

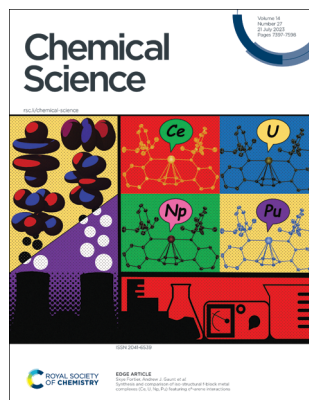
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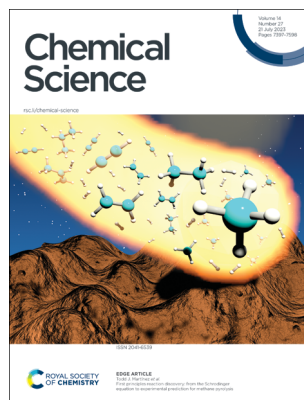
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IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 14(27) 7397–7598 (2023)



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See Skye Fortier, Andrew J. Gaunt *et al.*, pp. 7438–7446.
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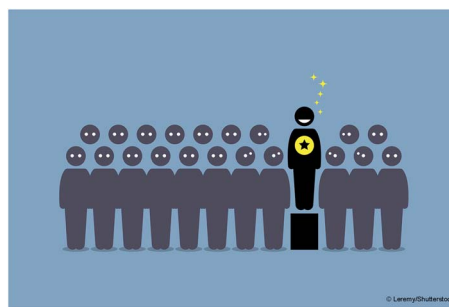


Inside cover
See Todd J. Martínez *et al.*, pp. 7447–7464.
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EDITORIAL

7406

Outstanding Reviewers for *Chemical Science* in 2022

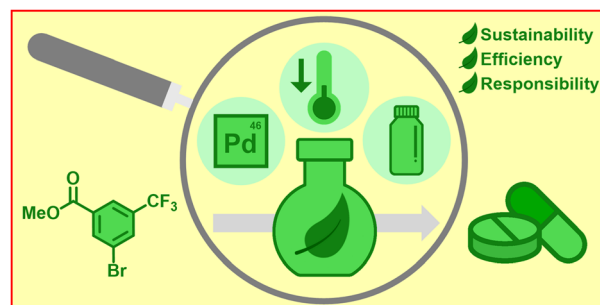


COMMENTARY

7408

A focus on sustainable method development for greener synthesis

Jasper L. Tyler, Felix Katzenburg and Frank Glorius*



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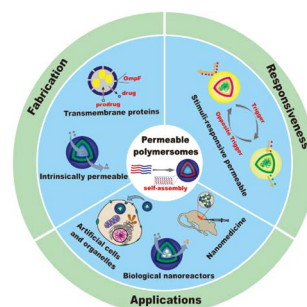


REVIEW

7411

Recent advances in permeable polymersomes: fabrication, responsiveness, and applications

Yanyan Zhu, Shoupeng Cao, Meng Huo,* Jan C. M. van Hest* and Hailong Che*

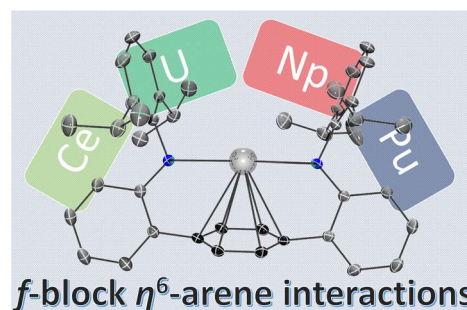


EDGE ARTICLES

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Synthesis and comparison of iso-structural f-block metal complexes (Ce, U, Np, Pu) featuring η^6 -arene interactions

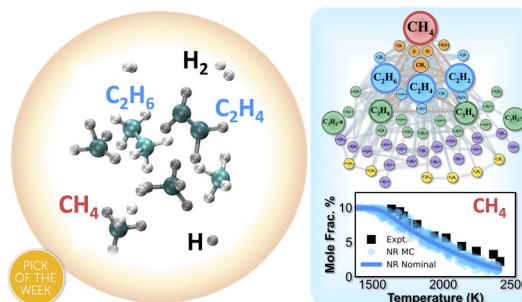
Jesse Murillo, Conrad A. P. Goodwin, Lauren Stevens, Skye Fortier,* Andrew J. Gaunt* and Brian L. Scott



