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ISSN 2041-6539 CODEN CSHCBM 15(16) 5789–6186 (2024)

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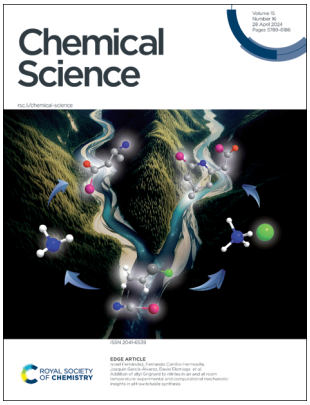


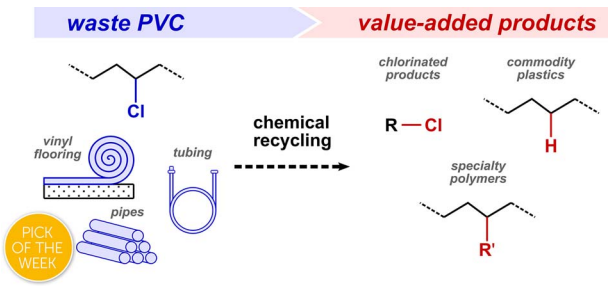
Inside cover
See Israel Fernández, Fernando Carrillo-Hermosilla, Joaquín García-Álvarez, David Elorriaga *et al.*, pp. 5929–5937. Image reproduced by permission of Clara Becedóniz Plasencia from *Chem. Sci.*, 2024, **15**, 5929.

PERSPECTIVES

5802

Revisiting poly(vinyl chloride) reactivity in the context of chemical recycling

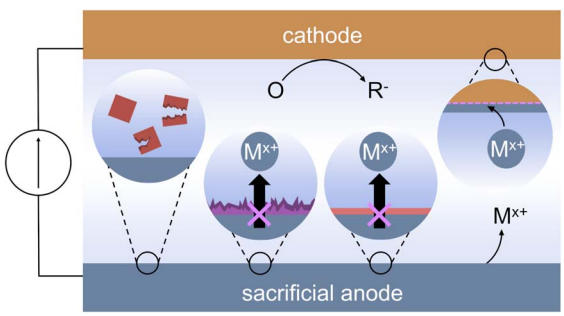
Rahul Kant Jha, Bertrand J. Neyhouse, Morgan S. Young, Danielle E. Fagnani and Anne J. McNeil*



5814

A guide to troubleshooting metal sacrificial anodes for organic electrosynthesis

Skyler D. Ware, Wendy Zhang, Weiyang Guan, Song Lin and Kimberly A. See*



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PERSPECTIVES

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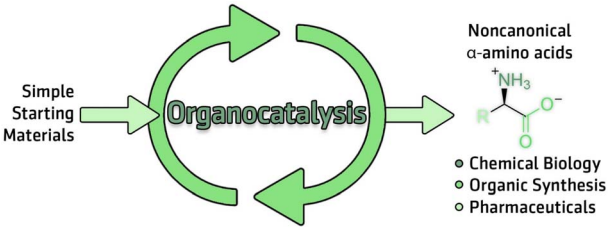
Enantioselective organocatalytic strategies to access noncanonical α-amino acids

Pietro Pecchini, Mariafrancesca Fochi, Francesca Bartoccini, Giovanni Piersanti* and Luca Bernardi*



REVIEWS

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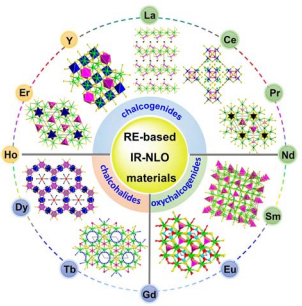
Rare-earth-based chalcogenides and their derivatives: an encouraging IR nonlinear optical material candidate

Ping Feng, Jia-Xiang Zhang, Mao-Yin Ran, Xin-Tao Wu, Hua Lin* and Qi-Long Zhu*



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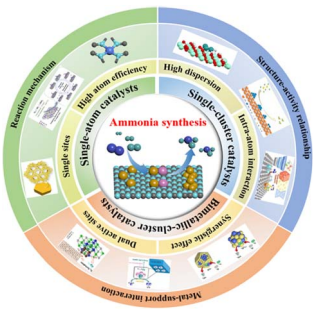
Single-atom and cluster catalysts for thermocatalytic ammonia synthesis at mild conditions

