren*

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Georgia L. Maitland, Mingyu Liu, Thomas J. Neal, James Hammerton, Yisong Han, Stephen D. Worrall, Paul D. Topham and Matthew J. Derry*

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Gabriel Glotz, Manfred Drusgala, Florian Hamm, Roland C. Fischer, Nađa Došlić, Anne-Marie Kelterer, Georg Gescheidt* and Michael Haas*

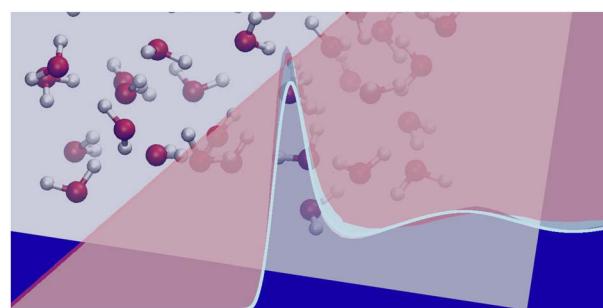


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Structure and dynamics of liquid water from *ab initio* simulations: adding Minnesota density functionals to Jacob's ladder

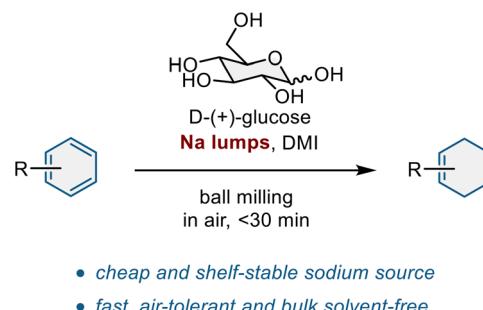
Justin Villard, Martin P. Bircher and Ursula Rothlisberger*



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Mechanochemistry enabling highly efficient Birch reduction using sodium lumps and D-(+)-glucose

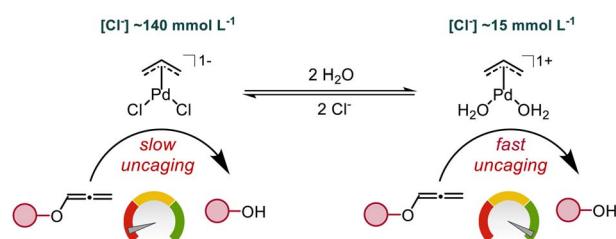
Keisuke Kondo, Koji Kubota* and Hajime Ito*



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Interplay of chloride levels and palladium(II)-catalyzed O-deallenylation bioorthogonal uncaging reactions

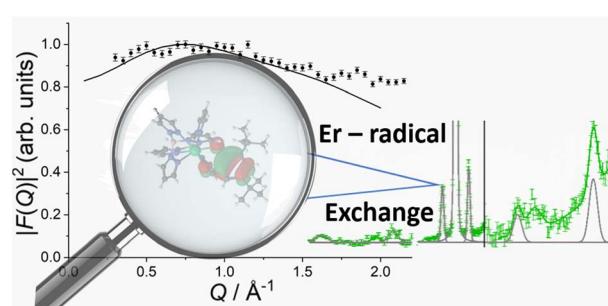
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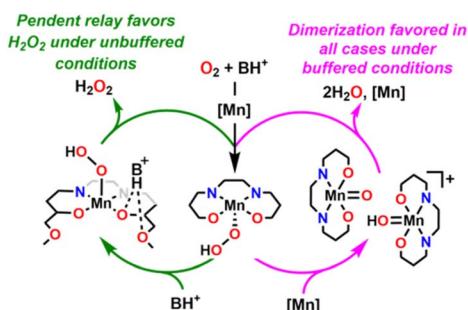
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Maja A. Dunstan, Marcus J. Giansiracusa, Simone Calvello, Lorenzo Sorace, Anwen M. Krause-Heuer, Alessandro Soncini,* Richard A. Mole* and Colette Boskovic*



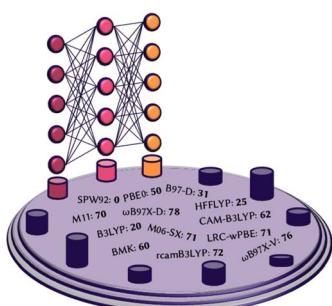
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Controlling product selectivity during dioxygen reduction with Mn complexes using pendent proton donor relays and added base

