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IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 14(45) 12801–13266 (2023)

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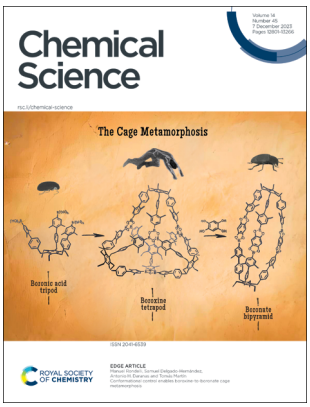

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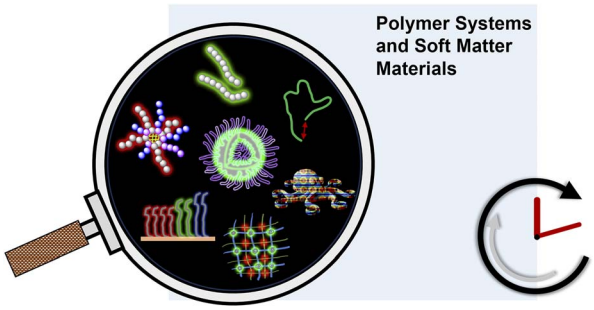
REVIEWS

12815

Fluorescence-readout as a powerful macromolecular characterisation tool

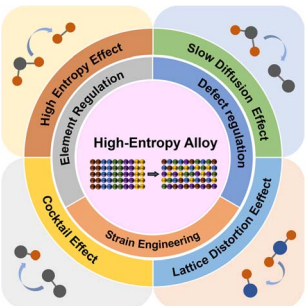
Xingyu Wu and Christopher Barner-Kowollik*



12850

Optimization strategies of high-entropy alloys for electrocatalytic applications

Liyuan Xiao, Zhenlu Wang* and Jingqi Guan*



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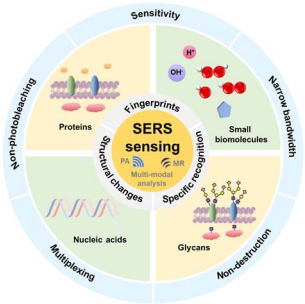
Surface-enhanced Raman scattering sensing for detection and mapping of key cellular biomarkers

Yuanjiao Yang, Shan Wu, Yunlong Chen* and Huangxian Ju*



PERSPECTIVES

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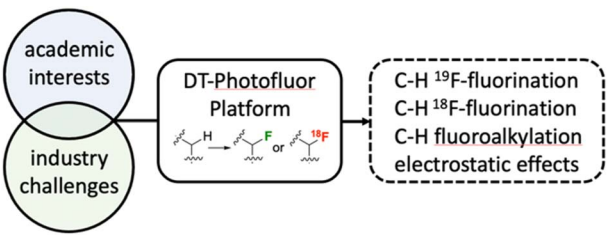
Development and application of decatungstate catalyzed C–H ^{18}F- and ^{19}F-fluorination, fluoroalkylation and beyond

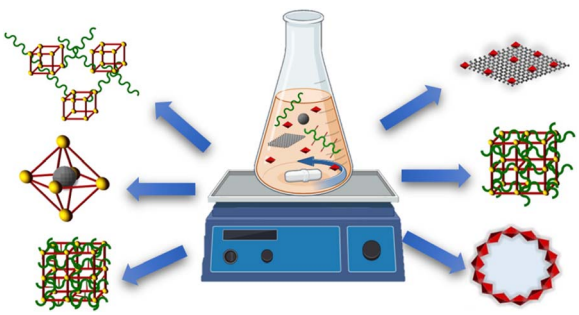
Zheliang Yuan* and Robert Britton*



12898

Interfacing metal organic frameworks with polymers or carbon-based materials: from simple to hierarchical porous and nanostructured composites

Khaled Dassouki, Sanchari Dasgupta, Eddy Dumas and Nathalie Steunou*



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Sustainable formulation polymers for home, beauty and personal care: challenges and opportunities

