

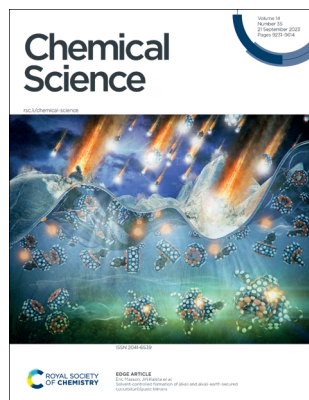
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ISSN 2041-6539 CODEN CSHCBM 14(35) 9231–9614 (2023)



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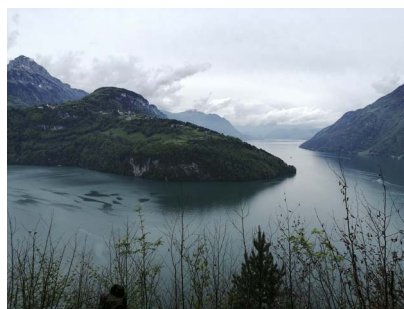
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EDITORIAL

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Highlights from the 56th Bürgenstock Conference on Stereochemistry 2023

Marc Reid* and Christopher J. Teskey*

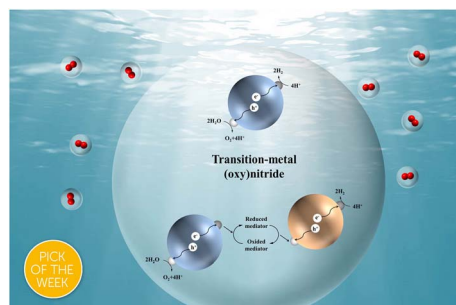


PERSPECTIVE

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Transition-metal (oxy)nitride photocatalysts for water splitting

Kaihong Chen, Jiadong Xiao, Takashi Hisatomi and Kazunari Domen*



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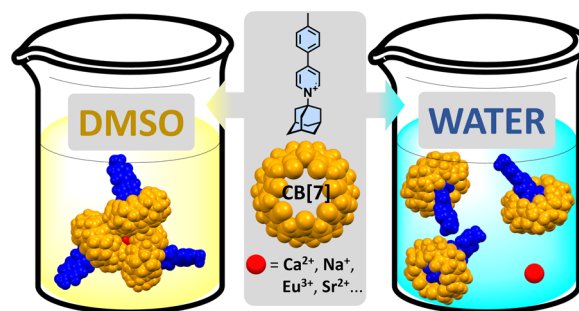
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Solvent-controlled formation of alkali and alkali-earth-secured cucurbituril/guest trimers

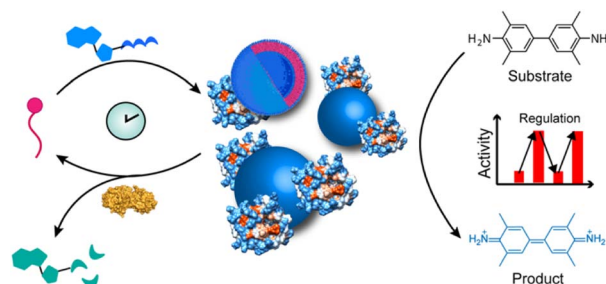
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A transient vesicular glue for amplification and temporal regulation of biocatalytic reaction networks

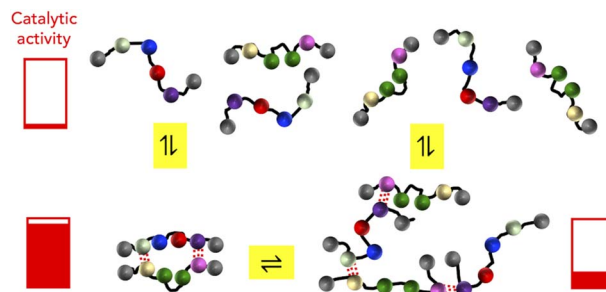
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Dynamic self-assembly of supramolecular catalysts from precision macromolecules

