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A multidisciplinary journal focussing on all fundamental science and technological aspects of catalysis

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See Tzu Hsuan Chiang and Yu-Si Chen, pp. 3505–3516.
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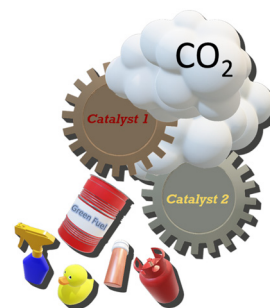
Inside cover
See Zhen-Yu Tian *et al.*, pp. 3517–3526.
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MINI REVIEW

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Bifunctional catalysts for the conversion of CO₂ into value-added products – distance as a design parameter for new catalysts

Maik Alexander Rudolph, Philipp Isbrücker and Reinhard Schomäcker*

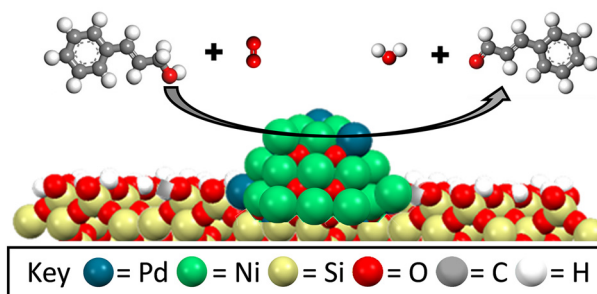


COMMUNICATIONS

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Isolated PdO sites on SiO₂-supported NiO nanoparticles as active sites for allylic alcohol selective oxidation

Aleksandra Ziarko, Thomas J. A. Slater, Mark A. Isaacs, Lee J. Durndell and Christopher M. A. Parlett*



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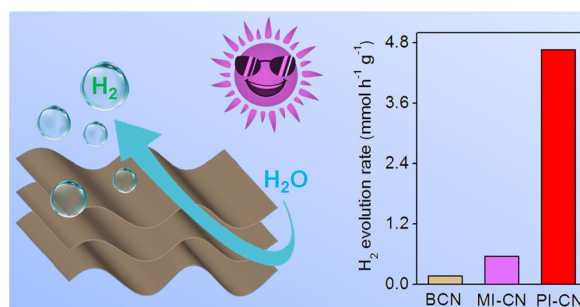


COMMUNICATIONS

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Facile implantation of imidazole-ring into graphitic carbon nitride for efficient photocatalytic hydrogen production

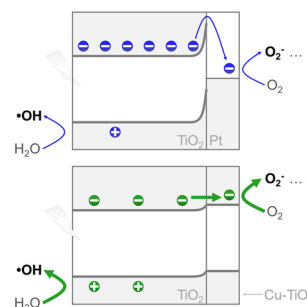
Siyuan He, Guanchao Wang and Zhongkui Zhao*



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Homogeneous interfacial electron transfer promotes photoinduced hole extraction for phenol mineralization

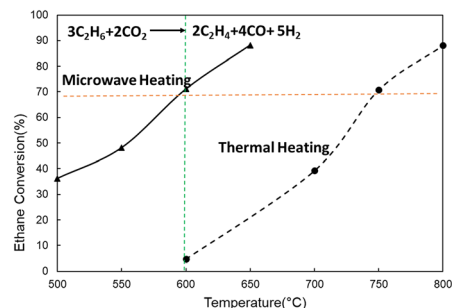
Yao Fang, Xuhui Wei, Haifeng Liu, Shugong Gao, Kun Jia, Junwei Wang* and Jiazang Chen*



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Selectivity modulated oxidative dehydrogenation of ethane with CO₂ under microwave catalytic processing