7447

First principles reaction discovery: from the Schrodinger equation to experimental prediction for methane pyrolysis

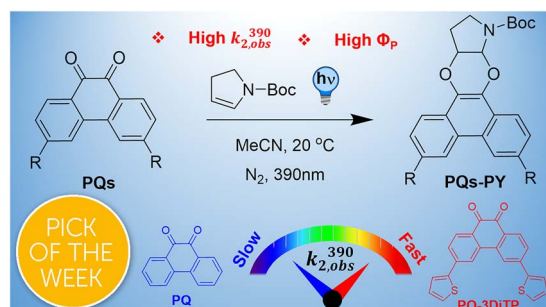
Rui Xu, Jan Meisner, Alexander M. Chang, Keiran C. Thompson and Todd J. Martínez*



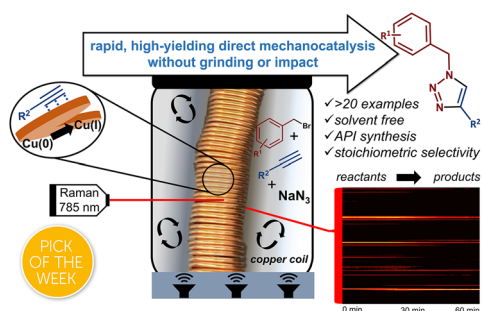
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Establishing PQ-ERA photoclick reactions with unprecedented efficiency by engineering of the nature of the phenanthraquinone triplet state

Youxin Fu, Georgios Alachouzos, Nadja A. Simeth, Mariangela Di Donato, Michiel F. Hilbers, Wybren Jan Buma,* Wiktor Szymanski* and Ben L. Feringa*



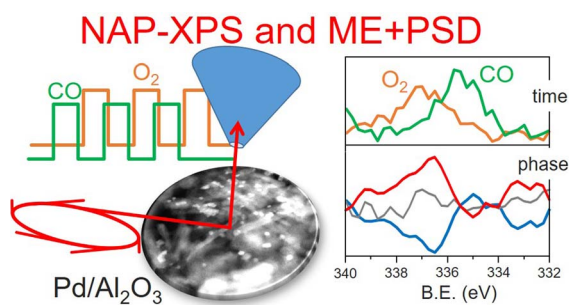
7475



Direct mechanocatalysis by resonant acoustic mixing (RAM)

Cameron B. Lennox, Tristan H. Borchers, Lori Gonnet, Christopher J. Barrett, Stefan G. Koenig,* Karthik Nagapudi* and Tomislav Friščić*

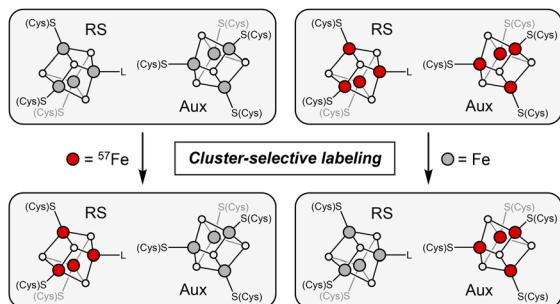
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Improving time-resolution and sensitivity of *in situ* X-ray photoelectron spectroscopy of a powder catalyst by modulated excitation

M. Roger, L. Artiglia,* A. Boucly, F. Buttignol, M. Agote-Arán, J. A. van Bokhoven, O. Kröcher and D. Ferri*

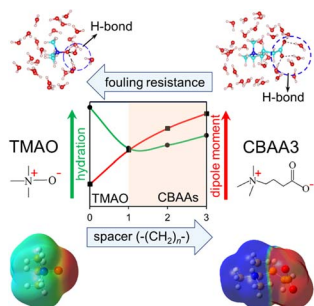
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Cluster-selective ⁵⁷Fe labeling of a Twitch-domain-containing radical SAM enzyme

