

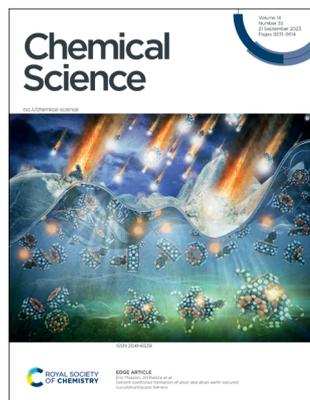
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IN THIS ISSUE

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



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See Eric Masson, Jiří Kaleta *et al.*, pp. 9258–9266.
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See Subinoy Rana *et al.*, pp. 9267–9282. Image reproduced by permission of Subinoy Rana from *Chem. Sci.*, 2023, **14**, 9267.

EDITORIAL

9244

Highlights from the 56th Bürgenstock Conference on Stereochemistry 2023

Marc Reid* and Christopher J. Teskey*

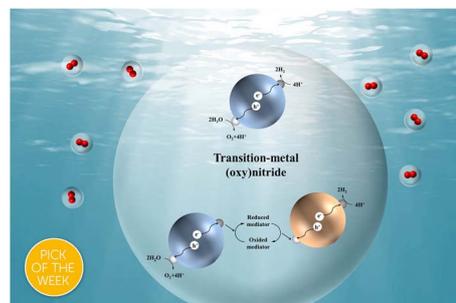


PERSPECTIVE

9248

Transition-metal (oxy)nitride photocatalysts for water splitting

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



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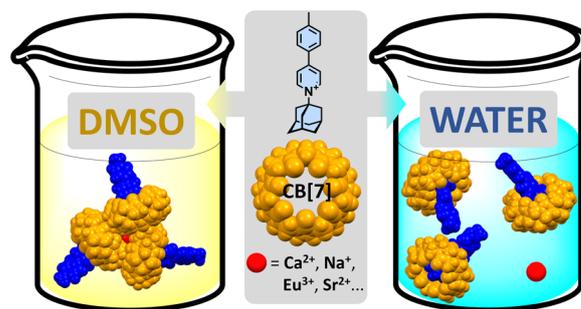
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9258

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

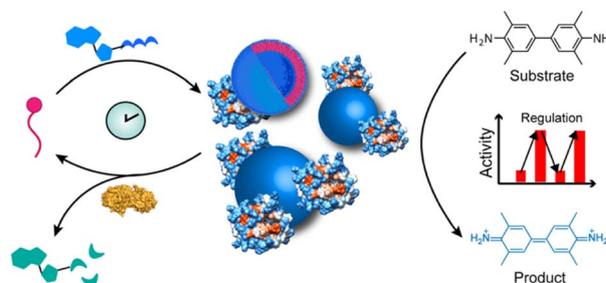
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9267

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

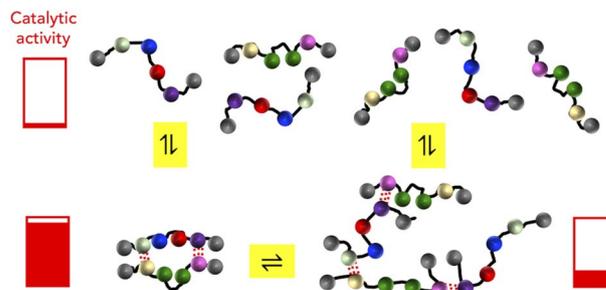
Alisha Kamra, Sourav Das, Preeti Bhatt, Manju Solra, Tanmoy Maity and Subinoy Rana*



9283

Dynamic self-assembly of supramolecular catalysts from precision macromolecules

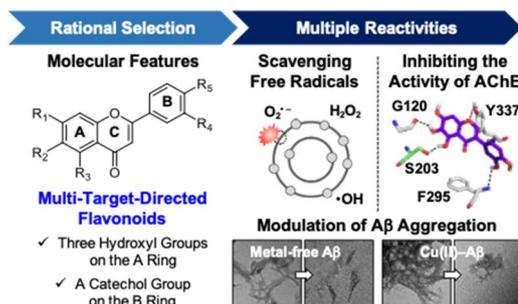
Qian Qin, Jie Li, David Delleme, Mathieu Fossépré, Gabriella Barozzino-Consiglio, Imane Nekkaa, Adrian Boborodea, Antony E. Fernandes, Karine Glinel, Mathieu Surin* and Alain M. Jonas*