Christina A. R. Picken, Orla Buensoz, Paul D. Price, Christopher Fidge, Laurie Points and Michael P. Shaver*

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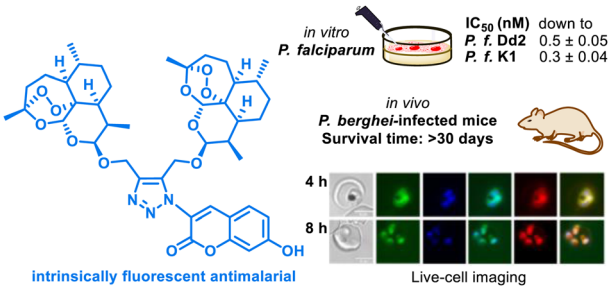
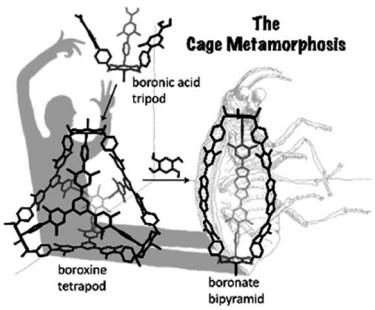


Autofluorescent antimalarials by hybridization of artemisinin and coumarin: *in vitro*/*in vivo* studies and live-cell imaging

Lars Herrmann, Maria Leidenberger, Adrielle Sacramento de Morais, Christina Mai, Aysun Çapci, Mariana da Cruz Borges Silva, Fabian Plass, Axel Kahnt, Diogo R. M. Moreira,* Barbara Kappes* and Svetlana B. Tsogoeva*

12953



Conformational control enables boroxine-to-boronate cage metamorphosis

Manuel Rondelli, Samuel Delgado-Hernández, Antonio H. Daranas and Tomás Martín*

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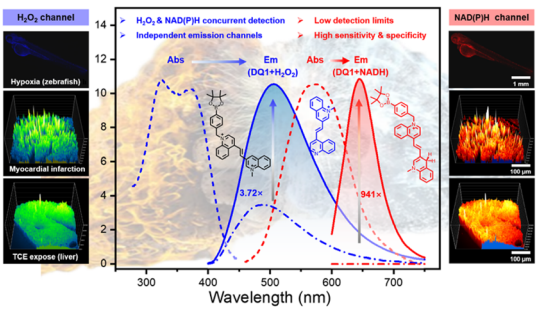

A dual-responsive ratiometric indicator designed for *in vivo* monitoring of oxidative stress and antioxidant capacity

Majun Yang, Weida Zhu, Yilin Lv, Bin Jiang, Chenxia Jiang, Xiaobo Zhou, Guo Li, Yuling Qin, Qi Wang,* Ziwei Chen* and Li Wu*

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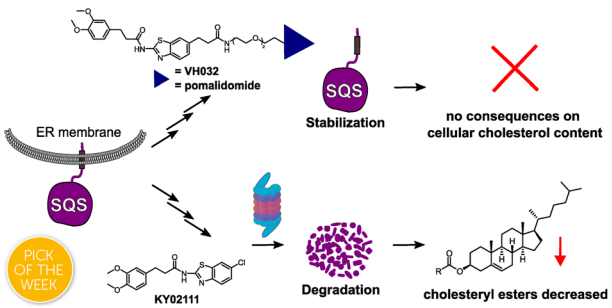

Identification of non-conventional small molecule degraders and stabilizers of squalene synthase

Joseph G. F. Hoock, Cecilia Rossetti, Mesut Bilgin, Laura Depta, Kasper Enemark-Rasmussen, John C. Christianson and Luca Laraia*

