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IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(74) 11007-11150 (2023)



Cover

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Inside cover

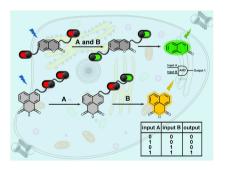
See Yasushi Sekine et al., pp. 11061-11064. Image reproduced by permission of Yasushi Sekine from Chem. Commun., 2023, 59, 11061.

HIGHLIGHT

11017

Recent progress in the development of small-molecule double-locked logic gate fluorescence probes

Xiaoting Zhang, Tiancong Xiu, Hui Wang,* Hongtong Wang, Ping Li* and Bo Tang*



FEATURE ARTICLES

11028

Thiol-epoxy 'click' chemistry: a focus on molecular attributes in the context of polymer chemistry

Anzar Khan*

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Chemical Communications (print: ISSN 1359-7345; electronic: ISSN 1364-548X) is published 100 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road,Cambridge, CB4 OWF, UK

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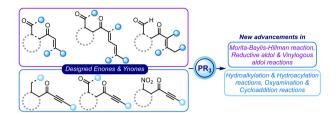


FEATURE ARTICLES

11045

Conceptual advances in nucleophilic organophosphine-promoted transformations

Lona Dutta, Atanu Mondal, Jay Prakash Maurya, Dipto Mukhopadhyay and S. S. V. Ramasastry*

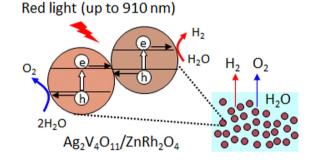


COMMUNICATIONS

11057

Near-infrared light-inducible Z-scheme overall water-splitting photocatalyst without an electron mediator

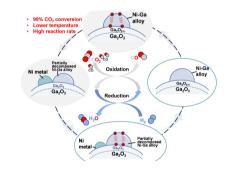
Hiroshi Irie,* Masaomi Yoda, Hiroshi Miyashita, Ryo Hanada, Toshihiro Takashima and Haruna Kuroiwa



11061

Equilibrium unconstrained low-temperature CO₂ conversion on doped gallium oxides by chemical looping

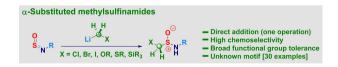
Keke Kang, Sota Kakihara, Takuma Higo, Hiroshi Sampei, Koki Saegusa and Yasushi Sekine*



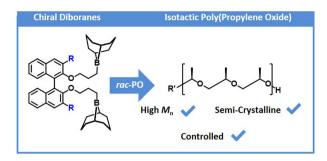
11065

Highly chemoselective homologative assembly of the α-substituted methylsulfinamide motif from N-sulfinylamines

Monika Malik, Raffaele Senatore, Davide Castiglione, Alexander Roller-Prado and Vittorio Pace*



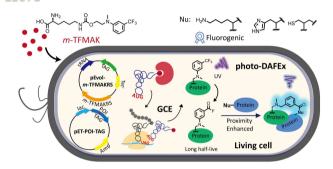
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Sterically demanding binaphthol-based chiral diboranes for metal-free and isotactic poly(propylene oxide)

Ayla Sirin-Sariaslan and Stefan Naumann*

11073



A genetically encodable and fluorogenic photo-crosslinker via photo-induced defluorination acyl fluoride exchange

Jielin Fu, Sitong Li, Lijun Deng, Xiaohu Zhao and Zhipeng Yu*

11077



Base-promoted one-pot three-component desulphurization cross-coupling access to 4-cyanoimidazole

Jiangwei Wen,* Ting Zeng, Kelu Yan, Lulu Zhao, Shuyun Zhu and Jianjing Yang*

11081



Zwitterionic mesoporous engineering aids peptide-dependent pattern profiling for identification of different liver diseases

Zixing Xu, Wantong Zhang, Chunhui Deng* and Nianrong Sun*

11085

Fused metallacyclopropenes from alkynylphenols

Bingjie Fu, Wei Bai,* Yue Zhao, Yang Li and Wenfeng Jiang*

$$OsCl_{2}(PPh_{3})_{3}$$

$$+$$

$$[Os] = OsCl_{2}(PPh_{3})_{2}$$

$$R = alkyl$$

$$R = alkyl$$

$$R = alkyl$$

$$R = alkyl$$

11089

Aerobic oxidative C-H phosphorylation of quinoxalines under catalyst-free conditions

Qiaoyu Gan, Haibo Liu, Zeqi Jiang, Junmei Xia, Zhenhua Gao,* Yongbiao Guo* and Hongliang Wen*

11093

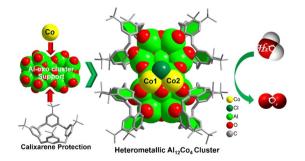
Gallium reactivates first and second generation quinolone antibiotics towards drug-resistant Klebsiella pneumoniae

Tania Sultana, Rebekah N. Duffin, Victoria L. Blair and Philip C. Andrews*

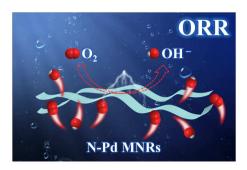
11097

Al₁₂Co₄: a pioneering heterometallic aluminum oxo cluster with surface-exposed Co sites for the oxygen evolution reaction