Xiaoyan Wang, Yuxin Wang, Brandon Robinson, Ashley Caiola and Jianli Hu*

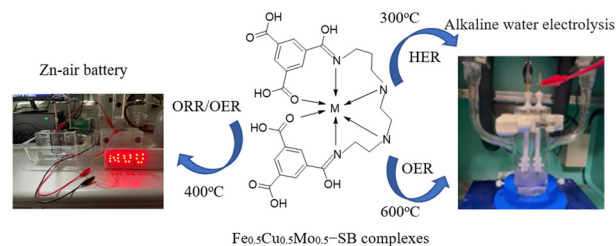


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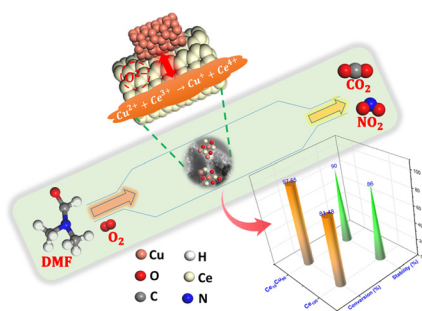
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Trifunctional electrocatalysts of ternary iron-copper-molybdenum Schiff base complexes applied to Zn-air battery and alkaline water splitting

Tzu Hsuan Chiang* and Yu-Si Chen



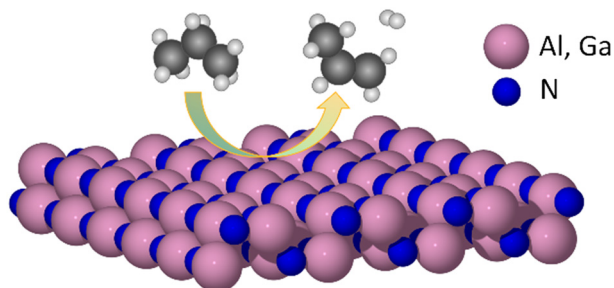
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Low-temperature deep oxidation of *N,N*-dimethylformamide (DMF) over CeCu binary oxides

Cedric Karel Fonzeu Monguen, Samuel Daniel and Zhen-Yu Tian*

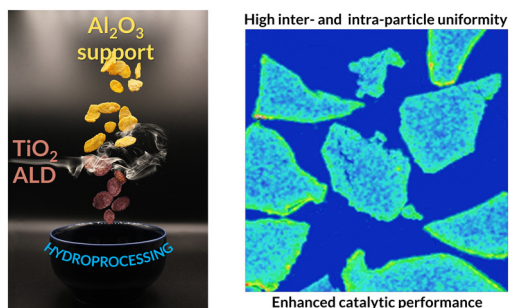
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Multiscale modeling reveals aluminum nitride as an efficient propane dehydrogenation catalyst

Mona Abdelgaid, Evan V. Miu, Hyunguk Kwon, Minttu M. Kauppinen, Henrik Grönbeck and Giannis Mpourmpakis*

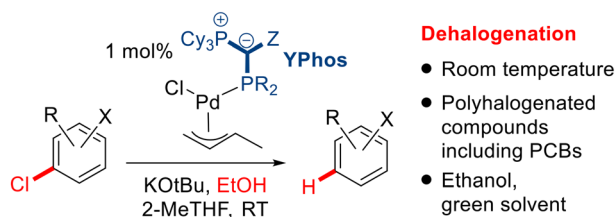
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Synthesis of highly-uniform titania overcoats on a mesoporous alumina catalyst support by atomic layer deposition and their application in hydroprocessing

Jacob A. Moulijn,* J. Ruud van Ommen, Aristeidis Goulas, David Valdesueiro, Jana Juan-Alcañiz, Kar-Ming Au-Yeung, Leo Woning and Jaap A. Bergwerff

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Pd-catalysed hydrodehalogenation of aryl chlorides: a mild method for deuteration and detoxification

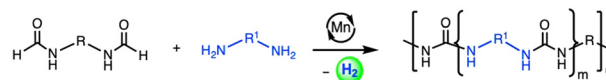
Angela Burhenn, Roberta Bavaro and Viktoria H. Gessner*



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Manganese catalysed dehydrogenative synthesis of polyureas from diformamide and diamines