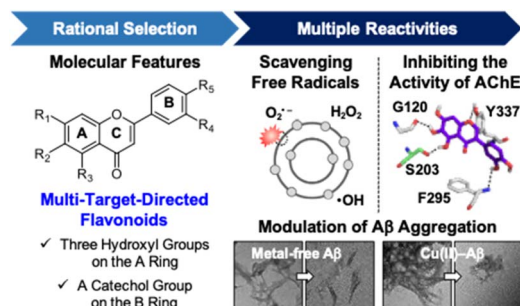
Qian Qin, Jie Li, David Delleme, Mathieu Fossépré, Gabriella Barozzino-Consiglio, Imane Nekkaa, Adrian Boborodea, Antony E. Fernandes, Karine Glinel, Mathieu Surin* and Alain M. Jonas*



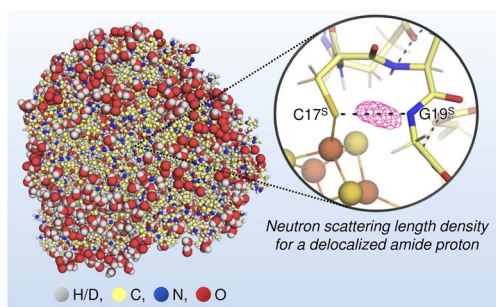
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Designing multi-target-directed flavonoids: a strategic approach to Alzheimer's disease

Seongmin Park, Mingyun Kim, Yuxi Lin, Mannkyu Hong, Geewoo Nam, Adam Mieczkowski, József Kardos, Young-Ho Lee* and Mi Hee Lim*



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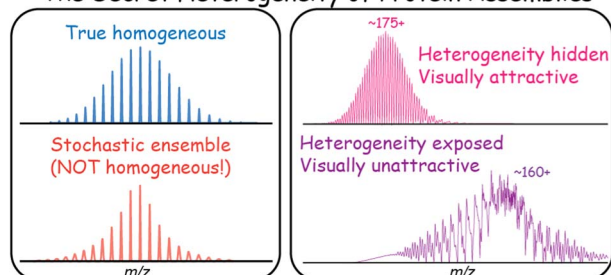


New insights into the oxidation process from neutron and X-ray crystal structures of an O₂-sensitive [NiFe]-hydrogenase

Takeshi Hiromoto, Koji Nishikawa, Seiya Inoue, Hideaki Ogata, Yuta Hori, Katsuhiro Kusaka, Yu Hirano, Kazuo Kurihara, Yasuteru Shigeta, Taro Tamada* and Yoshiki Higuchi*

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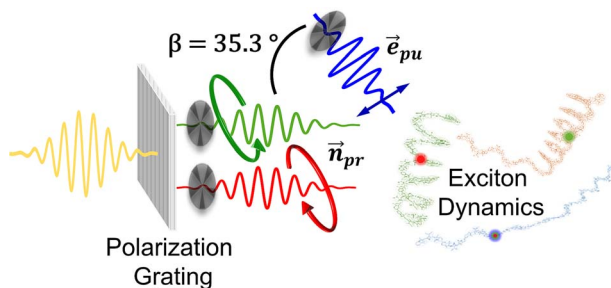
The Secret Heterogeneity of Protein Assemblies



Stochastic assembly of biomacromolecular complexes: impact and implications on charge interpretation in native mass spectrometry

Victor Yin, Paul W. A. Devine, Janet C. Saunders, Arjan Barendregt, Fiona Cusdin, Alexandra Ristani, Alistair Hines, Sam Shepherd, Marcin Dembek, Claire L. Dobson, Joost Snijder, Nicholas J. Bond and Albert J. R. Heck*

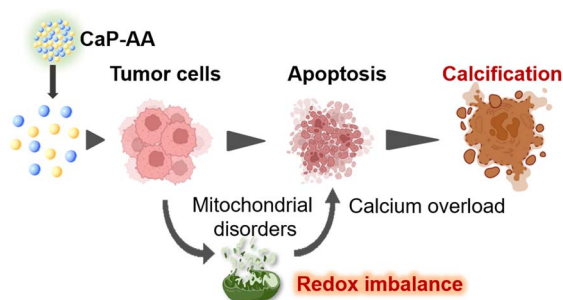
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Time-resolved circular dichroism of excitonic systems: theory and experiment on an exemplary squaraine polymer