Xuanbei Peng, Mingyuan Zhang, Tianhua Zhang, Yanliang Zhou,* Jun Ni, Xiuyun Wang* and Lilong Jiang*



EDGE ARTICLES

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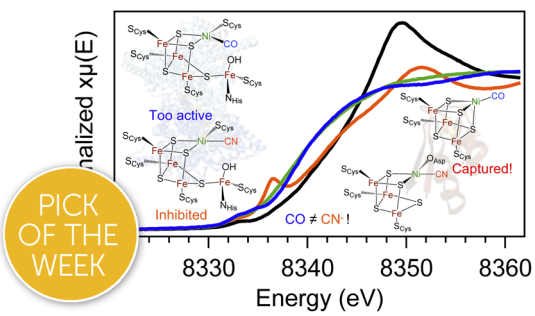
Electronic isomerism in a heterometallic nickel–iron–sulfur cluster models substrate binding and cyanide inhibition of carbon monoxide dehydrogenase

Luke C. Lewis, José A. Sanabria-Gracia, Yuri Lee, Adam J. Jenkins and Hannah S. Shafaat*



EDGE ARTICLES

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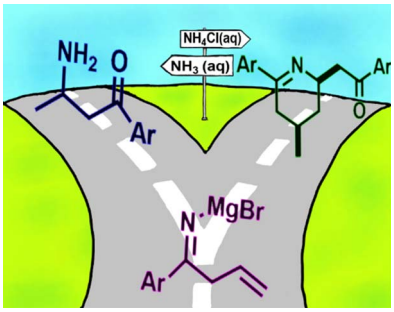
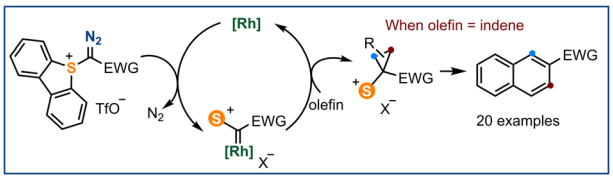


Addition of allyl Grignard to nitriles in air and at room temperature: experimental and computational mechanistic insights in pH-switchable synthesis

Blanca Parra-Cadenas, Israel Fernández,* Fernando Carrillo-Hermosilla,* Joaquín García-Álvarez* and David Elorriaga*

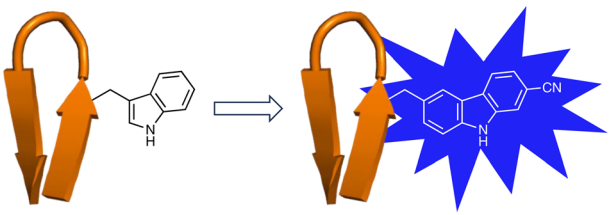
5938



Reactivity of α-diazo sulfonium salts: rhodium-catalysed ring expansion of indenes to naphthalenes

Sven Timmann, Tun-Hui Wu, Christopher Golz and Manuel Alcarazo*

5944



Fluorescent carbazole-derived α-amino acids: structural mimics of tryptophan

Rebecca Clarke, Liyao Zeng, Bethany C. Atkinson, Malcolm Kadodwala, Andrew R. Thomson* and Andrew Sutherland*

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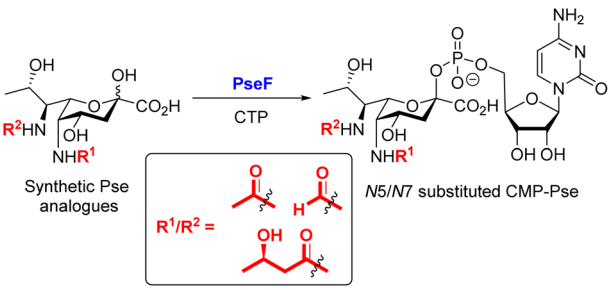

