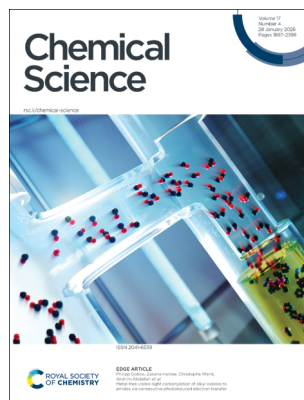


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ISSN 2041-6539 CODEN CSHCBM 17(4) 1897–2398 (2026)



Cover
See Yukiya Kitayama, Atsushi Harada *et al.*, pp. 2067–2077. Image reproduced by permission of Yukiya Kitayama from *Chem. Sci.*, 2026, 17, 2067.



Inside cover
See Philipp Gotico, Zakaria Halime, Christophe Werlé, Ibrahim Abdellah *et al.*, pp. 2078–2086. Image reproduced by permission of Ibrahim Abdellah from *Chem. Sci.*, 2026, 17, 2078. Image created by Benjamin Large (Sc·EYE·nce Illustrations).

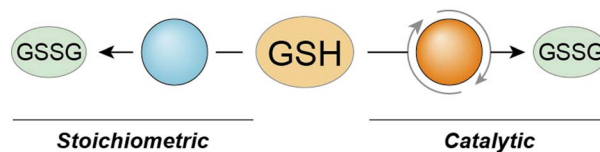
PERSPECTIVE

1911

Nanomomedical approaches to deplete intracellular glutathione in oncology

Javier Bonet-Aleta,* Jose L. Hueso,* Andrea Mosseri and Jesus Santamaria

Nanomomedical approaches for glutathione depletion

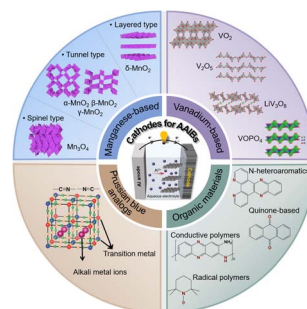


REVIEWS

1932

Recent advances and design strategies of cathode materials for aqueous aluminum-ion batteries

Jiayou Feng, Shumei Chen, Yuzheng Wu, Xiaodan Huang* and Chengzhong Yu*



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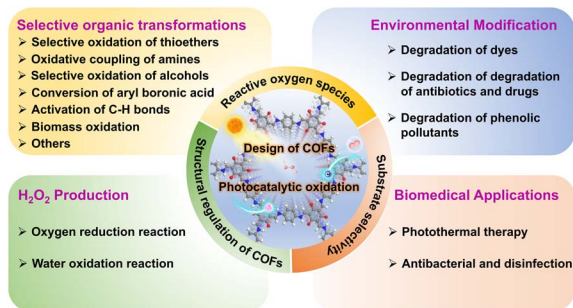
Fundamental questions
Elemental answers

REVIEWS

1964

Design strategies and application progress of covalent organic frameworks in photocatalytic oxidation reactions

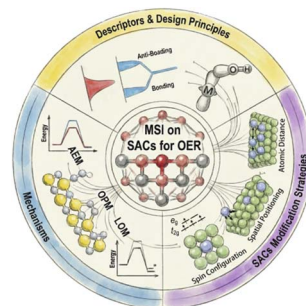
Tao Sun, Rui Wang, Renquan Guan, Li Wang, Tian Zhong, Chunbo Liu,* Xueying Cheng* and Qianrong Fang*



2001

Designing single-atom catalysts: bridging metal-support interaction and adsorption energy optimization

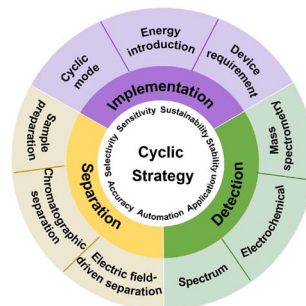
Huaizhen Cui, Jiaqi Zhang* and Chen Chen*