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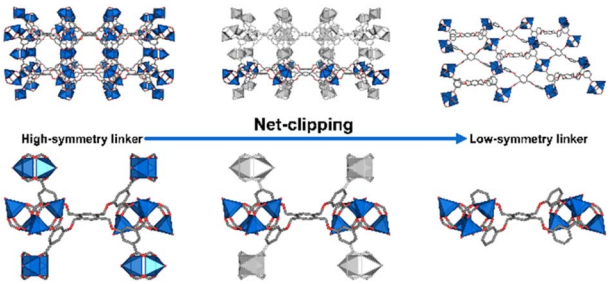
Net-clipping as a top-down approach for the prediction of topologies of MOFs built from reduced-symmetry linkers

Borja Ortín-Rubio, Jaume Rostoll-Berenguer, Carlos Vila, Davide M. Proserpio, Vincent Guillerm, Judith Juanhuix, Inhar Imaz* and Daniel Maspoch*



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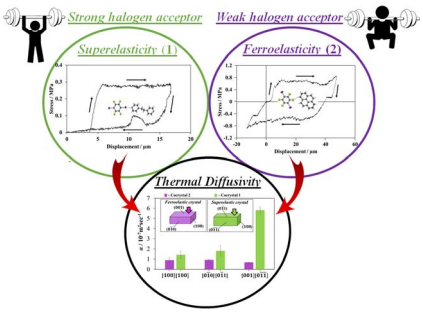
A role of intermolecular interaction modulating thermal diffusivity in organosuperelastic and organoferroelastic cocrystals

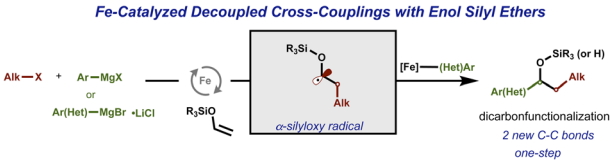
Subham Ranjan, Ryota Morioka, Meguya Ryu, Junko Morikawa* and Satoshi Takamizawa*



13007

Expanding the chemical space of enol silyl ethers: catalytic dicarbofunctionalization enabled by iron catalysis

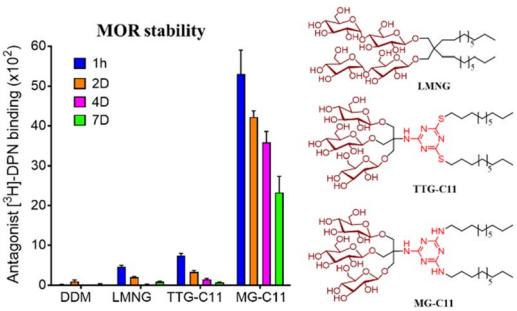
Dinabandhu Sar, Shuai Yin, Jacob Grygus, Ángel Rentería-Gómez, Melanie Garcia and Osvaldo Gutierrez*



13014

Melamine-cored glucosides for membrane protein solubilization and stabilization: importance of water-mediated intermolecular hydrogen bonding in detergent performance

Lubna Ghani, Seonghoon Kim, Muhammad Ehsan, Baoliang Lan, Ida H. Poulsen, Chandra Dev, Satoshi Katsube, Bernadette Byrne, Lan Guan, Claus J. Loland, Xiangyu Liu,* Wonpil Im* and Pil Seok Chae*



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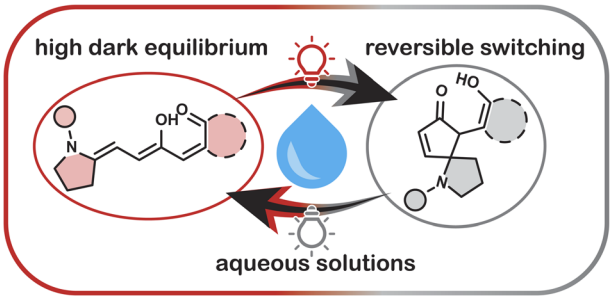