Investigation on the substrate specificity and *N*-substitution tolerance of PseF in catalytic transformation of pseudaminic acids to CMP-Pse derivatives

Xing Guo, Yan Chu Cheung, Can Li, Han Liu,* Pengfei Li,* Sheng Chen* and Xuechen Li*

EDGE ARTICLES

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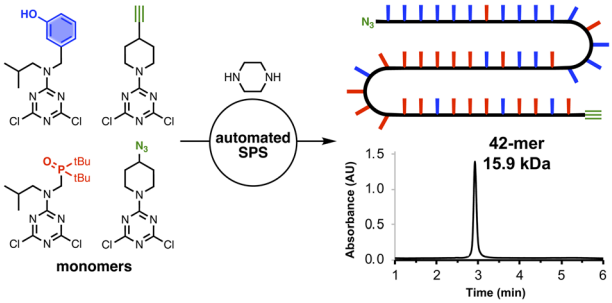
Efficient automated solid-phase synthesis of recognition-encoded melamine oligomers

Mohit Dhiman, Rafel Cabot and Christopher A. Hunter*



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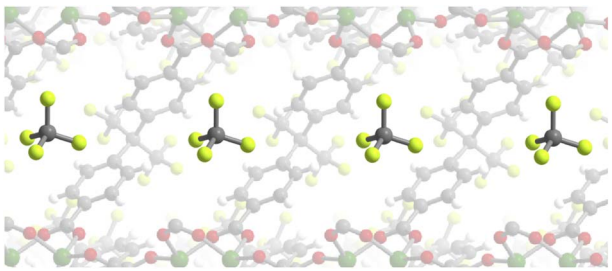
Selective adsorption of fluorinated super greenhouse gases within a metal–organic framework with dynamic corrugated ultramicropores

Bevan S. Whitehead, William W. Brennessel, Shane S. Michtavy, Hope A. Silva, Jaehwan Kim, Phillip J. Milner, Marc D. Porosoff and Brandon R. Barnett*



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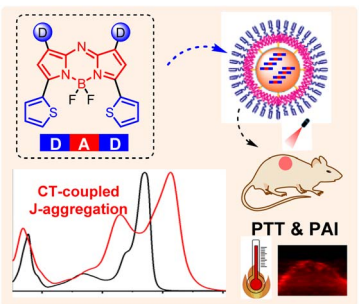
Rational design of CT-coupled J-aggregation platform based on Aza-BODIPY for highly efficient phototherapy

Shengmei Wu, Wenze Zhang, Chaoran Li, Zhigang Ni, Weifeng Chen, Lizhi Gai,* Jiangwei Tian,* Zijian Guo and Hua Lu*



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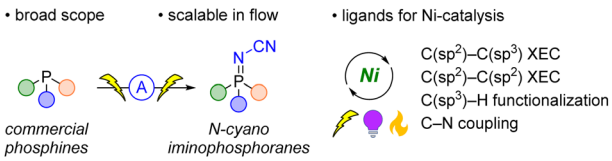
Electrosynthesis of iminophosphoranes and applications in nickel catalysis

Velabo Mdluli, Dan Lehnherr,* Yu-hong Lam,* Mohammad T. Chaudhry, Justin A. Newman, Jimmy O. DaSilva and Erik L. Regalado



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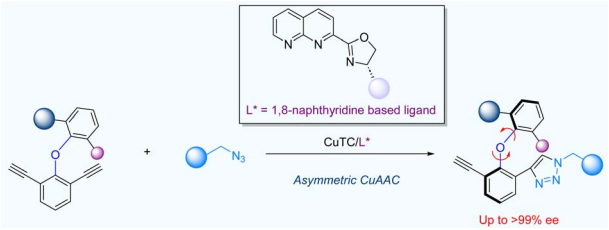

Copper-catalyzed atroposelective synthesis of C–O axially chiral compounds enabled by chiral 1,8-naphthyridine based ligands