2028

The progress of the cyclic strategy in separation and detection

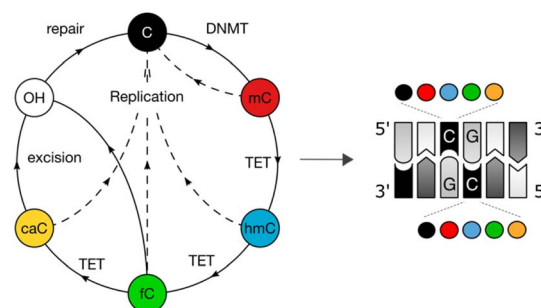
Baisen Chen, Ziwang Liu, Xiaoshuai Yang, Xiaolu Zhou, Ling Xia and Gongke Li*



2045

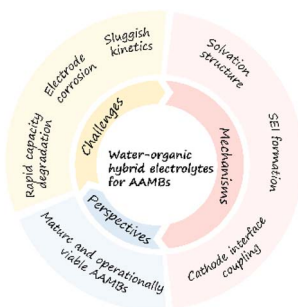
The role of cytosine modification symmetry in mammalian epigenome regulation

Zeyneb Vildan Cakil, Lena Engelhard and Daniel Summerer*



REVIEWS

2058

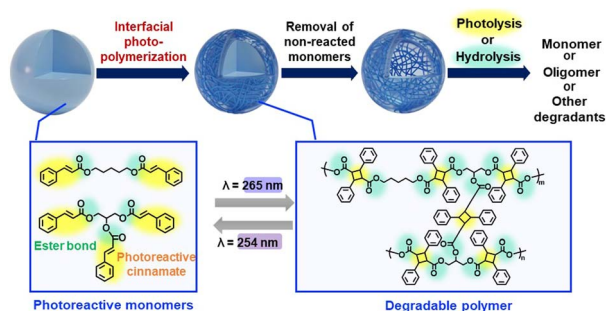


Beyond water: a mini review on hybrid electrolyte strategies for advanced aqueous aluminum batteries

Li Li, Hang Yang* and Wei Han*

EDGE ARTICLES

2067

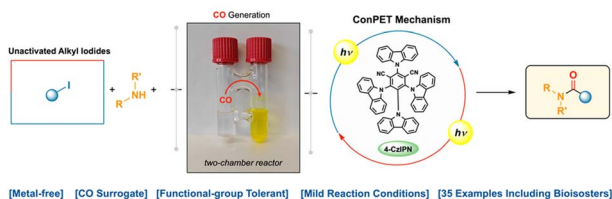


Interfacial photocycloaddition polymerization: a synthetic approach for structurally functionalized degradable polymer particles from naturally derived monomers

Yukiya Kitayama,* Misato Yamashita and Atsushi Harada*

2078

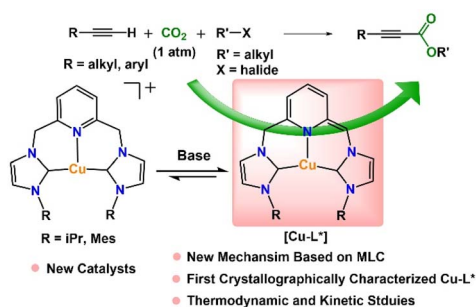
Metal-Free Visible-Light Aminocarbonylation



Metal-free visible-light carbonylation of alkyl iodides to amides via consecutive photoinduced electron transfer

Fatima Akhssas, Guillaume Chu, Meriem El Malamy, Naomi Illi, Jasmine Hertzog, Bertrand Vilen, Nolwenn Le Breton, Michael Badawi, Miguel Ponce-Vargas, Philipp Gotico,* Alexandre Vasseur, Zakaria Halime,* Christophe Werlé* and Ibrahim Abdellah*

2087



Metal ligand cooperativity in the direct carboxylation and esterification of terminal alkynes by Cu-CNC complexes bearing 2,6-lutidine linkers