Tethered together: DASA design towards aqueous compatibility

Julie A. Peterson, Natalia M. Neris and Javier Read de Alaniz*

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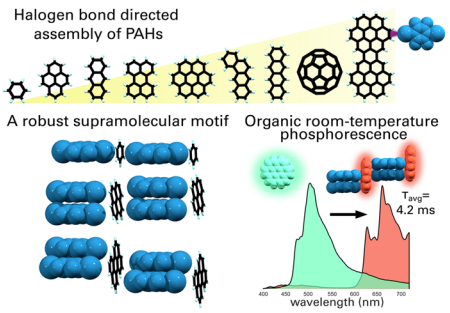

Halogen bonding with carbon: directional assembly of non-derivatised aromatic carbon systems into robust supramolecular ladder architectures

Jogirdas Vainauskas, Tristan H. Borchers, Mihails Arhangelskis, Laura J. McCormick McPherson, Toni S. Spilfogel, Ehsan Hamzehpoor, Filip Topić, Simon J. Coles, Dmytro F. Perepichka, Christopher J. Barrett and Tomislav Friščić*

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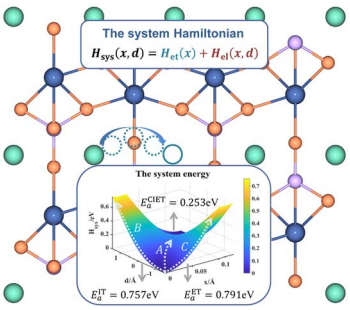

The decisive role of electrostatic interactions in transport mode and phase segregation of lithium ions in $LiFePO_4$

Xiaoxiao Wang, Jun Huang,* Yuwen Liu and Shengli Chen*

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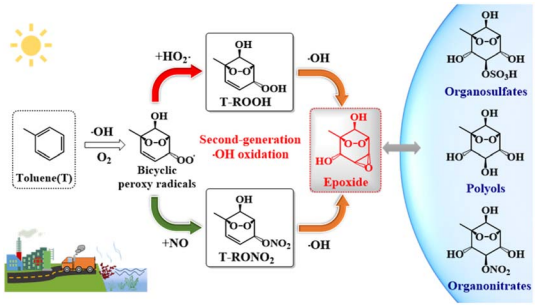

An overlooked oxidation mechanism of toluene: computational predictions and experimental validations

Zihao Fu, Fangfang Ma, Yuliang Liu, Chao Yan, Dandan Huang, Jingwen Chen, Jonas Elm, Yuanyuan Li, Aijun Ding, Lukas Pichelstorfer, Hong-Bin Xie,* Wei Nie,* Joseph S. Francisco* and Putian Zhou*

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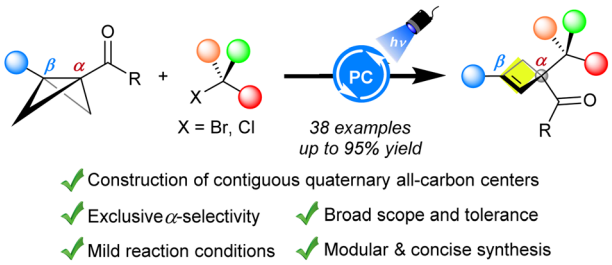
Photochemical α-selective radical ring-opening reactions of 1,3-disubstituted acyl bicyclobutanes with alkyl halides: modular access to functionalized cyclobutenes

Yuanjiu Xiao, Tong-Tong Xu, Jin-Lan Zhou, Feng Wu, Lei Tang, Ruo-Yi Liu, Wen-Biao Wu* and Jian-Jun Feng*



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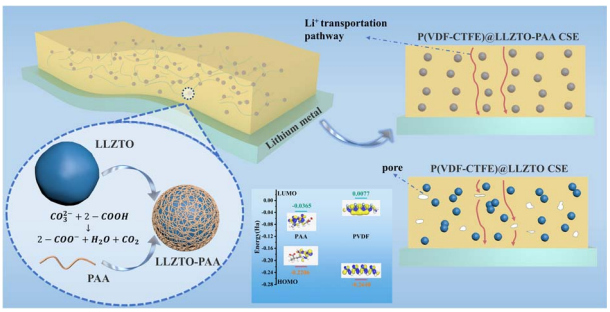
Surface modification of garnet fillers with a polymeric sacrificial agent enables compatible interfaces of composite solid-state electrolytes