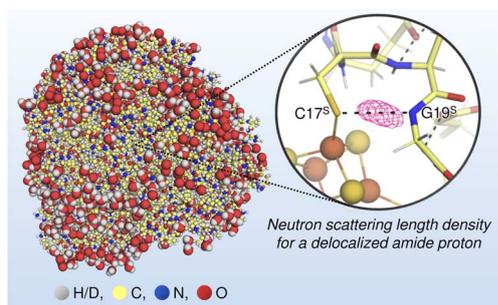
9293

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

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



9306

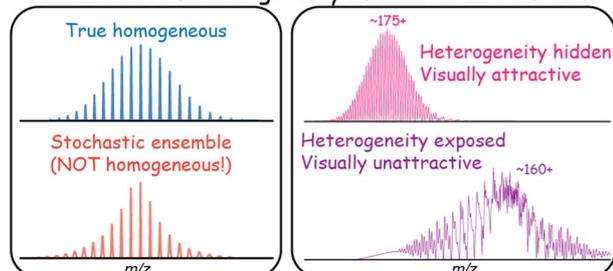


New insights into the oxidation process from neutron and X-ray crystal structures of an O₂-sensitive [NiFe]-hydrogenase

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

9316

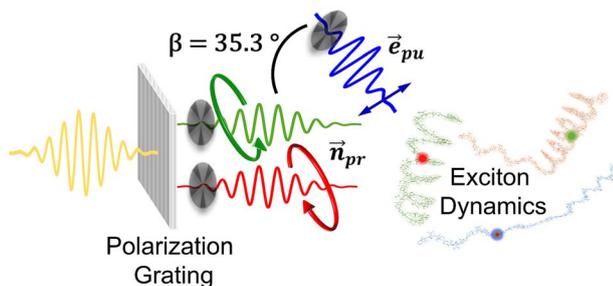
The Secret Heterogeneity of Protein Assemblies



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*

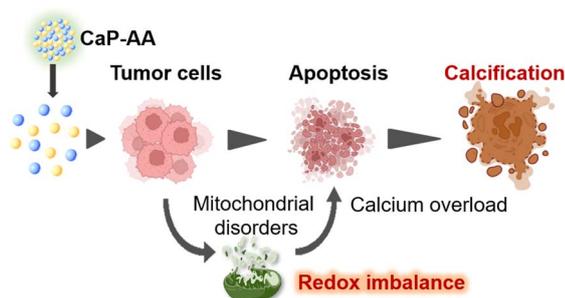
9328



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*

9350



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

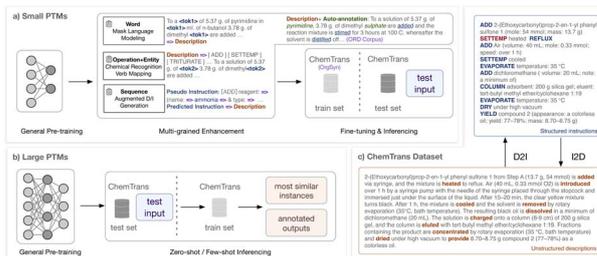
Yan Zhao, Xinquan Yu, Weiheng Kong, Rong-Mei Kong, Ensheng Zhang, Lian Xia, Jing Zhang, Fengli Qu* and Weihong Tan



9360

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

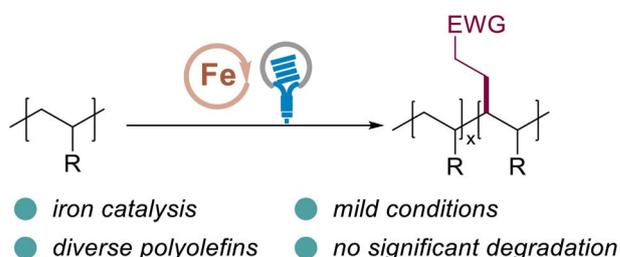
Zheni Zeng, Yi-Chen Nie, Ning Ding, Qian-Jun Ding, Wei-Ting Ye, Cheng Yang, Maosong Sun, Weinan E, Rong Zhu* and Zhiyuan Liu*



9374

Photoinduced iron-catalyzed C–H alkylation of polyolefins

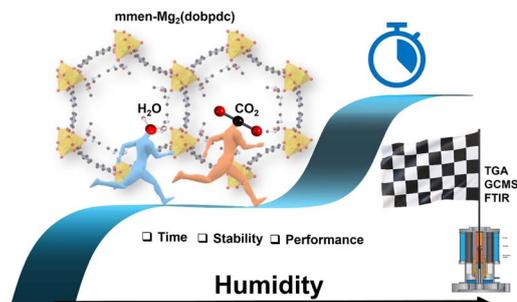
Zongnan Zhang, Yanfeng Zhang and Rong Zeng*