Er-Meng Han, Ru-Xin Meng, Yi-Qi Tian, Jun Yan, Kai-Yu Liu* and Chao Liu*



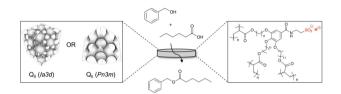
11101



Nitrogen-intercalated Pd metallene nanoribbons with optimized electronic structure for oxygen reduction catalysis

Hongjing Wang, Yunju Li, Songliang Liu,* Hongjie Yu, Kai Deng, Ziqiang Wang, You Xu and Liang Wang*

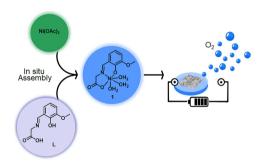
11105



Sulfonic-acid-based lyotropic bicontinuous cubic polymer network for molecular-size-selective heterogeneous catalysis

Keira E. Culley, Christopher Johnson and Douglas L. Gin*

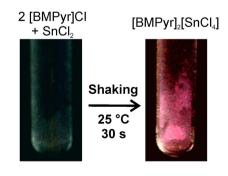
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In situ assembly of nickel-based ultrathin catalyst film for water oxidation

Xiang-Zhu Wei, Fang-Jie Liao, Xin Xu, Chen Ye, Chen-Ho Tung and Li-Zhu Wu*

11113



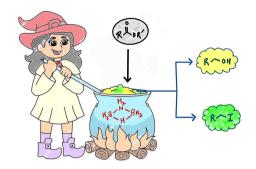
Solvent-free room-temperature synthesis of brightly luminescent [BMPyr]₂[SnCl₄]

Silke Wolf and Claus Feldmann*

11117

Reduction of esters to alcohols and iodides using aminodiborane (μ-NH₂B₂H₅): scope and mechanistic investigations

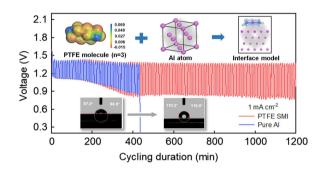
Abhishek Nair, Vikas Tiwari, Sambhav Rath, Parul Saini, Ashutosh Verma and Anil J. Elias*



11121

A fluoropolymer bifunctional solid membrane interface for improving the discharge duration in aqueous Al-air batteries

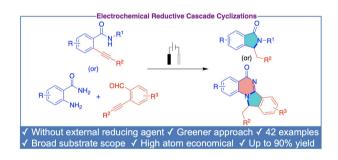
Manhui Wei, Keliang Wang,* Thi Ha My Pham, Meixia Zhang, Daiyuan Zhong, Hengwei Wang, Liping Zhong, Dongxin Liu, Pucheng Pei and Andreas Züttel



11125

Electrochemical reductive cascade cyclization of o-alkynylated derivatives for saturated amides/amines

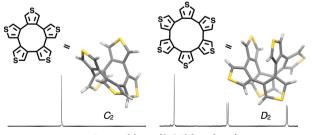
Mandapati Bhargava Reddy, Sakthivel Prabhu and Ramasamy Anandhan*



11129

Synthesis of penta- and hexa(3,4-thienylene): size-dependent structural properties of cyclic oligothiophenes

Mai Nagase, Sachiko Nakano and Yasutomo Segawa*



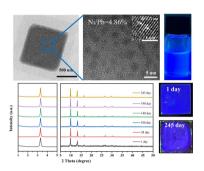
penta- and hexa(3,4-thienylene)

11133

X=other than OH 12 examples Х=ОН 6 examples ● Organocatalysis ● (3+3)-Cycloaddition ● 1,3-Aryl shift ● New asymmetric approach Organocatalytic (3+3)-cycloaddition of ortho-substituted phenyl nitrones with aryl cyclopropane carbaldehydes: a facile access to enantioenriched 1,2-oxazinanes

Arijit Hazra, Asit Ghosh, Neeraj Yadav and Prabal Baneriee*

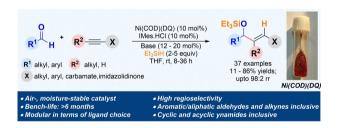
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Stable deep-blue FAPbBr₃ quantum dots facilitated by amorphous metal halide matrices

Wei Shen,* Yue Qiu, Jiayu Jiang, Zhihua Chen, Yanxing He, Hao Cui, Lihui Liu, Gang Cheng, Andrey N. Aleshin and Shufen Chen*

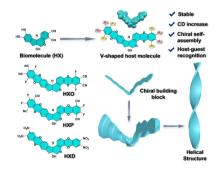
11141



Benchtop nickel-catalyzed reductive coupling of aldehydes with alkynes and ynamides

Aankhi Khamrai and Venkataraman Ganesh*

11145



V-shaped chiral hosts based on π -extended hematoxylin

Mingfang Ma, Liuyang Dong, Bo Luo,* Aiyou Hao and Pengyao Xing*