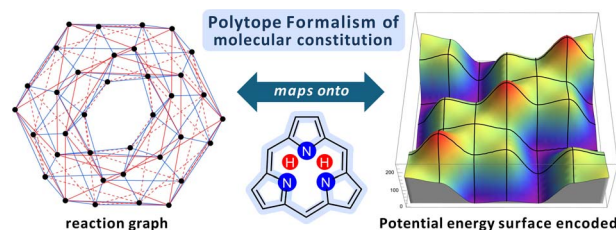
Nick Back, Emylie Guthrie, Chengxu Zhu, Sam P. de Visser and Laleh Tahsini*



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The Polytope Formalism: application to molecular constitution and the prospect of a complete description of Chemical Space

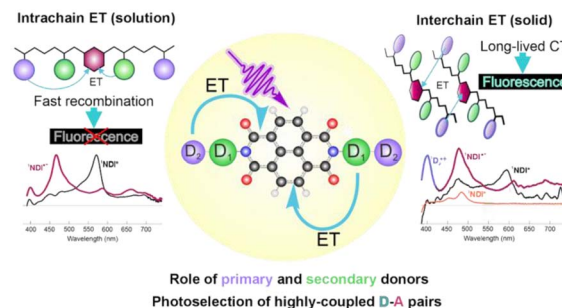
Peter J. Canfield* and Maxwell J. Crossley*



2119

Photoinduced charge-transfer dynamics in fluorescent electron donor–acceptor polymers

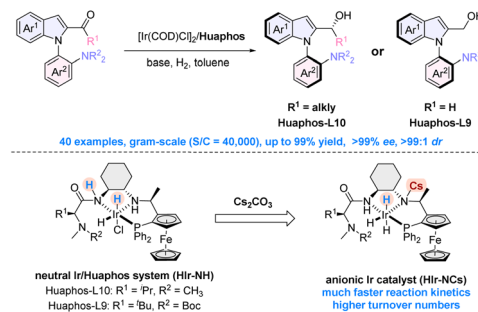
Estefanía Sucre-Rosales, Suiying Ye, Yinyin Bao* and Eric Vauthey*



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Bulky alkali metal cations enabled highly efficient iridium-catalyzed asymmetric hydrogenation for C–N axial chirality via dynamic kinetic resolution

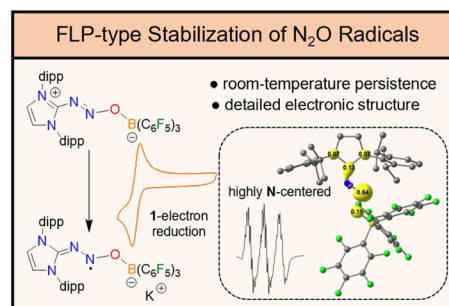
Xianghua Zhao, Xinyu Chen, Linxian Fan, Yulong Jiang, Yirui Chen, Dingguo Song, Fei Ling,* Junyuan Hu* and Weihui Zhong*



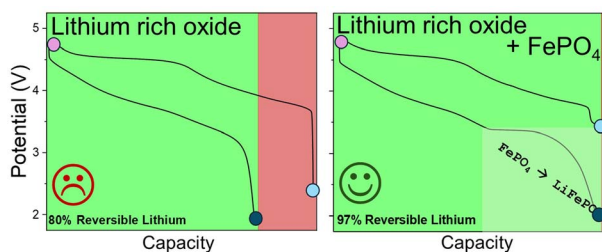
2140

N-centered, yet persistent: isolation of N₂O-based radicals through FLP-type stabilization

Andrea Orellana Ben Amor, Laure Vendier, Vincent César, Vincent Maurel,* Julien Panetier* and Nicolas Queyriaux*



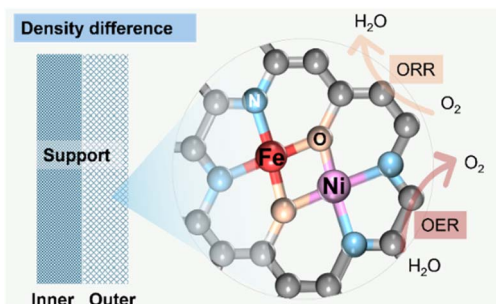
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Addressing first cycle irreversible capacity in lithium-rich layered oxides by blending with delithiated active materials

