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See Leoní A. Barrios, Valentin Novikov, Guillem Aromi *et al.*, pp. 9047–9053. Image reproduced by permission of Guillem Aromi from *Chem. Sci.*, 2024, **15**, 9047.



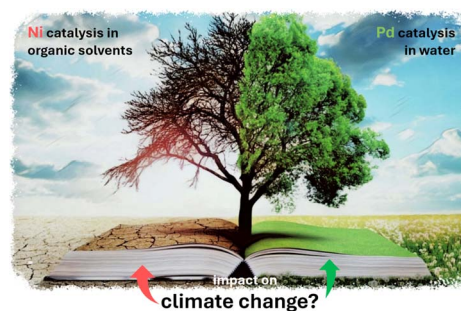
Inside cover
See Mathieu S. Prévot *et al.*, pp. 9054–9086. Image reproduced by permission of Mathieu S. Prévot from *Chem. Sci.*, 2024, **15**, 9054.

PERSPECTIVE

9016

The impact of earth-abundant metals as a replacement for Pd in cross coupling reactions

Michael U. Luescher,* Fabrice Gallou* and Bruce H. Lipshutz*

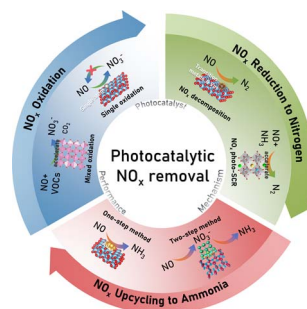


REVIEW

9026

Photocatalytic NO_x removal and recovery: progress, challenges and future perspectives

Ting Xue, Jing Li, Lvcun Chen, Kanglu Li, Ying Hua, Yan Yang* and Fan Dong*



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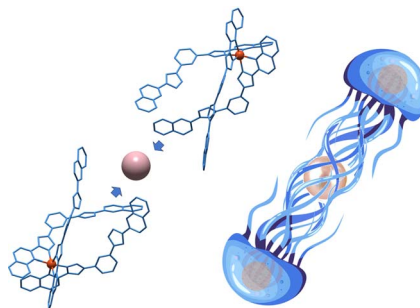
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9047

Engineered $\pi\cdots\pi$ interactions favour supramolecular dimers $X@[FeL_3]_2$ ($X = Cl, Br, I$): solid state and solution structure

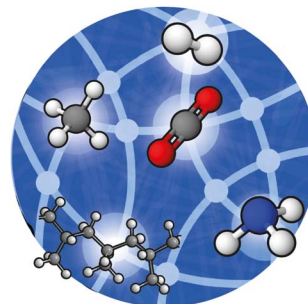
Arnau Risa, Leoní A. Barrios,* Rosa Diego, Olivier Roubeau, Dmitry Y. Aleshin, Yulia Nelyubina, Valentin Novikov,* Simon J. Teat, Jordi Ribas-Ariño and Guillem Aromí*



9054

An anthropocene-framed transdisciplinary dialog at the chemistry-energy nexus

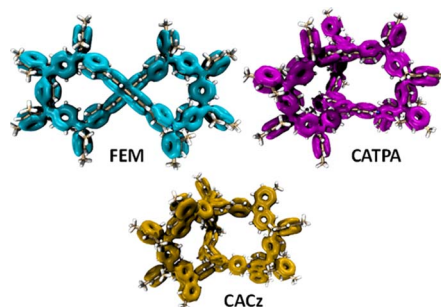
Mathieu S. Prévot, Valeria Finelli, Xavier Carrier, Gabriele Deplano, Margherita Cavallo, Elsje Alessandra Quadrelli, Juliette Michel, Marie-Hélène Pietraru, Clément Camp, Giulia Forghieri, Anna Gagliardi, Sebastian Seidel, Antoine Missemmer, Bertrand Reuillard, Barbara Centrella, Silvia Bordiga, María Grace Salamanca González, Vincent Artero, Keanu V. A. Birkelbach and Niklas von Wolff



9087

Facile synthesis and characterization of aza-bridged all-benzenoid quinoidal figure-eight and cage molecules

Shaoqiang Dong,* Yi Han, Zekun Tong, Jinfeng Wang, Yishan Zhang, Aisen Li, Tullimilli Y. Gopalakrishna, Hongkun Tian and Chunyan Chi*