Lei Dai, Xueting Zhou, Jiami Guo, Qingqin Huang and Yixin Lu*

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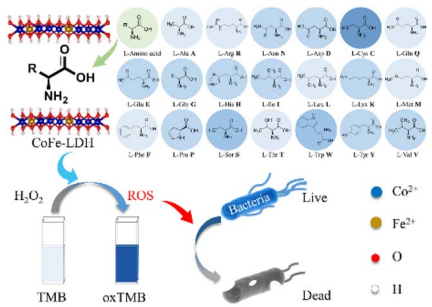

Facile preparation of high-efficiency peroxidase mimics: modulation of the catalytic microenvironment of LDH nanozymes through defect engineering induced by amino acid intercalation

Dong Han, Kui Yang, Lanlan Chen, Zhaosheng Zhang, Chen Wang, Hongyuan Yan* and Jia Wen*

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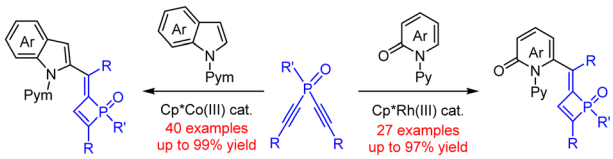

Cobalt- or rhodium-catalyzed synthesis of 1,2-dihydrophosphete oxides *via* C–H activation and formal phosphoryl migration

Shengbo Xu, Ruijie Mi, Guangfan Zheng* and Xingwei Li*

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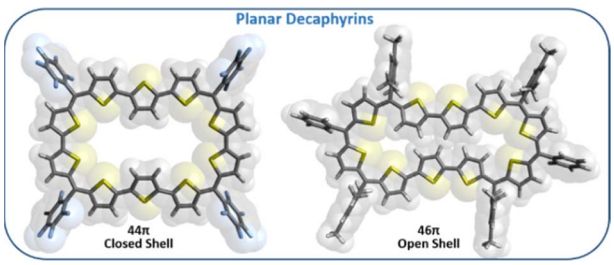

Open shell (4*n* + 2)π and closed shell 4*n*π planar core-modified decaphyrins

Pragati Shukla, Madan D. Ambhore and Venkataramanarao G. Anand*

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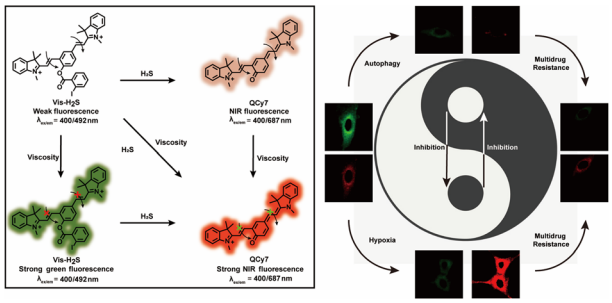
Near-infrared imaging for visualizing the synergistic relationship between autophagy and NFS1 protein during multidrug resistance using an ICT–TICT integrated platform

Wei Hu, Yifan He, Haixian Ren,* Li Chai, Haiyan Li, Jianbin Chen, Chunya Li,* Yanying Wang* and Tony D. James*



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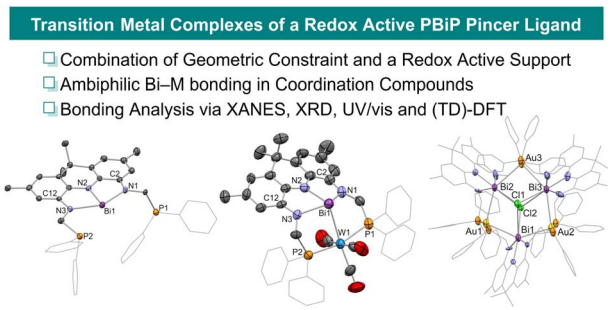
Combining geometric constraint and redox non-innocence within an ambiphilic PBiP pincer ligand

Peter Coburger, Ana Guilherme Buzanich, Franziska Emmerling and Josh Abbenseth*



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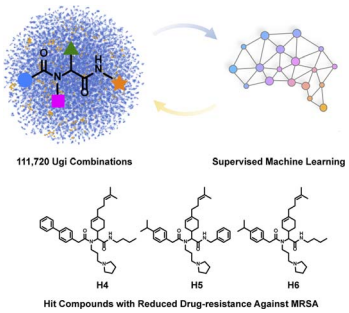
Combinatorial discovery of antibacterials *via* a feature-fusion based machine learning workflow