Gil Namkoong and Daniel L. M. Suesse*

7500



Hydration behaviors of nonfouling zwitterionic materials

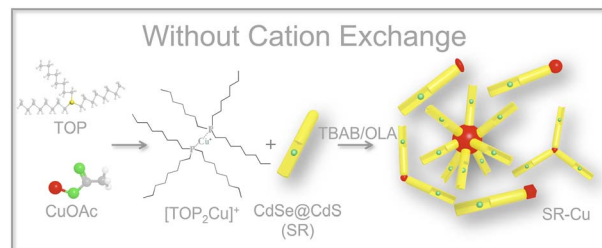
Pranab Sarker, Tieyi Lu, Di Liu, Guangyao Wu, Hanning Chen, Md Symon Jahan Sajib, Shaoyi Jiang,* Zhan Chen* and Tao Wei*



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Shape tunability of copper nanocrystals deposited on nanorods

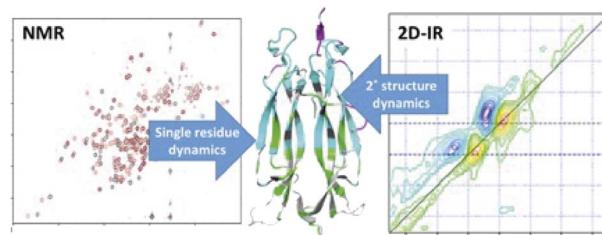
Yuexing Chen and Lilac Amirav*



7524

Modulation of IL-17 backbone dynamics reduces receptor affinity and reveals a new inhibitory mechanism

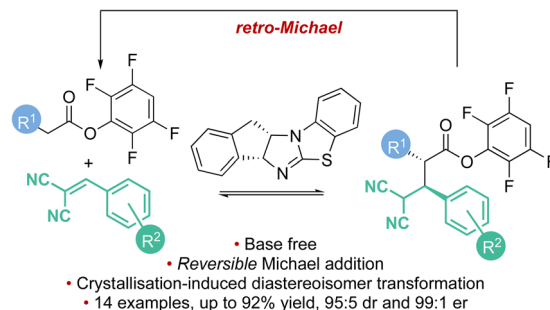
Daniel J. Shaw, Lorna C. Waters, Sarah L. Strong, Monika-Sarah E. D. Schulze, Gregory M. Greetham, Mike Towrie, Anthony W. Parker, Christine E. Prosser, Alistair J. Henry, Alastair D. G. Lawson, Mark. D. Carr, Richard J. Taylor, Neil T. Hunt* and Frederick W. Musket*



7537

Enantioselective isothiurea-catalysed reversible Michael addition of aryl esters to 2-benzylidene malonitriles

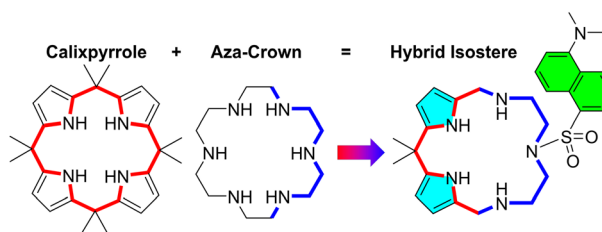
Alastair J. Nimmo, Jacqueline Bitai, Claire M. Young, Calum McLaughlin, Alexandra M. Z. Slawin, David B. Cordes and Andrew D. Smith*



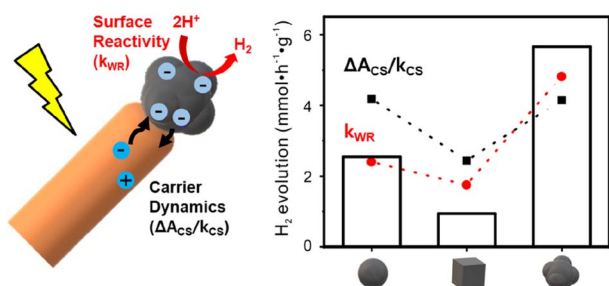
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Azacrown-calixpyrrole isosteres: receptors and sensors for anions