Dimitrios Chatzogiannakis, Violetta Arszewlewska, Pierre-Etienne Cabelguen, M. Rosa Palacin* and Montse Casas-Cabanas*

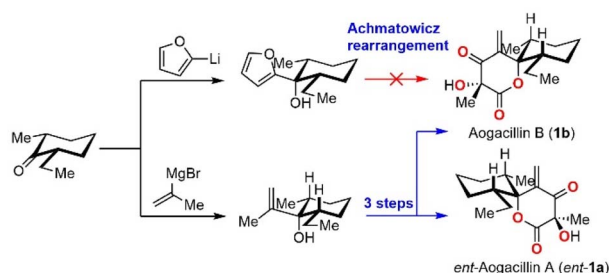
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Synergistic Fe–Ni dual-atom sites on hollow carbon enabling high-performance rechargeable zinc–air batteries

Yue Wang, Jianhua Wang, Xueting Feng, Guanzhen Chen,* Xusheng Wang, Tao Gan,* Xing Fan,* Haiping Lin and Yunhu Han*

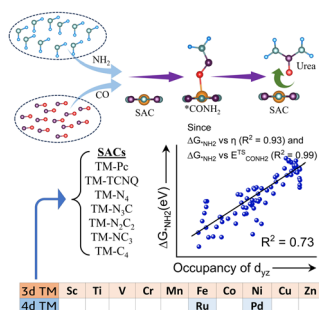
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Total syntheses of *ent*-aogacillin A and aogacillin B

Huixing Gu, Ziyi Li, Xinwei Zhang, Ruocheng Sang, Zhendong Li, Jinyi Ren, Xiaojing Chen, Boya Ma, Wenhao Qiu, Zebin Yang, Xiaoyan Li,* Rongbiao Tong* and Wei Zhang*

2169



Electronic and energy descriptors for SACs as tri-functional catalysts towards urea formation and unveiling the C–N coupling mechanism

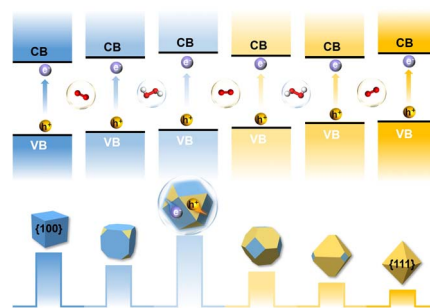
Narad Barman, Chiranjib Majumder and Ranjit Thapa*



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Tuning the anisotropic facet of Cu₂O single-crystals for photocarrier spatial segregation

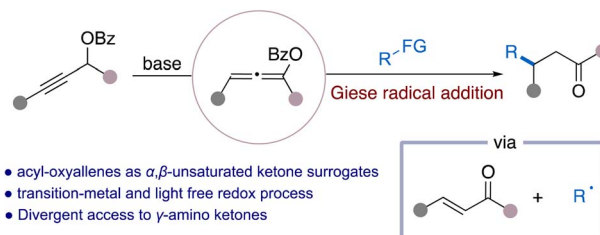
Shuo Tian, Yunsen Wang, Shuyun Chen, Zhichao Yu, Di Wu, Jiao Qin, Dianyong Tang* and Dianping Tang*



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Acyl-oxyallenes as α,β -unsaturated ketone surrogates for Giese radical addition

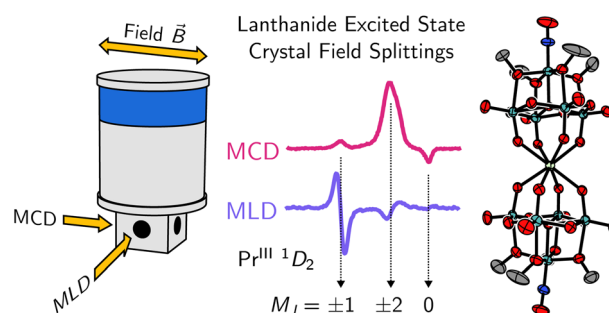
Jiarong Jin, Xin Li, Yicheng Luo, Jianfu Chen,* Wenjun Tang* and Kang Du*