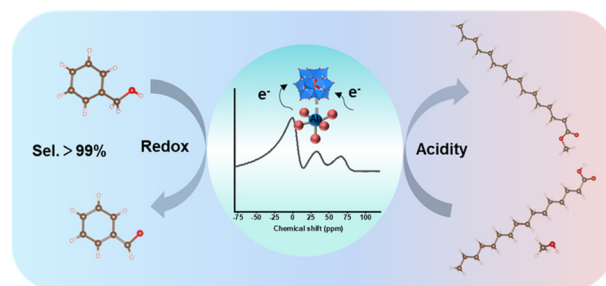
Angus McLuskie, Claire N. Brodie, Michele Tricarico, Chang Gao, Gavin Peters, Aaron B. Naden, C. Logan Mackay, Jin-Chong Tan* and Amit Kumar*



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Pentacoordinated Al³⁺ stabilized polyoxometalates for the efficient catalytic valorization of biomass-derived feedstocks

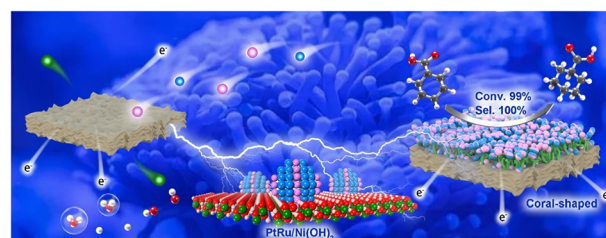
Lihua Wang, Shuangxiu Ma, Chunhong Chen, Bing Lu, Zhe Wang, Yong Wang and Shanjun Mao*



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Coral-shaped PtRu/Ni(OH)₂ electrocatalyst promotes selective hydrogenation of benzoic acid

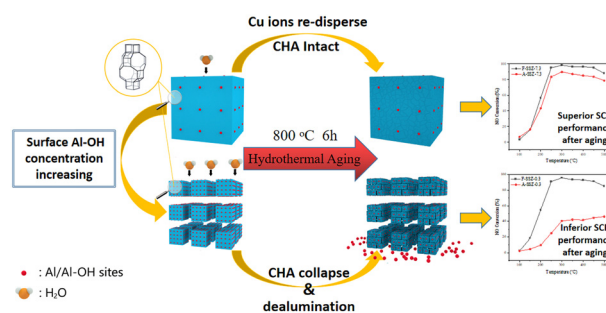
Menghui Liu, Chenhui Wang, Zifan Cao, Aiqun Kong, Yusheng Gao, Jinli Zhang, You Han, Wei Li* and Yan Fu*



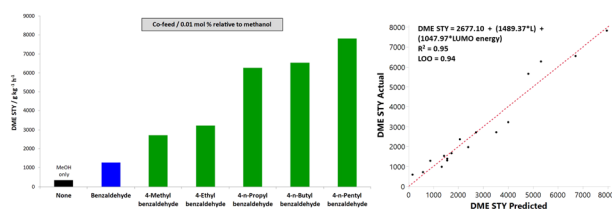
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Revealing the effect of crystal size on the high-temperature hydrothermal stability of Cu/SSZ-13 NH₃-SCR catalysts

Huabo Liu, Meiqing Shen, Chen Wang, Jun Wang, Jianqiang Wang and Gurong Shen*



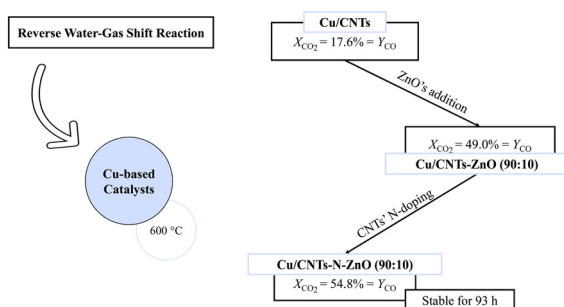
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Aromatic aldehydes as tuneable and ppm level potent promoters for zeolite catalysed methanol dehydration to DME

Zhiqiang Yang, Benjamin J. Dennis-Smith,^{*} Corneliu Buda, Amie Easey, Fiona Jackson, Gregory A. Price, Neil Sainty, Xingzhi Tan, Zhuoran Xu and Glenn J. Sunley^{*}