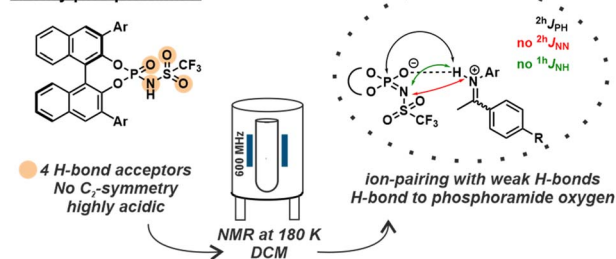
9096

Re-pairing DNA: binding of a ruthenium phi complex to a double mismatch

Taylor D. Prieto Otoy, Kane T. McQuaid, Neil G. Paterson, David J. Cardin, Andrew Kellett and Christine J. Cardin*

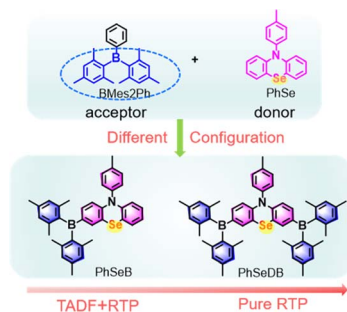


9104

***N*-Triflylphosphoramides****Highly acidic *N*-triflylphosphoramides as chiral Brønsted acid catalysts: the effect of weak hydrogen bonds and multiple acceptors on complex structures and aggregation**

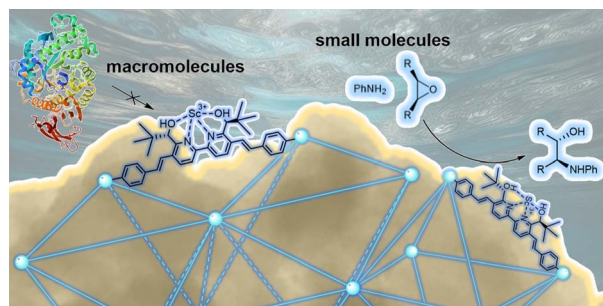
Markus Hecht, Philipp Dullinger, Wagner Silva, Dominik Horinek and Ruth M. Gschwind*

9112

**Achieving pure room temperature phosphorescence (RTP) in phenoselenazine-based organic emitters through synergism among heavy atom effect, enhanced n → π* transitions and magnified electron coupling by the A–D–A molecular configuration**

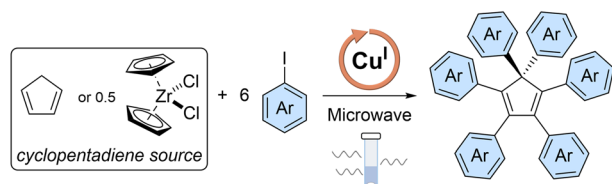
Daokun Zhong, Siqi Liu, Ling Yue, Zhao Feng, Hongyan Wang, Peng Yang, Bochao Su, Xiaolong Yang, Yuanhui Sun and Guijiang Zhou*

9120

**Nanoscale and chiral metal–organic frameworks for asymmetric reactions in water: bridging Lewis acid catalysis and biological systems**

Watchara Srimontree, Taku Kitanosono,* Yasuhiro Yamashita and Shū Kobayashi*

9127

Cyclopentadiene perarylation
6 new C–C bonds in a single synthetic operation**Copper-catalysed perarylation of cyclopentadiene: synthesis of hexaarylcyclopentadienes**

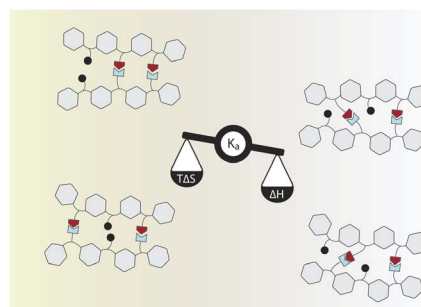
Yohan Gisbert, Pablo Simón Marqués, Caterina Baccini, Seifallah Abid, Nathalie Saffon-Merceron, Gwénaél Rapenne and Claire Kammerer*



9138

Duplex-forming oligocarbamates with tunable nonbonding sites

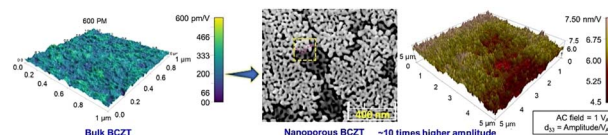
R. Kenton Weigel and Christopher A. Alabi*