Cong Wang, Yuhui Wu, Yunfan Xue, Lingyun Zou, Yue Huang, Peng Zhang* and Jian Ji*



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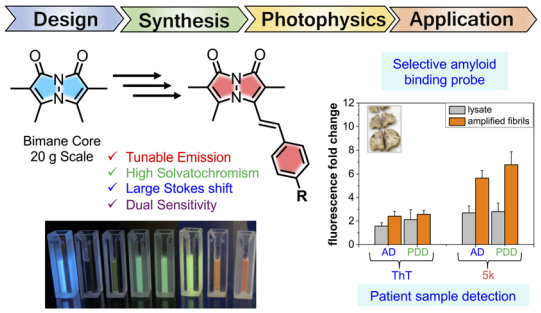
Highly tunable bimane-based fluorescent probes: design, synthesis, and application as a selective amyloid binding dye

Yarra Venkatesh, Nicholas P. Marotta, Virginia M.-Y. Lee and E. James Petersson*



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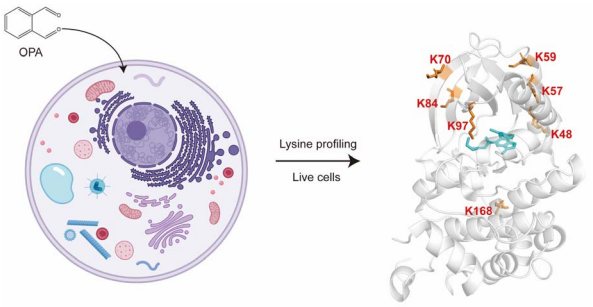

Protein painting for structural and binding site analysis *via* intracellular lysine reactivity profiling with *o*-phthalaldehyde

Zhenxiang Zheng, Ya Zeng, Kunjia Lai, Bin Liao, Pengfei Li and Chris Soon Heng Tan*

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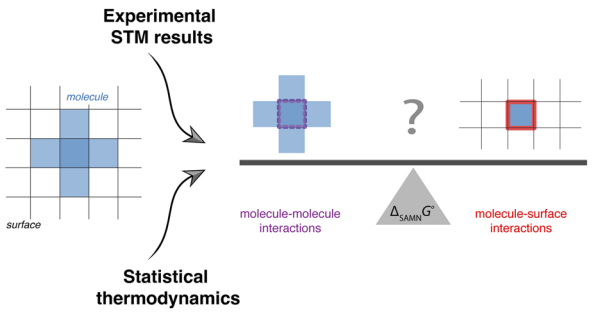

On the origin of cooperativity effects in the formation of self-assembled molecular networks at the liquid/solid interface

Tamara Rinkovec, Demian Kalebic, Wim Dehaen, Stephen Whitelam, Jeremy N. Harvey* and Steven De Feyter*

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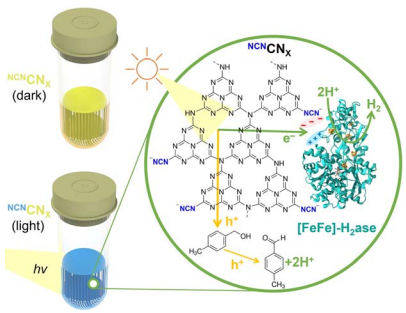

Electrostatic [FeFe]-hydrogenase–carbon nitride assemblies for efficient solar hydrogen production

Yongpeng Liu, Carolina Pulignani, Sophie Webb, Samuel J. Cobb, Santiago Rodríguez-Jiménez, Dongseok Kim, Ross D. Milton and Erwin Reisner*

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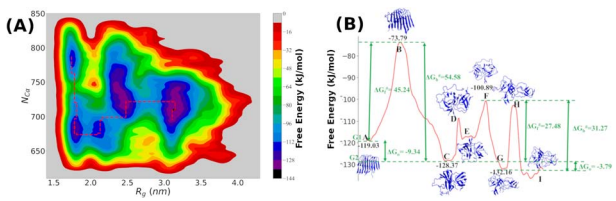

Can local heating and molecular crowders disintegrate amyloid aggregates?