9380

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

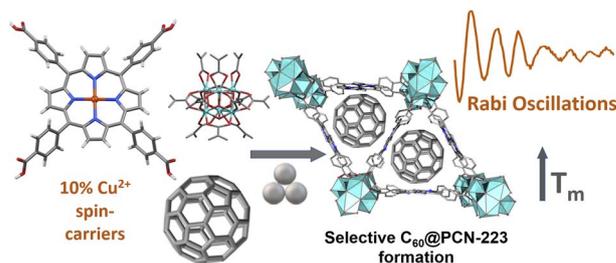
Saptasree Bose, Debabrata Sengupta, Christos D. Malliakas, Karam B. Idrees, Haomiao Xie, Xiaoliang Wang, Michael L. Barsoum, Nathaniel M. Barker, Vinayak P. Dravid, Timur Islamoglu and Omar K. Farha*



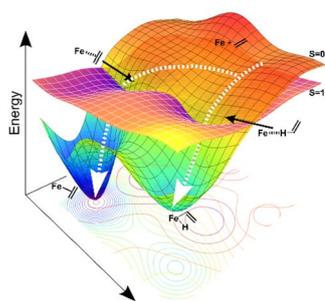
9389

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*



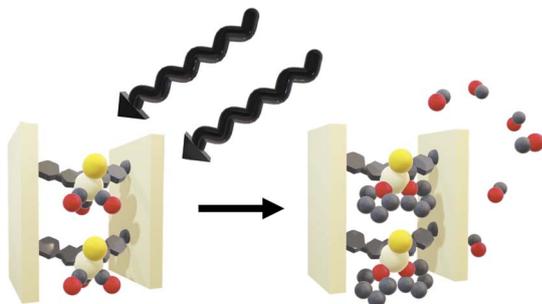
9400



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*

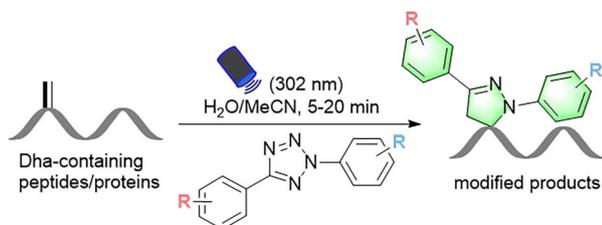
9409



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*

9418

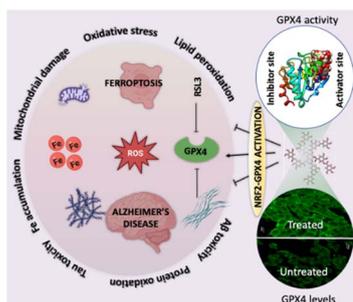


Light-initiated 1,3-dipolar cycloaddition between dehydroalanines and tetrazoles: application to late-stage peptide and protein modifications

Mengqian Zhang, Peiyang He and Yanmei Li*

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

9427



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

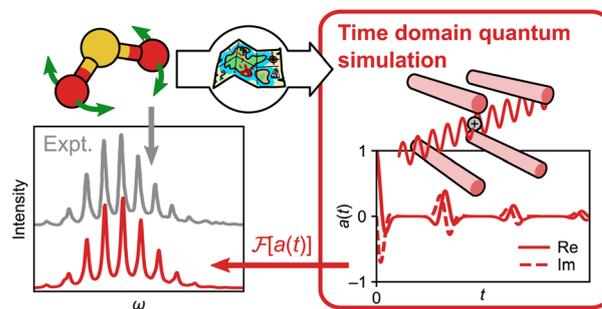
Prayasee Baruah, Hariharan Moorthy, Madhu Ramesh, Dikshaa Padhi and Thimmaiah Govindaraju*



9439

Predicting molecular vibronic spectra using time-domain analog quantum simulation

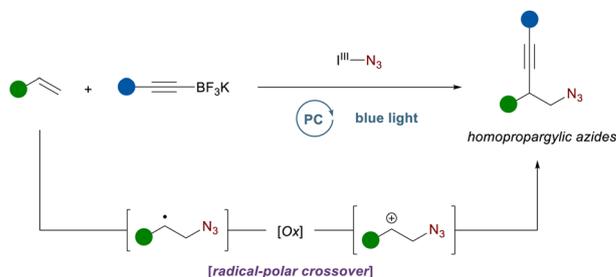
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9452