9147

Giant piezoresponse in nanoporous (Ba,Ca)(Ti,Zr)O₃ thin film

Motasim Billah, Yukana Terasawa,* Mostafa Kamal Masud, Toru Asahi, Mohamed Barakat Zakaria Hegazy, Takahiro Nagata, Toyohiro Chikyow, Fumihiko Uesugi, Md. Shahriar A. Hossain* and Yusuke Yamauchi*



9155

Mechanochemical synthesis of aromatic ketones: pyrylium tetrafluoroborate mediated deaminative arylation of amides

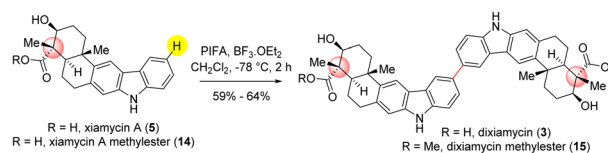
Satenik Mkrtychyan,* Oleksandr Shalimov, Michael G. Garcia, Jiří Zapletal and Viktor O. Iaroshenko*



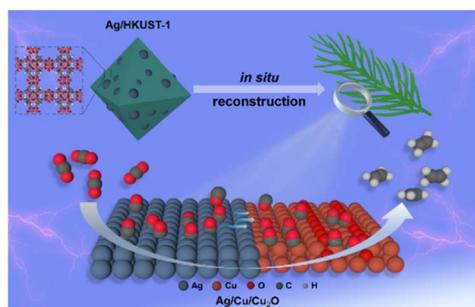
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Highly chemoselective oxidative dimerization of indolesquiterpene alkaloids: a biomimetic approach to dixiamycin

Mintu Munda, Ayan Mondal, Nanda Kishore Roy, Ranjit Murmu, Sovan Niyogi and Alakesh Bisai*



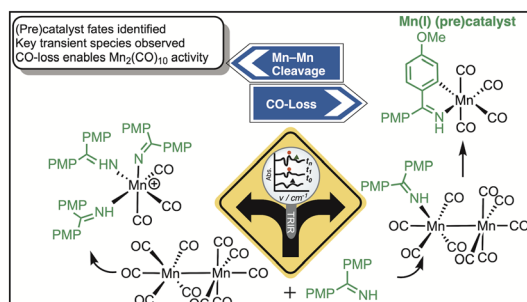
9173



Restructuring multi-phase interfaces from Cu-based metal–organic frameworks for selective electroreduction of CO₂ to C₂H₄

Jiye Feng, Wenbiao Zhang, Danni Shi, Yingshuai Jia, Yi Tang, Yuying Meng and Qingsheng Gao*

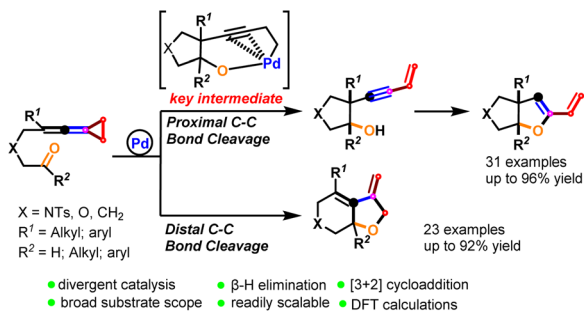
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The importance of understanding (pre)catalyst activation in versatile C–H bond functionalisations catalysed by [Mn₂(CO)₁₀]

Jonathan B. Eastwood, Thomas J. Burden, L. Anders Hammarback, Chris Horbaczewskyj, Theo F. N. Tanner, Ian P. Clark, Gregory Greetham, Michael Towrie, Ian J. S. Fairlamb* and Jason M. Lynam*

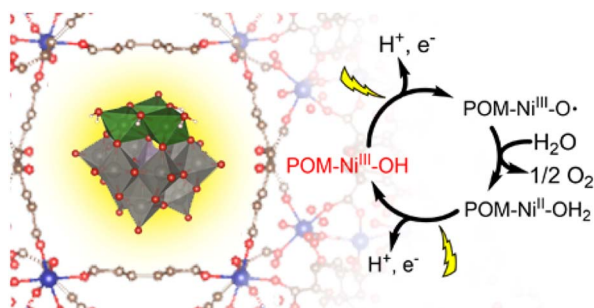
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Palladium-catalyzed selective C–C bond cleavage of keto-vinylidenecyclopropanes: construction of structurally rich dihydrofurans and tetrahydrofurans