Lea Ress, Pavel Malý, Jann B. Landgraf, Dominik Lindorfer, Michael Hofer, Joshua Selby, Christoph Lambert, Thomas Renger* and Tobias Brixner*

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Responsive calcium-derived nanoassemblies induce mitochondrial disorder to promote tumor calcification

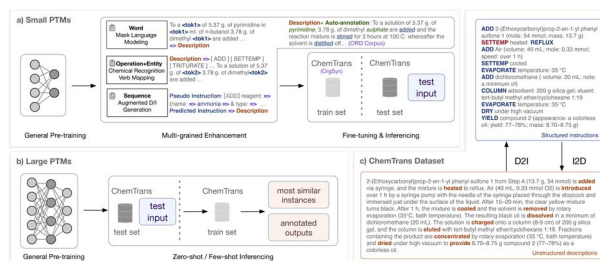
Yan Zhao, Xinquan Yu, Weiheng Kong, Rong-Mei Kong, Ensheng Zhang, Lian Xia, Jing Zhang, Fengli Qu* and Weihong Tan



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Transcription between human-readable synthetic descriptions and machine-executable instructions: an application of the latest pre-training technology

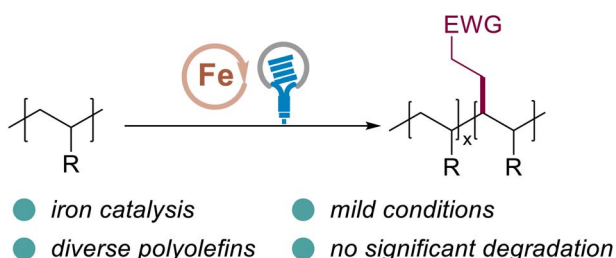
Zheni Zeng, Yi-Chen Nie, Ning Ding, Qian-Jun Ding, Wei-Ting Ye, Cheng Yang, Maosong Sun, Weinan E, Rong Zhu* and Zhiyuan Liu*



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Photoinduced iron-catalyzed C–H alkylation of polyolefins

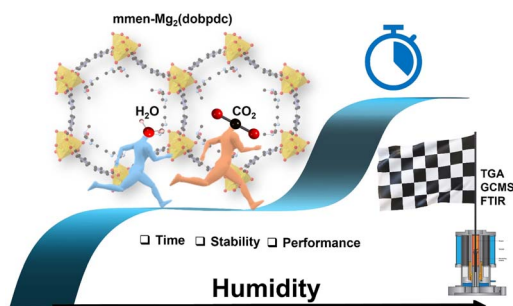
Zongnan Zhang, Yanfeng Zhang and Rong Zeng*



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Suitability of a diamine functionalized metal–organic framework for direct air capture

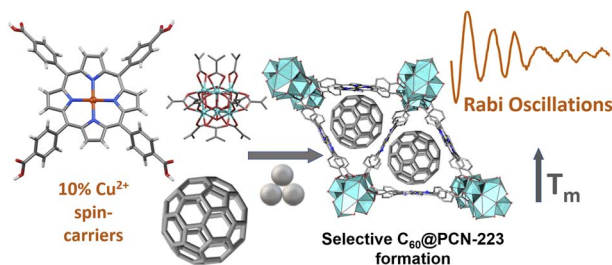
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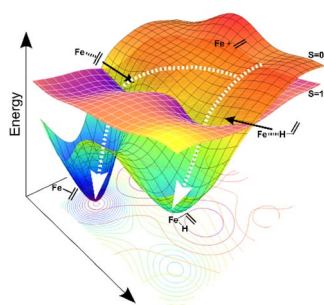
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Improving the molecular spin qubit performance in zirconium MOF composites by mechanochemical dilution and fullerene encapsulation