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UV-vis-NIR magnetic linear dichroism: a powerful complement to MCD for f-block electronic structure

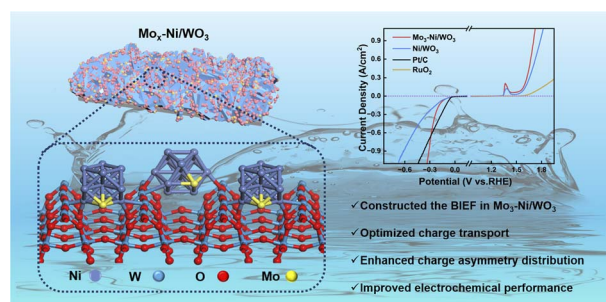
Sydney M. Giles, Kevin O'Neil, Ian E. Ramsier, Gina Angelo, Xin Gui and Wesley J. Transue*



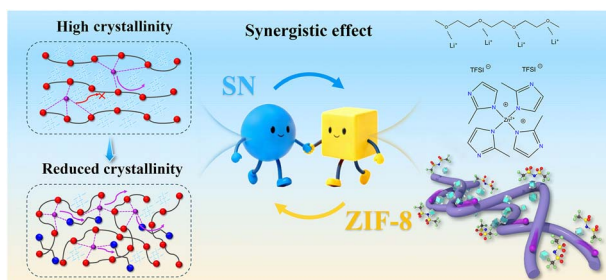
2210

Construction of a built-in electric field in Mo-doped Ni/WO₃ to enhance asymmetric charge distribution for efficient overall water splitting

Yang Sun, Fan Yang,* Kexin Wei, Siyuan Sun, Li Sun, Junpu An, Chunhui Yu, Qing Guo, Conghan Zhang, Guang Ma, Hongchen Liu and Yongfeng Li*



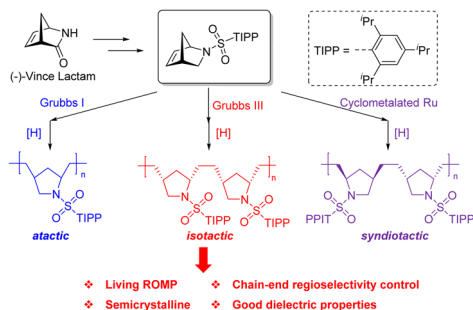
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Synergistic effect of MOF fillers and succinonitrile in PEO-based electrolytes for long-cycle all-solid-state Li-CO₂ batteries

Yilong Huang, Jinfeng Ha, Zhixin Liu, Xingyu Yu, Yin Liu, Xiaoli Fan, Xianli Huang, Jianping He, Shuping Huang* and Tao Wang*

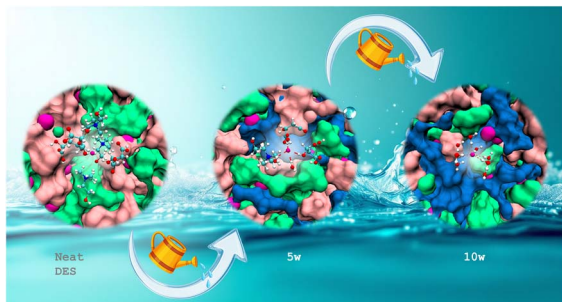
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Chiral poly(aza-norbornene) derivatives with tunable tacticity and living ROMP capability

Jing Bai, Yu Wang,* Yisong Wang, Na Zhang, Xiaoyang Wang, Yan Xu* and Wei You*

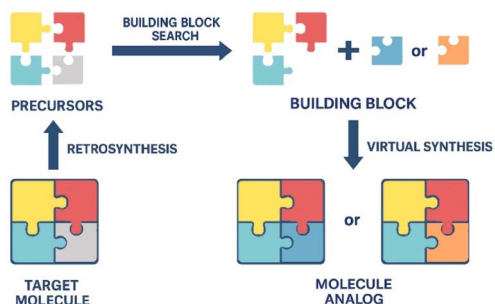
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Water drives sequential breakdown of dynamic nanodomains in deep eutectic electrolytes