Chao Ning, Ziqi Yu, Min Shi* and Yin Wei*

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Stabilization of Ni-containing Keggin-type polyoxometalates with variable oxidation states as novel catalysts for electrochemical water oxidation

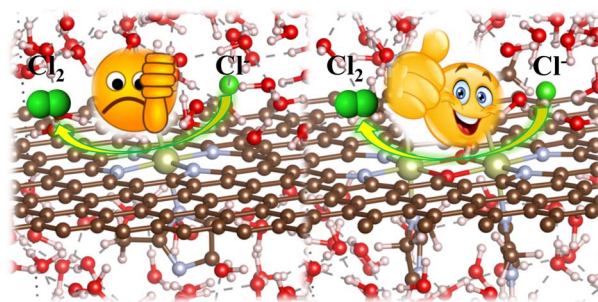
Xiang Li, Bryan Kit Yue Ng, Ping-Luen Ho, Chunbo Jia, Jining Shang, Tatchamapan Yoskamtorn, Xuelei Pan, Yiyang Li, Guangchao Li, Tai-Sing Wu, Yun-Liang Soo, Heyong He,* Bin Yue* and Shik Chi Edman Tsang*



9216

Atomically dispersed dinuclear iridium active sites for efficient and stable electrocatalytic chlorine evolution reaction

Zhipeng Yu, Guangjie Xia, Vlad Martin Diaconescu, Laura Simonelli, Alec P. LaGrow, Zhixin Tai, Xinyi Xiang, Dehua Xiong and Lifeng Liu*

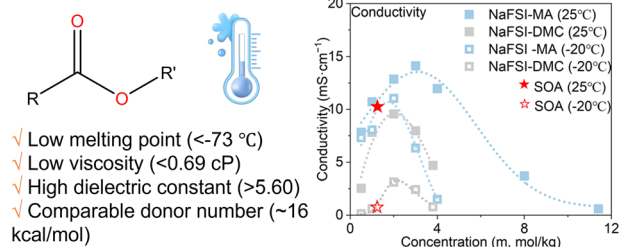


9224

Carboxylate ester-based electrolytes for Na-ion batteries

Yunan Qin, Seong-Gyu Choi, Lucia Mason, Jing Liu, Zongjian Li and Tao Gao*

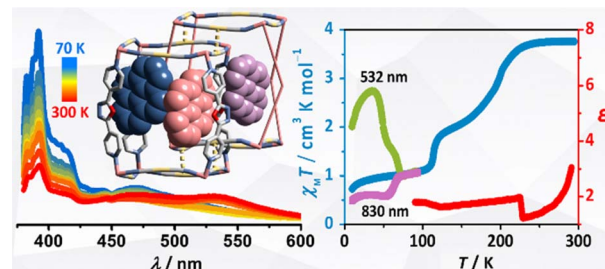
Carboxylate is promising solvent for low-temperature SIBs.



9240

Bidirectional photomagnetism, exciplex fluorescence and dielectric anomalies in a spin crossover Hofmann-type coordination polymer

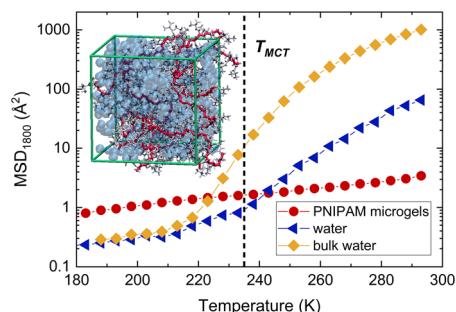
Yan-Ru Chen, Ting-Ting Ying, Yan-Cong Chen, Pei-Yu Liao, Zhao-Ping Ni* and Ming-Liang Tong*



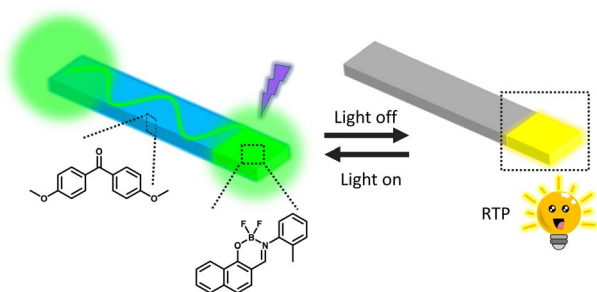
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Water slowing down drives the occurrence of the low temperature dynamical transition in microgels