Lucija Vujević, Bahar Karadeniz,* Nikola Cindro, Andraž Krajnc, Gregor Mali, Matjaž Mazaj, Stanislav M. Avdoshenko, Alexey A. Popov, Dijana Žilić,* Krunoslav Užarević* and Marina Kveder*



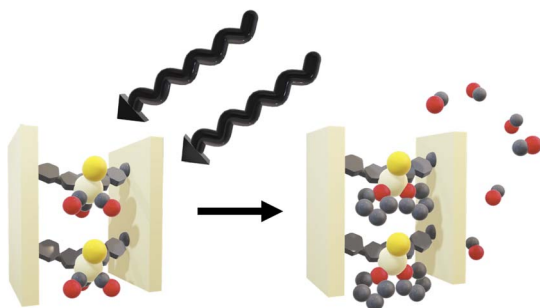
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Dynamic-dependent selectivity in a bisphosphine iron spin crossover C–H insertion/ π -coordination reaction

Michael T. Davenport, Justin K. Kirkland and Daniel H. Ess*

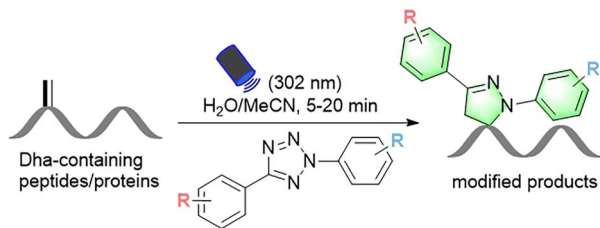
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Studying manganese carbonyl photochemistry in a permanently porous metal–organic framework

Rosemary J. Young, Michael T. Huxley, Lingjun Wu, Jack Hart, James O'Shea, Christian J. Doonan, Neil R. Champness* and Christopher J. Sumby*

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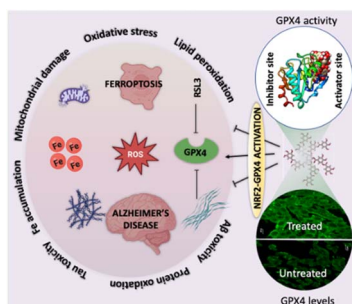


Light-initiated 1,3-dipolar cycloaddition between dehydroalanines and tetrazoles: application to late-stage peptide and protein modifications

Mengqian Zhang, Peiyang He and Yanmei Li*

- ✓ Fast reaction kinetics
- ✓ Catalyst-free, mild reaction conditions
- ✓ Photo-controlled
- ✓ Fluorescence "turn on"

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A natural polyphenol activates and enhances GPX4 to mitigate amyloid- β induced ferroptosis in Alzheimer's disease

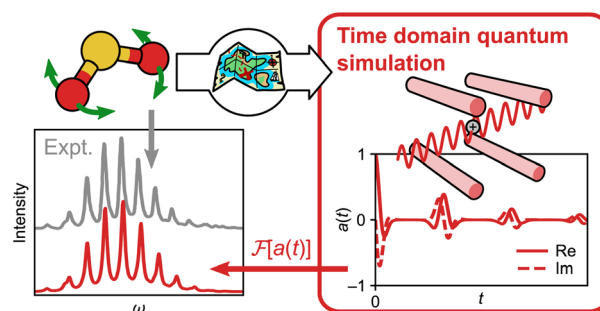
Prayasee Baruah, Hariharan Moorthy, Madhu Ramesh, Diksha Padhi and Thimmaiah Govindaraju*



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Predicting molecular vibronic spectra using time-domain analog quantum simulation

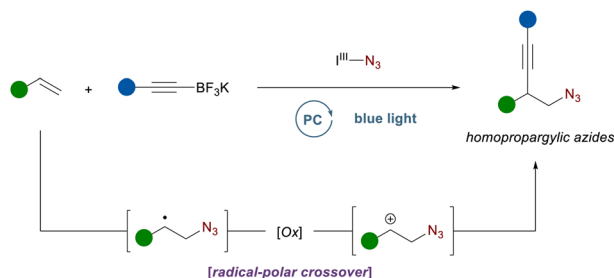
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Azido-alkynylation of alkenes through radical-polar crossover