Austin R. Sartori, Aco Radujević, Sandra M. George and Pavel Anzenbacher, Jr*



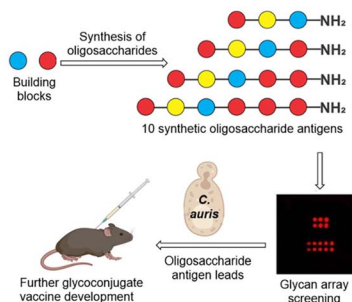
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Pt cocatalyst morphology on semiconductor nanorod photocatalysts enhances charge trapping and water reduction

Bumjin Park, Won-Woo Park, Ji Yong Choi, Woong Choi, Young Mo Sung, Soohwan Sul,* Oh-Hoon Kwon* and Hyunjoon Song*

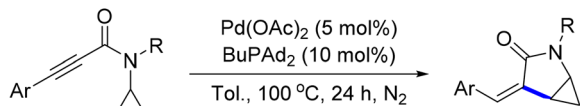
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Synthesis of oligosaccharides to identify an immunologically active epitope against *Candida auris* infection

Rajat Kumar Singh, Emelie E. Reuber, Mariolina Bruno, Mihai G. Netea and Peter H. Seeberger*

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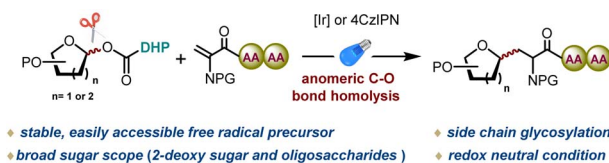


Palladium-catalyzed intramolecular asymmetric hydrocyclopropanylation of alkynes: synthesis of cyclopropane-fused γ -lactams

Han-Ze Lin, Zhuang Qi, Qi-Min Wu, Yong-Yu Jiang and Jin-Bao Peng*

- ♥ mild conditions
 - ♦ cyclopropane-fused γ -lactams
 - ♣ 100% atom economy
 - ♠ sp^3 C-H bond activation
- 21 examples
up to 96% yield
up to 91% ee

7569



Stereoselective alkyl C-glycosylation of glycosyl esters via anomeric C–O bond homolysis: efficient access to C-glycosyl amino acids and C-glycosyl peptides

Anrong Chen, Shiyin Zhao, Yang Han, Zhenghong Zhou, Bo Yang, Lan-Gui Xie,* Maciej A. Walczak* and Feng Zhu*

- ♦ stable, easily accessible free radical precursor
- ♦ side chain glycosylation
- ♦ broad sugar scope (2-deoxy sugar and oligosaccharides)
- ♦ redox neutral condition

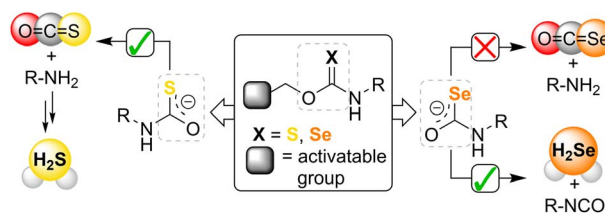


EDGE ARTICLES

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Direct hydrogen selenide (H_2Se) release from activatable selenocarbamates

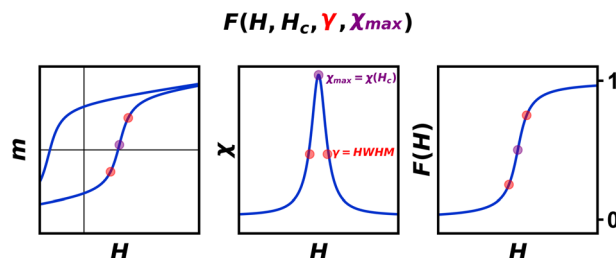
Turner D. Newton, Keyan Li, Jyoti Sharma, Pier Alexandre Champagne* and Michael D. Pluth*



7589

Quantifying superparamagnetic signatures in nanoparticle magnetite: a generalized approach for physically meaningful statistics and synthesis diagnostics

Kyle M. Kirkpatrick, Benjamin H. Zhou, Philip C. Bunting and Jeffrey D. Rinehart*



CORRECTION

7595

Correction: Abiotic microcompartments form when neighbouring droplets fuse: an electrochemiluminescence investigation

Silvia Voci, Thomas B. Clarke and Jeffrey E. Dick*