Letizia Tavagnacco, Marco Zanatta, Elena Buratti, Monica Bertoldo, Ester Chiessi, Markus Appel, Francesca Natali, Andrea Orecchini and Emanuela Zaccarelli*



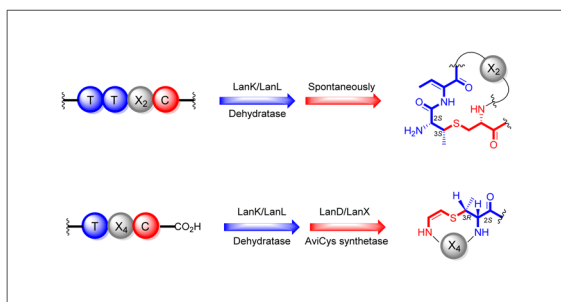
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Surface coating induced room-temperature phosphorescence in flexible organic single crystals

Prodipta Samadder, Khalid Naim, Subash Chandra Sahoo and Prakash P. Neelakandan*

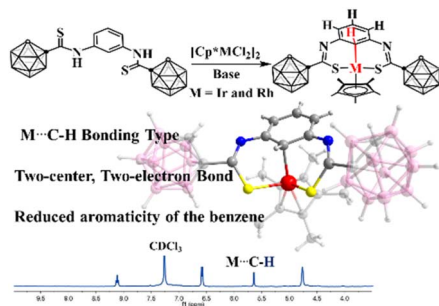
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Characterization of a LanC-free pathway for the formation of an LL-MeLan residue and an *allo*AviMeCys residue in the newly identified class V lanthipeptide triantimycins

Weizhong Ding, Xiaofeng Wang, Yu Yin, Jiang Tao,* Yanqing Xue* and Wen Liu*

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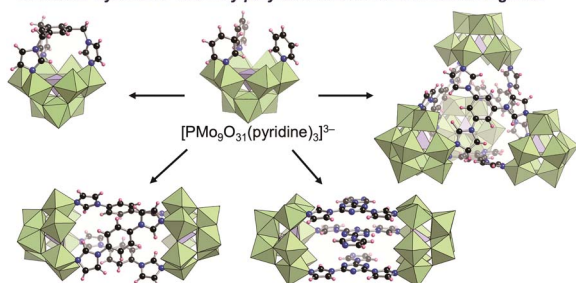


Formation and reactivity of a unique M...C-H interaction stabilized by carborane cages

Xin-Ran Liu, Peng-Fei Cui, Yago García-Rodeja, Miquel Solà and Guo-Xin Jin*

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Molecular hybrids of lacunary polyoxometalates and imidazole ligands



Self-assembled molecular hybrids comprising lacunary polyoxometalates and multidentate imidazole ligands

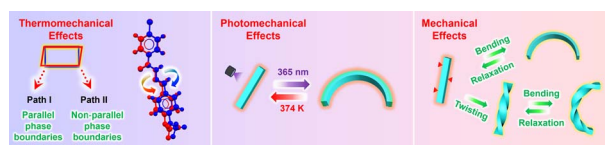
Haoran Sun, Atsuhiro Jimbo, Chifeng Li, Kentaro Yonesato, Kazuya Yamaguchi and Kosuke Suzuki*



9287

Trimodal operation of a robust smart organic crystal

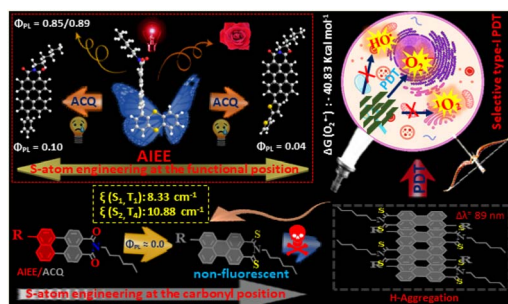
Wenbo Wu, Kui Chen, Hui Yu, Jiaxuan Zhu, Yaoguang Feng, Jingkang Wang, Xin Huang, Liang Li, Hongxun Hao, Ting Wang,* Na Wang* and Panče Naumov*



9298

Sulphur-atom positional engineering in peryleneimide: structure–property relationships and H-aggregation directed type-I photodynamic therapy

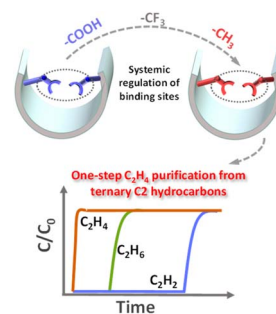
Mst Nasima Khatun, Satyendu Nandy, Hirakjyoti Roy, Siddhartha Sankar Ghosh,* Sachin Kumar* and Parameswar Krishnan Iyer*