Tubai Chowdhury, Athira Babu, Sreekumar Kurungot,* Rajib Biswas,* Sapna Ravindranathan* and Sayan Bagchi*

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SynTwins: a retrosynthesis-guided framework for synthesizable molecular analog generation

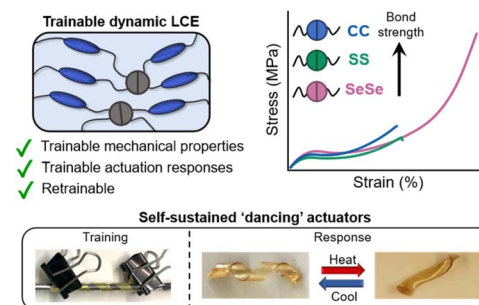
Shuan Chen, Gunwook Nam, Alán Aspuru-Guzik and Yousung Jung*



2263

Impact of dynamic bond strength on the training of liquid crystal elastomers

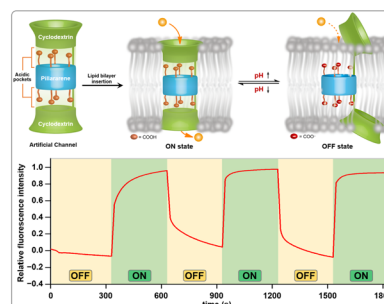
E. Ghimire, I. S. Appen, C. A. Lindberg, L. Blagitz de Abreu e Silva and S. J. Rowan*



2273

Fast-switching pH-responsive biomimetic ion channels with bidirectional gating control

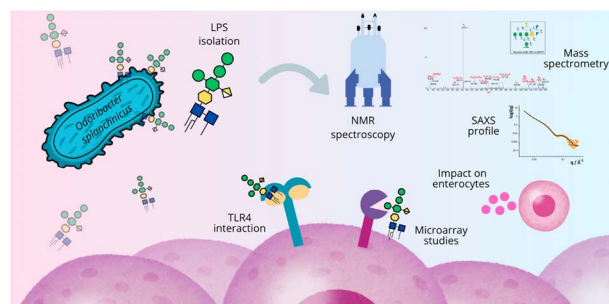
Wen Zhao, Linlin Shi, Juan Chen, Jingjing Ma, Qingqing Lv, Yonghui Sun,* Nan Lv,* Xiaoyu Chang* and Pengyang Xin*



2281

Odoribacter splanchnicus lipooligosaccharide: an uncommon structure with weak immunostimulatory activity

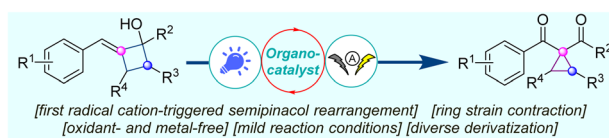
Marta Tiemblo-Martin, Marcello Mercogliano, Kaisa Hiippala, Luca De Simone Carone, María Asunción Campanero-Rhodes, Maria Masiello, Alessandro Cangiano, Antonio Molinaro, Luigi Paduano, Dolores Solís, Reetta Satokari, Flaviana Di Lorenzo* and Alba Silipo*



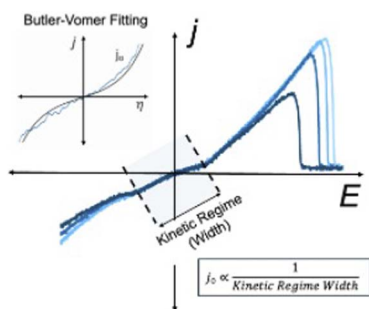
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Organo-catalyzed photoelectrochemical ring-contraction of arylidenecyclobutanols via radical cation-triggered semipinacol rearrangement