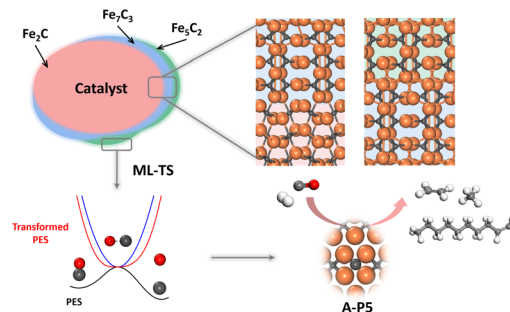
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An optimal Fe–C coordination ensemble for hydrocarbon chain growth: a full Fischer–Tropsch synthesis mechanism from machine learning

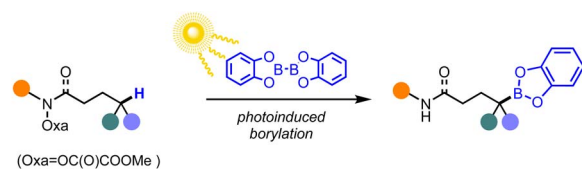
Qian-Yu Liu, Dongxiao Chen, Cheng Shang* and Zhi-Pan Liu*



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Metal-free, photoinduced remote C(sp³)–H borylation

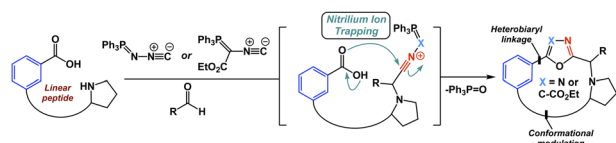
Jiachen He and Silas P. Cook*



- borylation of secondary and tertiary C(sp³)-H bonds
- high regioselectivity
- transition metal- and photocatalyst free
- room temperature and operationally simple



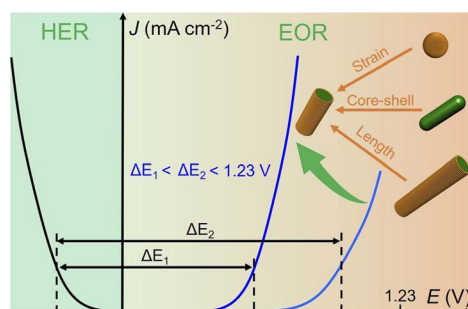
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Nitrilium ion trapping as a strategy to access structurally diverse heterobiaryl-containing peptide macrocycles

Matthew Diamandas, Nicholas W. Heller and Andrei K. Yudin*

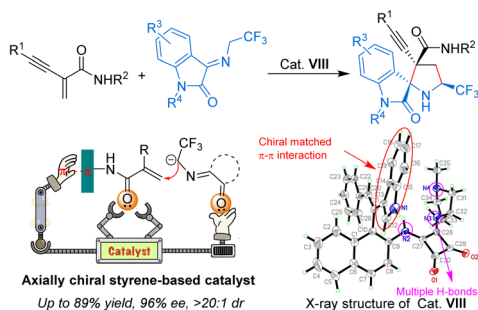
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Length-tunable Pd₂Sn@Pt core-shell nanorods for enhanced ethanol electrooxidation with concurrent hydrogen production

Tong Li, Qiuxia Wang, Wenjie Zhang, Huaming Li, Yong Wang* and Junfeng Liu*

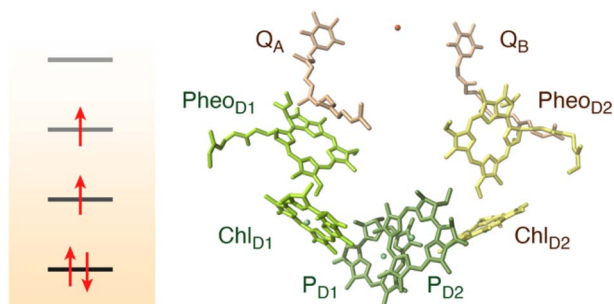
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Axially chiral styrene-based organocatalysts and their application in asymmetric cascade Michael/cyclization reaction