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Systemic regulation of binding sites in porous coordination polymers for ethylene purification from ternary C2 hydrocarbons

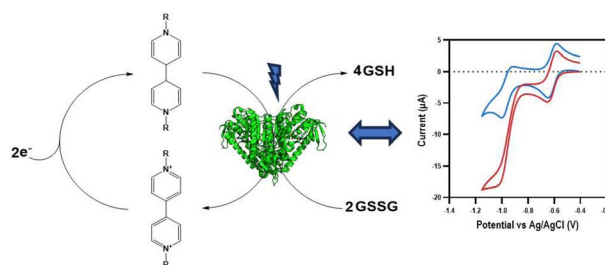
Yi Li, Yanxin Wu, Jiaxin Zhao, Jingui Duan* and Wanqin Jin*



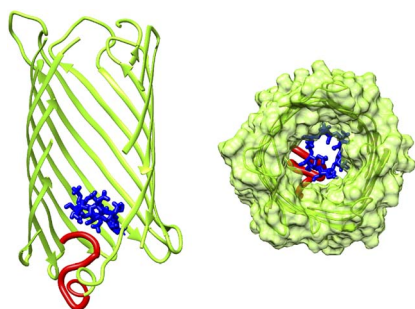
9325

Re-assessing viologens for modern bio-electrocatalysis

Desmond Ato Koomson, Jake H. Nicholson, Alex P. S. Brogan* and Leigh Aldous*



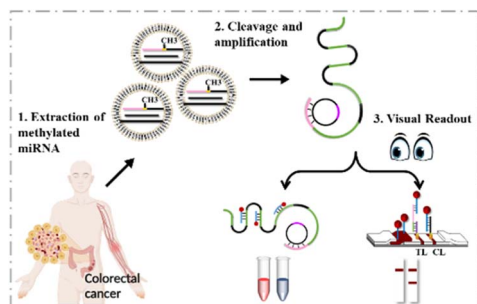
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Conformational flexibility driving charge-selective substrate translocation across a bacterial transporter

Devika Vikraman, Bibhab Bandhu Majumdar, Sharavanakkumar SK, Conrad Weichbrodt, Niels Fertig, Mathias Winterhalter, Jagannath Mondal* and Kozhinjampara R. Mahendran*

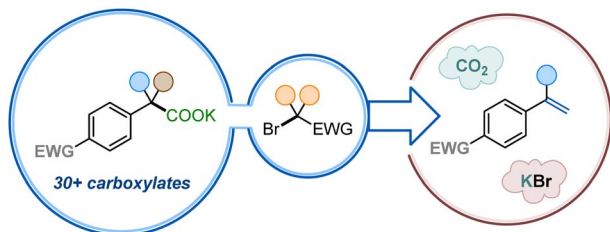
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DNAzyme-RCA-based colorimetric and lateral flow dipstick assays for the point-of-care testing of exosomal m5C-miRNA-21

Hao Zhang, Yue Tang, Yingshun Zhou, Yiguo Wang, Haibin Si,* Lu Li* and Bo Tang*

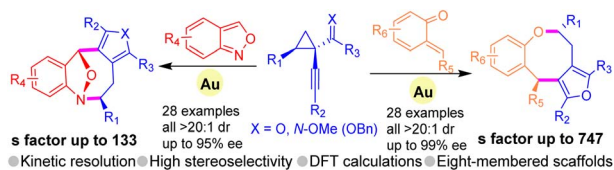
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Transition metal-free decarboxylative olefination of carboxylic acid salts

Ebbin Joseph, Deshkanwar S. Brar, Gaven Stuhlsatz and Jon A. Tunge*

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Kinetic resolution of 1-(1-alkynyl)cyclopropyl ketones via gold-catalyzed divergent (4 + 4) cycloadditions: stereoselective access to furan fused eight-membered heterocycles

Xunhua Wang, Ruifeng Lv and Xiaoxun Li*



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α -Phenylthioaldehydes for the effective generation of acyl azolium and azolium enolate intermediates

Paul M. D. A. Ewing, Pankaj Kumar Majhi, Callum Prentice, Claire M. Young, Karlotta van Rees, Polly L. Arnold,*
Eli Zysman-Colman* and Andrew D. Smith*