Yu Zheng,* Chunxi Chen, Xuhao Zhou, Guoyang Deng, Yanju Lu and Shenlin Huang*



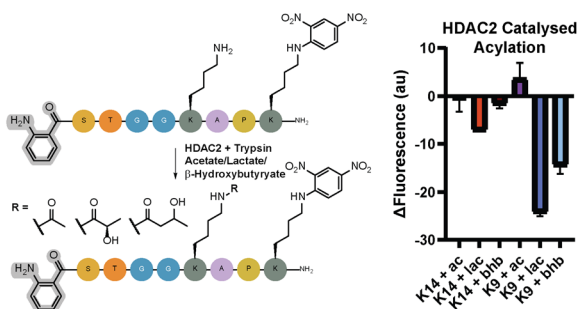
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Amide additives enhance the understanding of kinetic reversibility in zinc anode stability using ultramicroelectrodes

James H. Nguyen, Ashutosh Rana, Kudekallu Shiprath, Brajesh R. Bhagat, Saptarshi Paul, Shaonsikta Chatterjee, Newton Roy, Ishita Das, Bidisa Das,* Abhik Banerjee* and Jeffrey E. Dick*

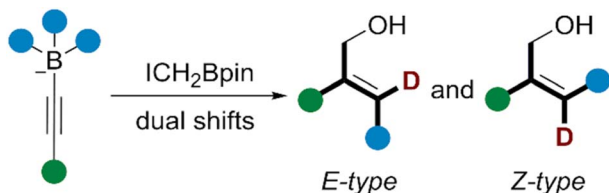
2317



Internally quenched fluorescent peptides provide insights into underexplored and reversible post-translational modifications

Jordi C. J. Hintzen, Kamiel D. Beckley, Emily L. Goldberg and George M. Burslem*

2332

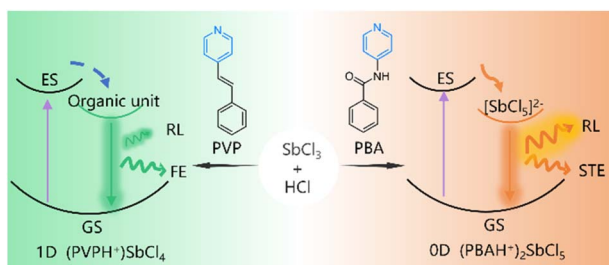


Synthesis and separation of two stereoisomers of deuterated tetrasubstituted allylic alcohols via consecutive dual 1,2-metallate shifts

Puhui Li, Yajun Yu, Xingxing Ma* and Qiuling Song*

- ◆ Consecutive dual 1,2-migrations
- ◆ *Z/E* Configurations are isolated

2340



A pyridinium cation engineering strategy to achieve high-performance X-ray scintillation of antimony halides

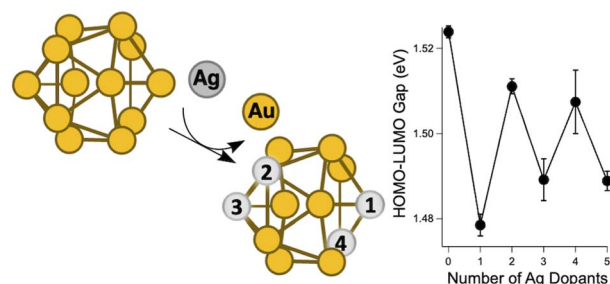
Yuan-Yuan Zhao, Jian-Cheng Chen, Li Zhang, Jiabin Chen,* Qing Liao,* Zhong-Qiu Li,* Meijin Lin, Jiannian Yao and Yu-Wu Zhong*



2348

Sequential Ag doping of Au₂₅⁻ atomically precise nanoclusters induces alternating positive and negative shifts of the HOMO–LUMO gap