Bin Luo, Jintian Wu, Ming Zhang, Zhihao Zhang, Xingwei Zhang, Zixuan Fang,* Ziqiang Xu* and Mengqiang Wu*



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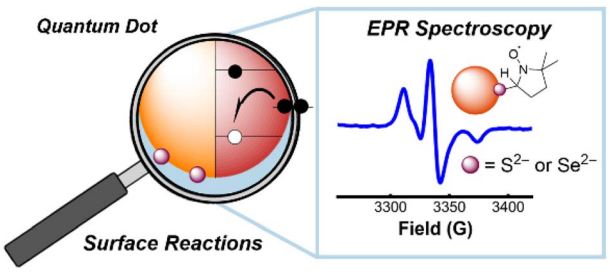
EPR spin trapping of nucleophilic and radical reactions at colloidal metal chalcogenide quantum dot surfaces

Caroline J. Aschendorf, Mawuli Degbevi, Keaton V. Prather and Emily Y. Tsui*



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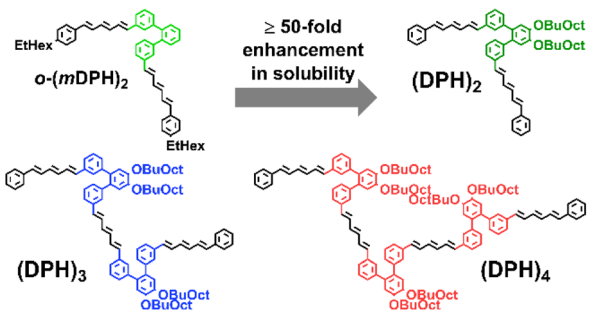
Synthesis and intramolecular singlet fission properties of *ortho*-phenylene linked oligomers of diphenylhexatriene

Oliver Millington, Ashish Sharma, Stephanie Montanaro, Anastasia Leventis, Simon A. Dowland, Daniel G. Congrave, Cherie-Anne Lee, Akshay Rao* and Hugo Bronstein*



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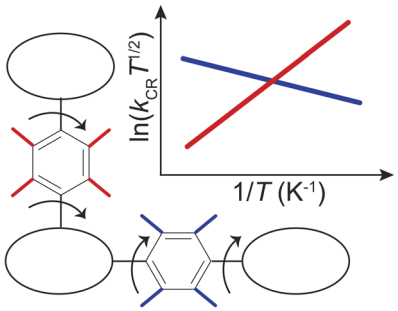
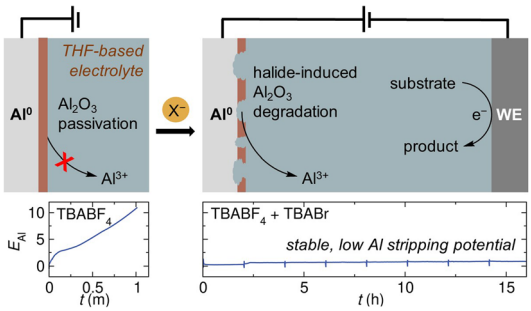


Anti-Arrhenius behavior of electron transfer reactions in molecular dimers

Neo Lin and Tomoyasu Mani*

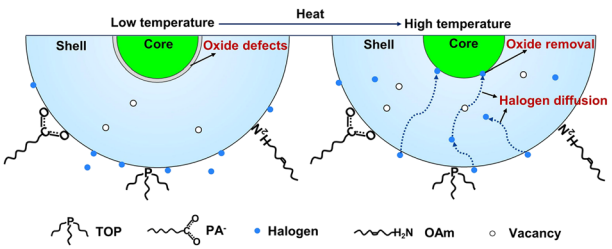
13108



Enabling Al sacrificial anodes in tetrahydrofuran electrolytes for reductive electrosynthesis