Naresh Kumar, Prabir Khatua and Sudipta Kumar Sinha

EDGE ARTICLES

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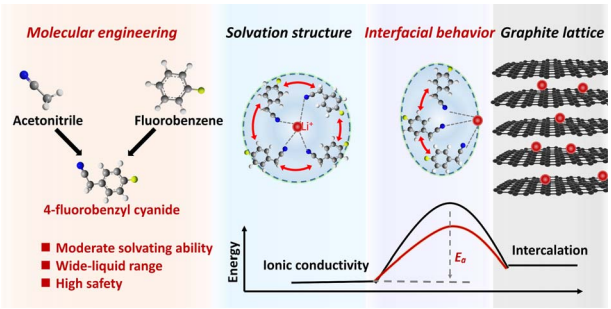
4-Fluorobenzyl cyanide, a sterically-hindered solvent expediting interfacial kinetics in lithium-ion batteries

Mingsheng Qin, Ziqi Zeng,* Qiang Wu, Xiaowei Liu, Qijun Liu, Shijie Cheng and Jia Xie*



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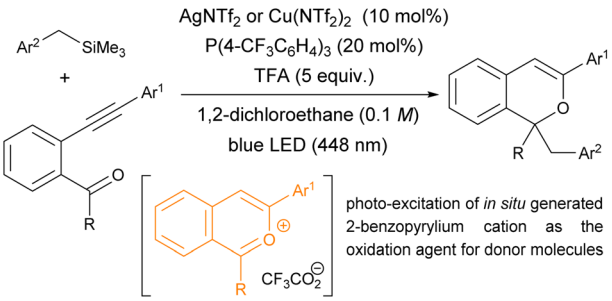
Consecutive π-Lewis acidic metal-catalysed cyclisation/photochemical radical addition promoted by *in situ* generated 2-benzopyrylium as the photoredox catalyst

Masahiro Terada,* Ryohei Yazaki, Ren Obayashi, Zen Iwasaki, Shigenobu Umemiya and Jun Kikuchi



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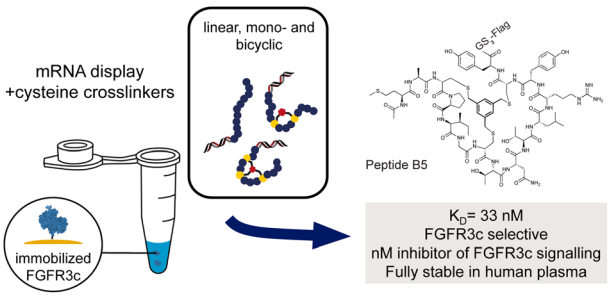
An efficient mRNA display protocol yields potent bicyclic peptide inhibitors for FGFR3c: outperforming linear and monocyclic formats in affinity and stability

Camille Villequey,* Silvana S. Zurmühl, Christian N. Cramer, Bhaskar Bhusan, Birgitte Andersen, Qianshen Ren, Haimo Liu, Xinping Qu, Yang Yang, Jia Pan, Qiujia Chen and Martin Münzel



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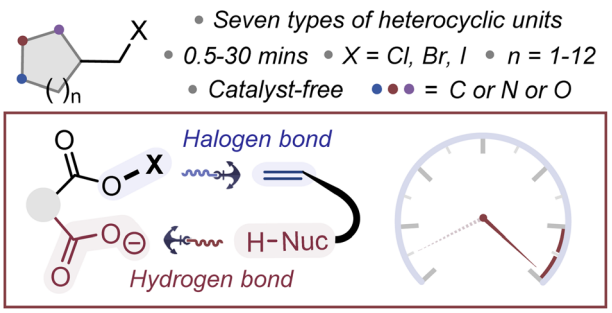
Intramolecular chaperone-assisted dual-anchoring activation (ICDA): a suitable preorganization for electrophilic halocyclization