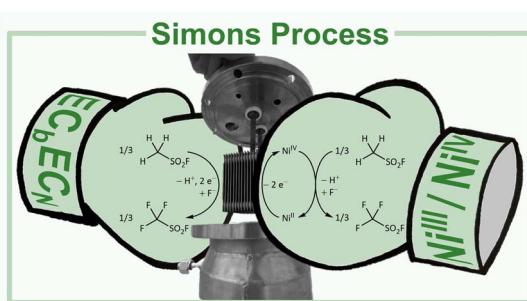
Emma N. Cook, Ian M. Courier, Diane A. Dickie and Charles W. Machan*

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DELFI: a computer oracle for recommending density functionals for excited states calculations

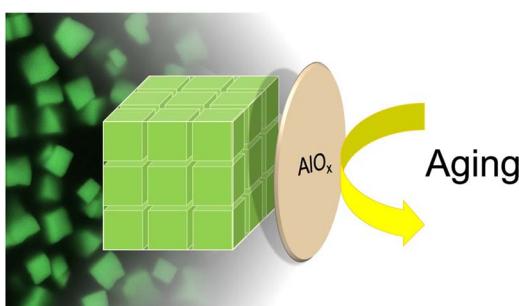
Davide Avagliano,* Marta Skreta, Sebastian Arellano-Rubach and Alán Aspuru-Guzik*

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Unravelling highly oxidized nickel centers in the anodic black film formed during the Simons process by *in situ* X-ray absorption near edge structure spectroscopy

Gene Senges, Ana Guilherme Buzanich, Tilen Lindič, Tyler A. Gully, Marlon Winter, Martin Radtke, Bettina Röder, Simon Steinhauer, Beate Paulus, Franziska Emmerling and Sebastian Riedel*

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Long live(d) $CsPbBr_3$ superlattices: colloidal atomic layer deposition for structural stability

Victoria Lapointe, Philippe B. Green, Alexander N. Chen, Raffaella Buonsanti and Marek B. Majewski*

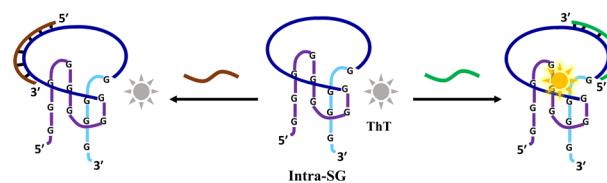


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Topological effect of an intramolecular split G-quadruplex on thioflavin T binding and fluorescence light-up

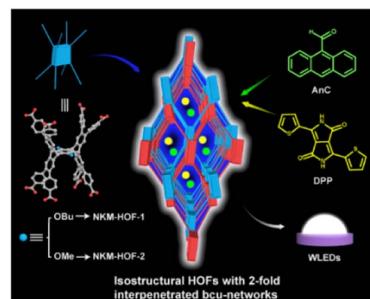
Mengmeng Lv, Jiangtao Ren* and Erkang Wang*



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Reticular synthesis of 8-connected carboxyl hydrogen-bonded organic frameworks for white-light-emission

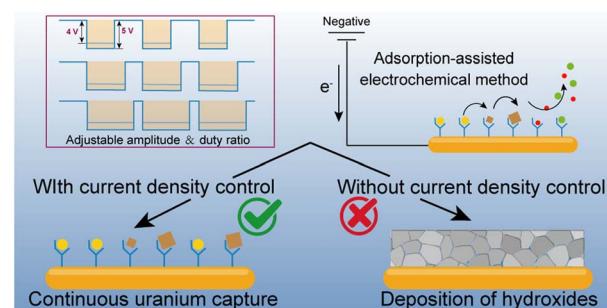
Xiao-Juan Xi, Yang Li, Feifan Lang, Jiandong Pang* and Xian-He Bu*



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A marine bacteria-inspired electrochemical regulation for continuous uranium extraction from seawater and salt lake brine