Wendy Zhang, Weiyang Guan, Yi Wang, Song Lin and Kimberly A. See*

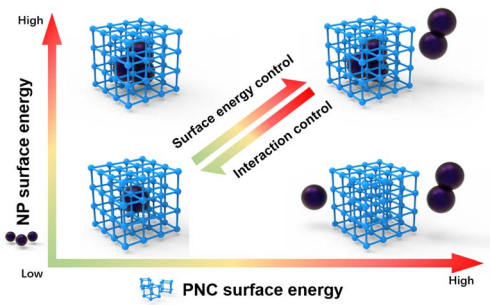
13119



Interface defects repair of core/shell quantum dots through halide ion penetration

Changwei Yuan, Mengda He, Xinrong Liao, Mingming Liu, Qinggang Zhang, Qun Wan, Zan Qu, Long Kong* and Liang Li*

13126



A highly efficient synthetic strategy for *de novo* NP encapsulation into metal–organic frameworks: enabling further modulated control of catalytic properties

Li Zhou, Yuanyuan An, Jialong Ma, Guoxiu Hao, Zhehui Li, Junchen Chen and Lien-Yang Chou*

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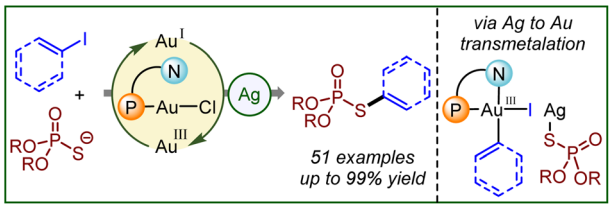
13134

Gold-catalyzed alkenylation and arylation of phosphorothioates

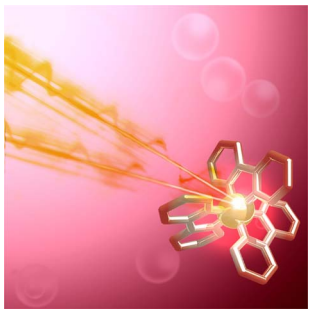
Urvashi, Sampoorna Mishra and Nitin T. Patil*



13140

Observation of parallel intersystem crossing and charge transfer-state dynamics in $[Fe(bpy)_3]^{2+}$ from ultrafast 2D electronic spectroscopy

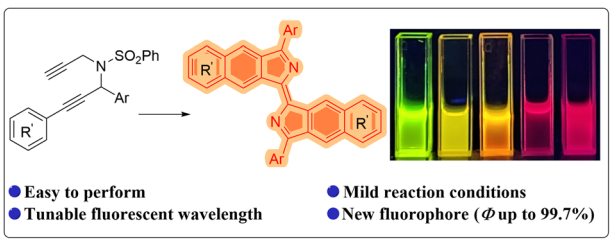
Angela Lee, Minjung Son, Mawuli Deegbey, Matthew D. Woodhouse, Stephanie M. Hart, Hayden F. Beissel, Paul T. Cesana, Elena Jakubikova, James K. McCusker* and Gabriela S. Schlau-Cohen*



13151

Synthesis of a new fluorophore: wavelength-tunable bisbenzo[*f*]isoindolylidenes

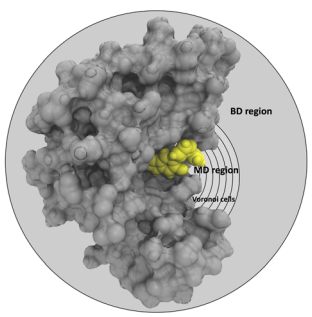
Changqing Ye, Rui Huang, Mong-Feng Chiou, Bo Wang, Daliang Li* and Hongli Bao*



13159

QMrebind: incorporating quantum mechanical force field reparameterization at the ligand binding site for improved drug-target kinetics through milestoning simulations