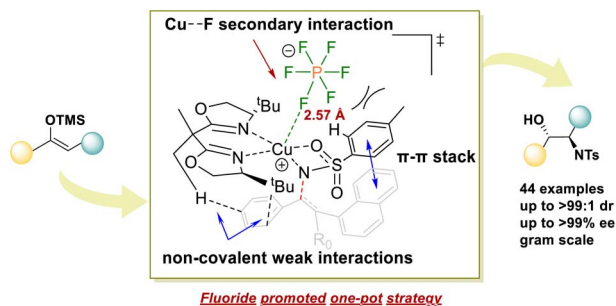
Jonathan W. Fagan, Nabihya Syed, Wangshu Wen, Hanna Morales Hernández, Alvaro Muñoz-Castro and Christopher J. Johnson*



2356

Enantioselective synthesis of vicinal amino alcohols promoted by fluorine-containing counteranions

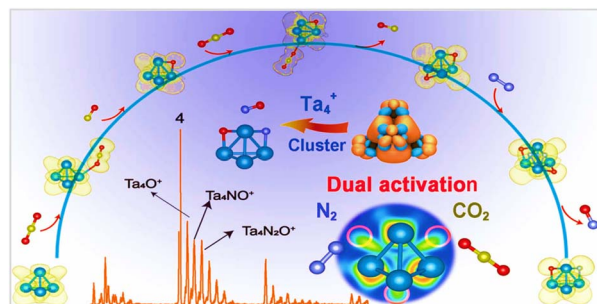
Yuchen Yang, Jia-Long Wu, Sheng-Ye Zhang, Xu Liu, Teng Sun, Yanan Zhao* and Lijia Wang*



2364

Dual activation of CO₂ and N₂ facilitated by single Ta₄⁺ clusters

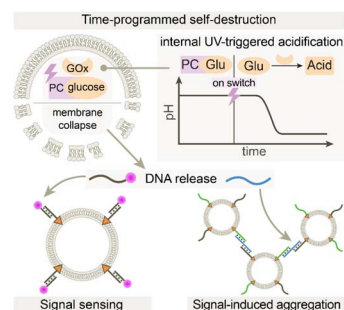
Yifan Gao, Ran Cheng, Klavs Hansen and Zhixun Luo*



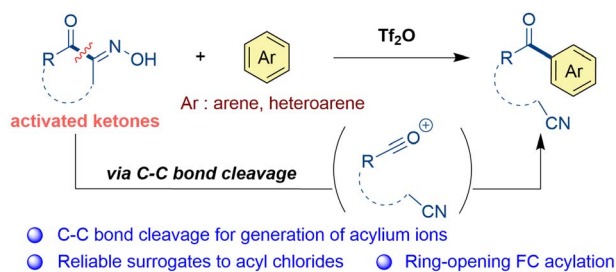
2372

Programmable self-destruction of artificial cells with death signaling

Joshua Krehan, Lorena Baranda Pellejero and Andreas Walther*



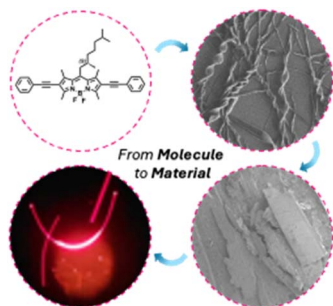
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Friedel–Crafts acylation via interrupted Beckmann fragmentation of activated ketones

Ye Ji Shin, Eswaran Kamaraj and Hee Nam Lim*

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Understanding self-assembly across scales in BODIPY derivatives: from supramolecular aggregation in solution to optical-waveguiding crystalline materials

Marina González-Sánchez, Ana M. Garcia, Jorge S. Valera, Ana M. Rodríguez, Juan Cabanillas-González, Pilar Prieto* and David González-Rodríguez*

CORRECTION

2395

Correction: Alkaline electrocatalytic water oxidation by Fe–Ni nanostructures on porous turbostratic carbon with tailorable metal–metal active sites

Dipankar Saha, Chaoyun Tang, Javed Khan, Pulkit Jain, Cheng-Jie Yang, Chung-Li Dong, Richard F. Webster, Chi-Liang Chen, Zhu Chen, Peng Bai, Richard D. Tilley, Nianqiang Wu* and James J. Watkins*