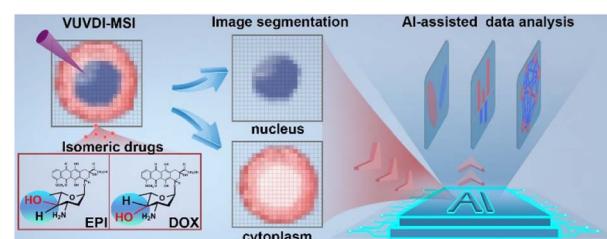
Linsen Yang, Yongchao Qian, Zhehua Zhang, Tingyang Li, Xiangbin Lin, Lin Fu, Shengyang Zhou, Xiang-Yu Kong, Lei Jiang and Liping Wen*



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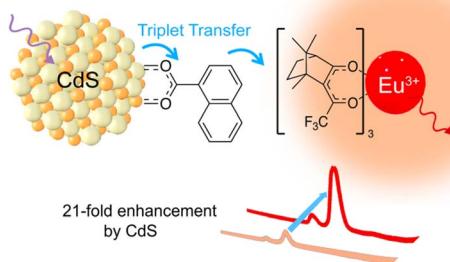
AI-assisted mass spectrometry imaging with *in situ* image segmentation for subcellular metabolomics analysis

Cong-Lin Zhao, Han-Zhang Mou, Jian-Bin Pan, Lei Xing,* Yuxiang Mo, Bin Kang,* Hong-Yuan Chen and Jing-Juan Xu*



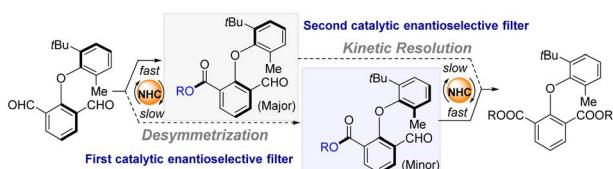
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**Triplet energy transfer from quantum dots increases Ln(III) photoluminescence, enabling excitation at visible wavelengths**

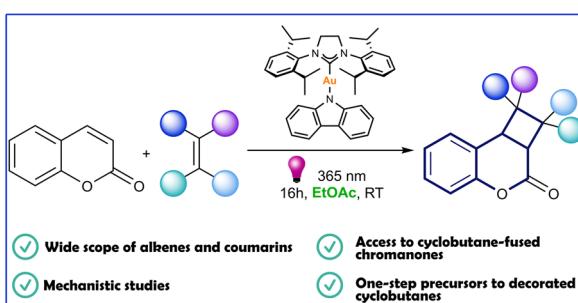
Tingting Huang, Sheng He, Anji Ni, Tianquan Lian* and Ming Lee Tang*

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**Synthesis of axially chiral diaryl ethers via NHC-catalyzed atroposelective esterification**

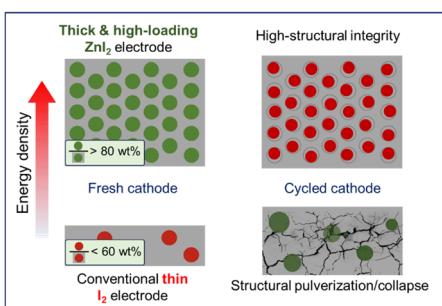
Yingtao Wu, Xin Guan, Huaqiu Zhao, Mingrui Li, Tianlong Liang, Jiaqiong Sun, Guangfan Zheng* and Qian Zhang*

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Vladislav A. Voloshkin, Marco Villa, Ekaterina A. Martynova, Marek Beliš, Kristof Van Hecke, Paola Ceroni* and Steven P. Nolan*

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**Unleashing the high energy potential of zinc–iodide batteries: high-loaded thick electrodes designed with zinc iodide as the cathode**

Jingkang Ma, Alireza Azizi, Erhuan Zhang, Hong Zhang,* Anqiang Pan* and Ke Lu*



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From π -conjugated macrocycles to heterocycloarenes based on benzo[2,1-*b*:3,4-*b'*] dithiophene (BDTh): size- and geometry-dependent host–guest propertiesDongyue An, Rong Zhang, Jiangyu Zhu, Teng Wang,
Yan Zhao, Xuefeng Lu* and Yunqi Liu