Anupam Anand Ojha, Lane William Votapka and Rommie Elizabeth Amaro*



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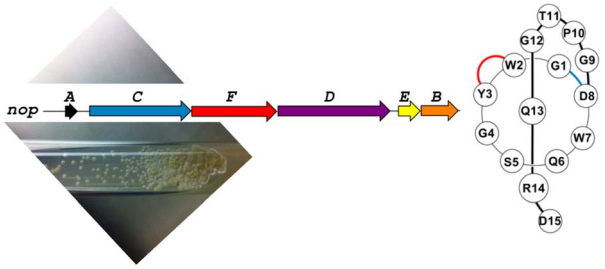
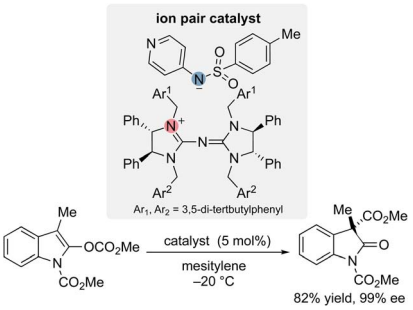
13176



Bioinformatics-guided discovery of biaryl-linked lasso peptides

Hamada Saad,* Thomas Majer, Keshab Bhattarai, Sarah Lampe, Dinh T. Nguyen, Markus Kramer, Jan Straetener, Heike Brötz-Oesterhelt, Douglas A. Mitchell and Harald Gross*

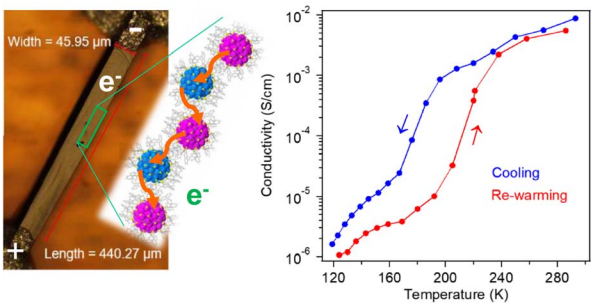
13184



A chiral pentanidium and pyridinyl-sulphonamide ion pair as an enantioselective organocatalyst for Steglich rearrangement

Ziqi Yang, Chaoran Xu, Xianxian Zhou, Choon Boon Cheong,* Choon Wee Kee* and Choon-Hong Tan*

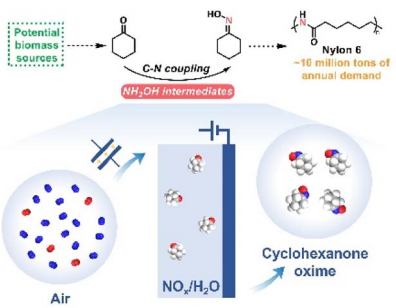
13191



Electron transport through supercrystals of atomically precise gold nanoclusters: a thermal bi-stability effect

Tatsuya Higaki, Jake C. Russell, Daniel W. Paley, Xavier Roy* and Rongchao Jin*

13198



Integration of plasma and electrocatalysis to synthesize cyclohexanone oxime under ambient conditions using air as a nitrogen source

Shunhan Jia, Xingxing Tan, Limin Wu, Xiaodong Ma, Libing Zhang, Jiaqi Feng, Liang Xu, Xinning Song, Qinggong Zhu, Xinchen Kang, Xiaofu Sun* and Buxing Han*

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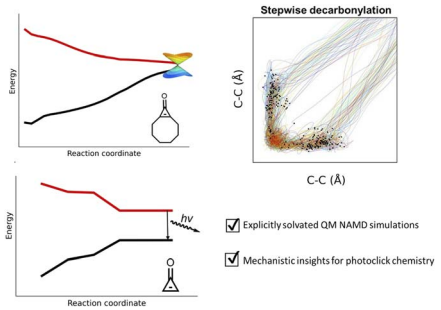
13205

Multiconfigurational photodynamics simulations reveal the mechanism of photodecarbonylations of cyclopropenones in explicit aqueous environments