Xihui Yang, Haowei Gao, Jiale Yan, Jia Zhou* and Lei Shi*



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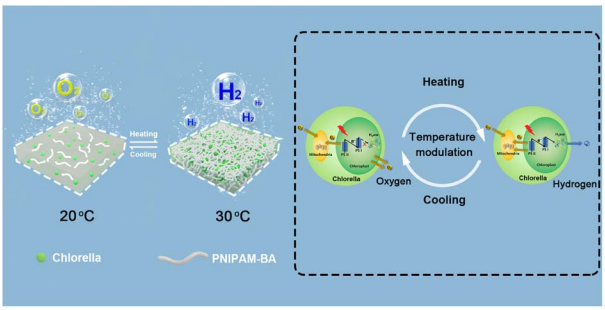

Temperature modulated sustainable on/off photosynthesis switching of microalgae towards hydrogen evolution

Shangsong Li, Zhijun Xu, Song Lin, Luxuan Li, Yan Huang, Xin Qiao and Xin Huang*

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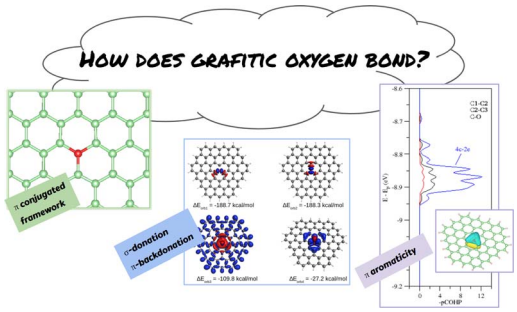

Deciphering the chemical bonding of the trivalent oxygen atom in oxygen doped graphene

Andoni Ugartemendia, Irene Casademont-Reig, Lili Zhao, Zuxian Zhang, Gernot Frenking, Jesus M. Ugalde, Aran Garcia-Lekue* and Elisa Jimenez-Izal*

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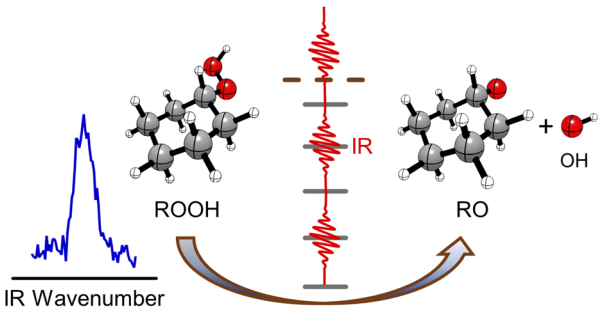

Vibrational spectroscopy and dissociation dynamics of cyclohexyl hydroperoxide

Tarun Kumar Roy, Yujie Qian, Elizabeth Karlsson, Rawan Rabayah, Christopher A. Sojdak, Marisa C. Kozlowski, Tolga N. V. Karsili and Marsha I. Lester*

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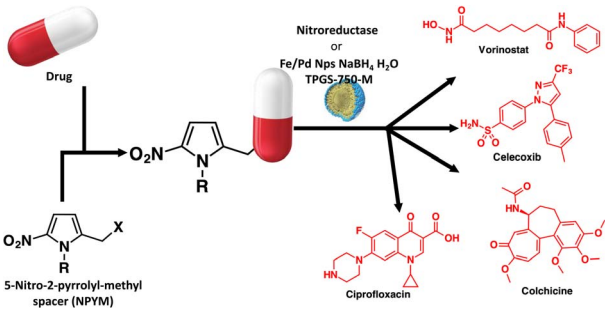

A novel bioresponsive self-immolative spacer based on aza-quinone methide reactivity for the controlled release of thiols, phenols, amines, sulfonamides or amides

Elena Ermini, Annalaura Brai, Elena Cini, Federica Finetti, Giuseppe Giannini, Daniele Padula, Lucrezia Paradisi, Federica Poggialini, Lorenza Trabalzini, Paola Tolu and Maurizio Taddei*

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Visible-light-driven alkene dicarboxylation with formate and CO_2 under mild conditions

Fulin Zhang, Xiao-Yang Wu, Pan-Pan Gao, Hao Zhang, Zhu Li, Shangde Ai and Gang Li*