Yu Hao, Zi-Hao Li, Zhi-Gang Ma, Ru-Xin Liu, Rui-Tian Ge, Quan-Zhe Li, Tong-Mei Ding and Shu-Yu Zhang*

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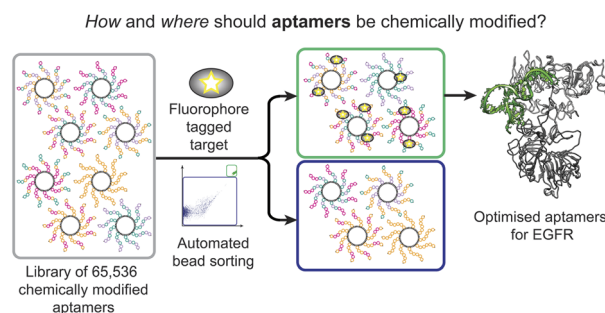
Triplet states in the reaction center of Photosystem II

Sinjini Bhattacharjee, Frank Neese and Dimitrios A. Pantazis*



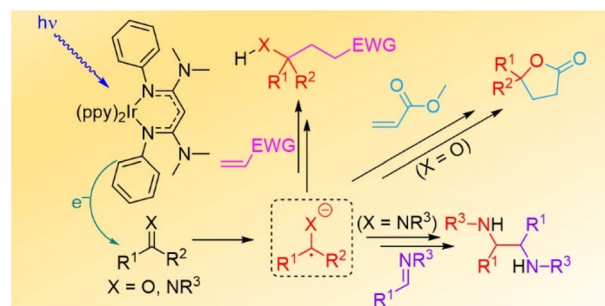
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Michelle D. Garrett* and Christopher J. Serpell*

Alexandra R. Paul, Mario Falsaperna, Helen Lavender,
Michelle D. Garrett* and Christopher J. Serpell*



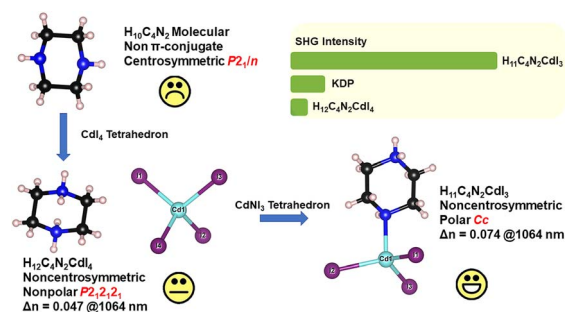
Reductive photoredox transformations of carbonyl derivatives enabled by strongly reducing photosensitizers

Vinh Q. Dang and Thomas S. Teets*



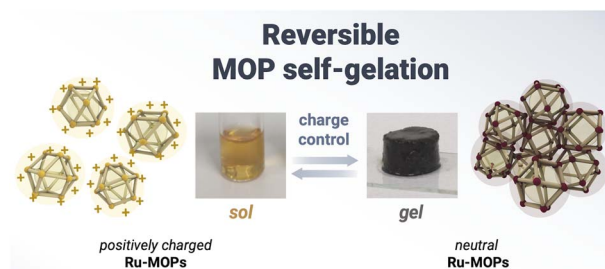
From $\text{H}_{12}\text{C}_4\text{N}_2\text{CdI}_4$ to $\text{H}_{11}\text{C}_4\text{N}_2\text{CdI}_3$: a highly polarizable CdNi_3 tetrahedron induced a sharp enhancement of second harmonic generation response and birefringence

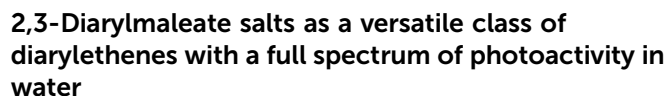
Huai-Yu Wu, Chun-Li Hu,* Miao-Bin Xu, Qian-Qian Chen,
Nan Ma, Xiao-Ying Huang, Ke-Zhao Du* and Jin Chen*



Porous supramolecular gels produced by reversible self-gelation of ruthenium-based metal–organic polyhedra