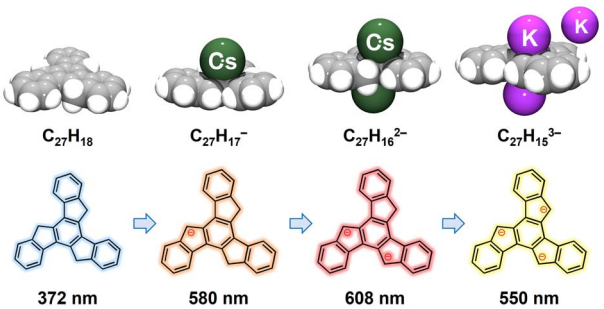
Daniel M. Adrion, Waruni V. Karunaratne and Steven A. Lopez*



13219

Stepwise deprotonation of truxene: structures, metal complexation, and charge-dependent optical properties

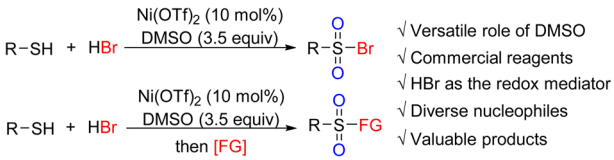
Yumeng Guo, Herdya S. Torchon, Yikun Zhu, Zheng Wei, Zhenyi Zhang, Haixiang Han,* Marina A. Petrukhina* and Zheng Zhou*



13228

An efficient and mild oxidative approach from thiols to sulfonyl derivatives with DMSO/HBr

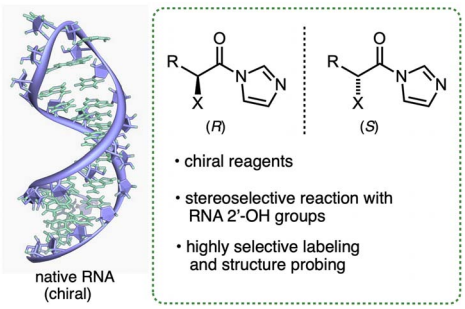
Hongye Wang, Zhaoting Li, Rongheng Dai, Ning Jiao and Song Song*



13235

Stereoselective RNA reaction with chiral 2′-OH acylating agents

Ryuta Shioi, Lu Xiao, Sayantan Chatterjee and Eric T. Kool*



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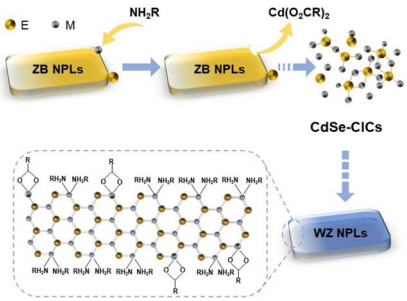
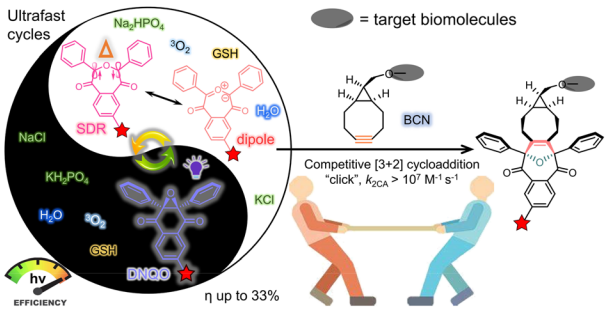


Covalent inorganic complexes enabled zinc blende to wurtzite phase changes in CdSe nanoplatelets

Xinke Kong, Lin Ru, Junjun Ge, Yalei Deng, Pan-ke Zhang and Yuanyuan Wang*

13254



Photoswitchable and long-lived seven-membered cyclic singlet diradicals for the bioorthogonal photoclick reaction

Fuqiang Hu, Cefei Zhang, Zhihao Liu, Xinyu Xie, Xiaohu Zhao, Yanju Luo, Jielin Fu, Baolin Li, Changwei Hu, Zhishan Su* and Zhipeng Yu*

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