Azido-alkynylation of alkenes through radical-polar crossover

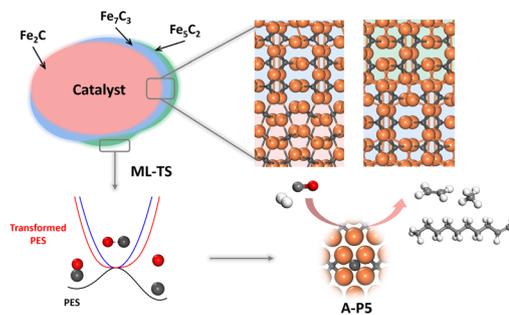
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9461

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

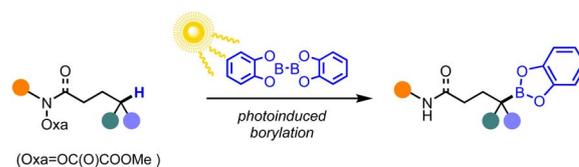
Qian-Yu Liu, Dongxiao Chen, Cheng Shang* and Zhi-Pan Liu*



9476

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

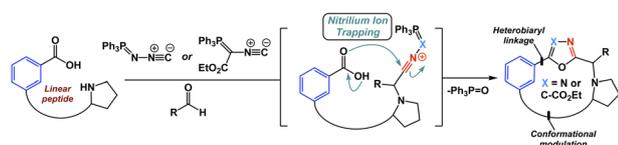
Jiachen He and Silas P. Cook*



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



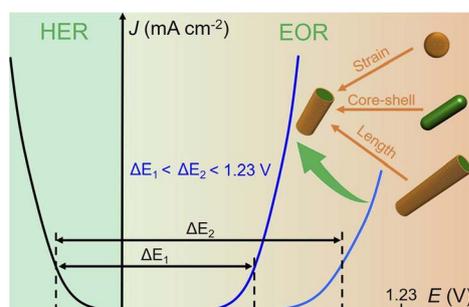
9482



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

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

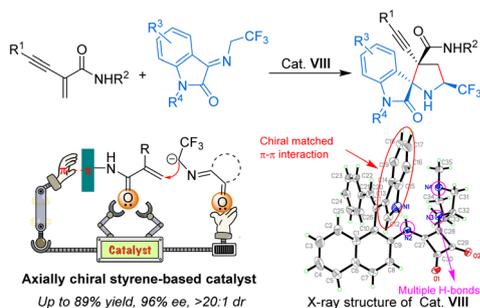
9488



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*

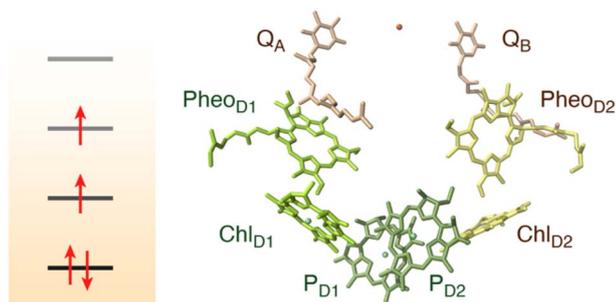
9496



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*

9503



Triplet states in the reaction center of Photosystem II

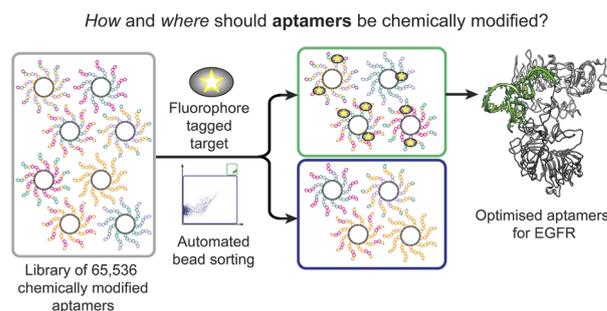
Sinjini Bhattacharjee, Frank Neese and Dimitrios A. Pantazis*



9517

Selection of optimised ligands by fluorescence-activated bead sorting

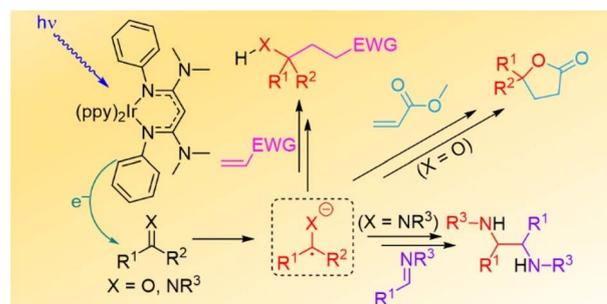
Alexandra R. Paul, Mario Falsaperna, Helen Lavender, Michelle D. Garrett* and Christopher J. Serpell*