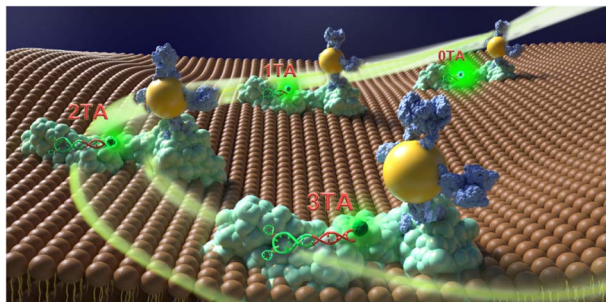
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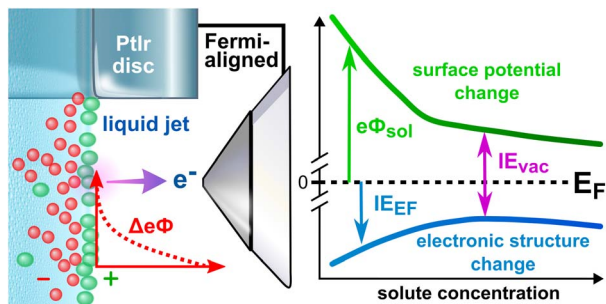
9560



Single-nucleobase resolution of a surface energy transfer nanoruler for *in situ* measurement of aptamer binding at the receptor subunit level in living cells

Yu Zhang, Mengke Su, Xingru Fang, Wenwen Huang,
Hao Jiang, Qi Li, Nisar Hussain, Mao Ye, Honglin Liu*
and Weihong Tan*

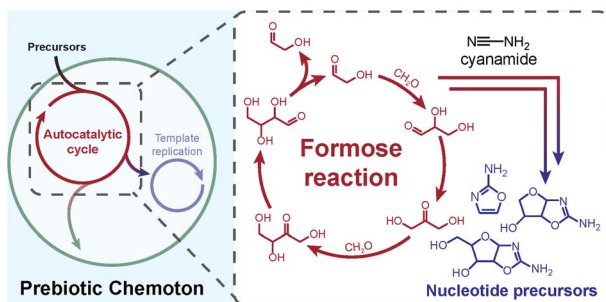
9574



How to measure work functions from aqueous solutions

Michele Pugini, Bruno Credidio, Irina Walter,
Sebastian Malerz, Florian Trinter, Dominik Stemer,
Uwe Hergenroth, Gerard Meijer, Iain Wilkinson,
Bernd Winter* and Stephan Thürmer*

9589



Towards a prebiotic chemoton – nucleotide precursor synthesis driven by the autocatalytic formose reaction

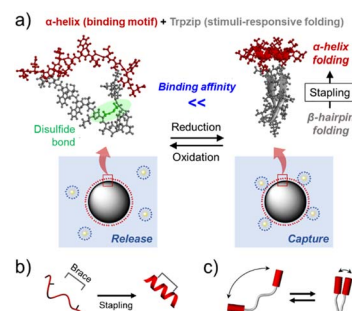
Quoc Phuong Tran, Ruigin Yi and Albert C. Fahrenbach*

EDGE ARTICLES

9600

Modulating the folding and binding of peptides using a stimuli-responsive molecular tweezer

Sooho Ko, Joo-Young Kim, Jung Yeon Park, You-jin Jung, Min-Jae Choi, Kyeong Sik Jin, Yongju Kim, Yong-beom Lim* and Woo-jin Jeong*



CORRECTIONS

9608

Correction: Structural tuning of organoruthenium compounds allows oxidative switch to control ER stress pathways and bypass multidrug resistance

Mun Juinn Chow, Cynthia Licon, Giorgia Pastorin, Georg Mellitzer, Wee Han Ang* and Christian Gaiddon*

9610

Correction: A H_2O_2 self-sufficient nanoplatfom with domino effects for thermal-responsive enhanced chemodynamic therapy

Shichao Zhang, Changyu Cao, Xinyi Lv, Hanming Dai, Zhihao Zhong, Chen Liang, Wenjun Wang, Wei Huang, Xuejiao Song* and Xiaochen Dong*