9526

Reductive photoredox transformations of carbonyl derivatives enabled by strongly reducing photosensitizers

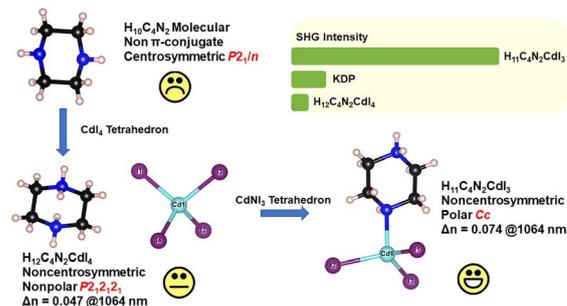
Vinh Q. Dang and Thomas S. Teets*



9533

From $H_{12}C_4N_2CdI_4$ to $H_{11}C_4N_2CdI_3$: a highly polarizable $CdNI_3$ tetrahedron induced a sharp enhancement of second harmonic generation response and birefringence

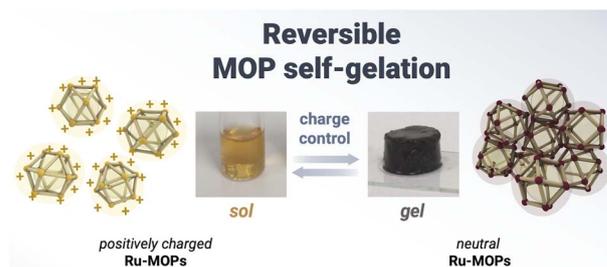
Huai-Yu Wu, Chun-Li Hu,* Miao-Bin Xu, Qian-Qian Chen, Nan Ma, Xiao-Ying Huang, Ke-Zhao Du* and Jin Chen*



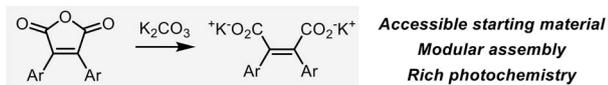
9543

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

Javier Troyano,* Fuerkaiti Tayier, Phitchayapha Phattharaphuti, Takuma Aoyama, Kenji Urayama and Shuhei Furukawa*



9553



Accessible starting material
Modular assembly
Rich photochemistry

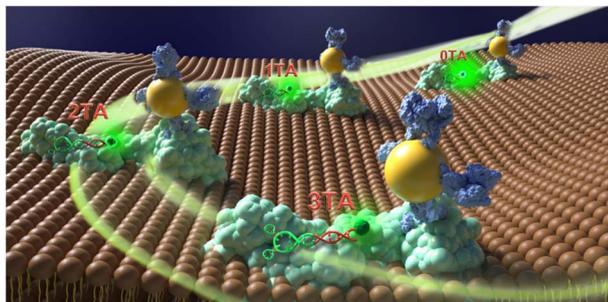


Pushing the diarylethene photochemistry to water

2,3-Diarylethene salts as a versatile class of diarylethenes with a full spectrum of photoactivity in water

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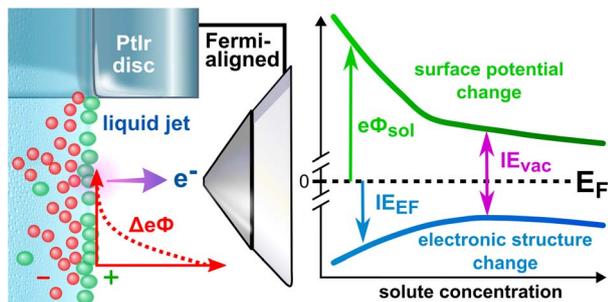
9560



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*

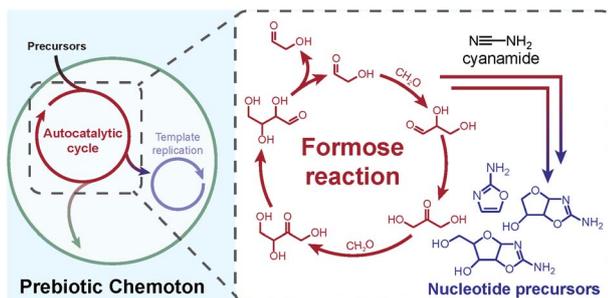
9574



How to measure work functions from aqueous solutions

Michele Pugini, Bruno Credidio, Irina Walter, Sebastian Malerz, Florian Trinter, Dominik Stemer, Uwe Hergenbahn, 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, Ruiqin Yi and Albert C. Fahrenbach*