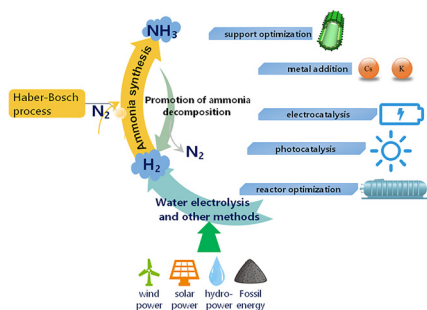
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Enhancing the performance of Cu catalysts for the reverse water-gas shift reaction using N-doped CNT-ZnO composite as support

Ana Rita Querido, Liliana P. L. Gonçalves, Yury V. Kolen'ko, M. Fernando R. Pereira and O. Salomé G. P. Soares^{*}

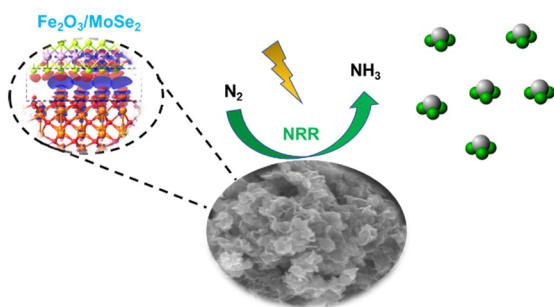
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Promotion effects of different methods in CO_x-free hydrogen production from ammonia decomposition

Daotong Liang, Chao Feng, Li Xu, Da Wang, Yuanshuai Liu, Xuebing Li^{*} and Zhong Wang^{*}

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MOF-derived Fe₂O₃/MoSe₂ composites for promoted electrocatalytic nitrogen fixation

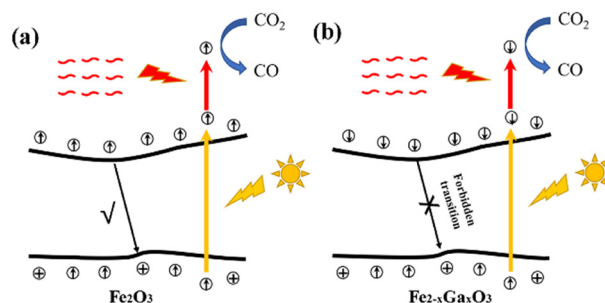
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Enhanced thermal assisted photocatalysis reduction of carbon dioxide over a $\text{Fe}_{2-x}\text{Ga}_x\text{O}_3$ solid solution

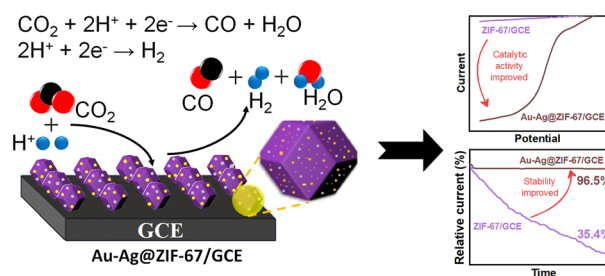
Lingtong Lin, Danning Xing, Caiyun Zhang, Yuanyuan Liu,* Zeyan Wang, Peng Wang, Zhaoke Zheng, Hefeng Cheng, Ying Dai and Baibiao Huang*



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Efficient electrochemical CO_2 conversion by cobalt-based metal organic frameworks modified by bimetallic gold–silver nanostructures

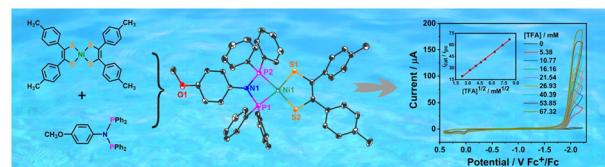
Mohammadali Beheshti, Mohsen Saeidi, MahsaSadat Adel-Rastkhiz, Shohreh Shahrestani, Ali Zarrabi, Jing Bai, Abdolreza Simchi* and Samineh Akbarmolaie



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Electrocatalytic hydrogen evolution by robust square planar nickel complexes in an S_2P_2 coordination environment

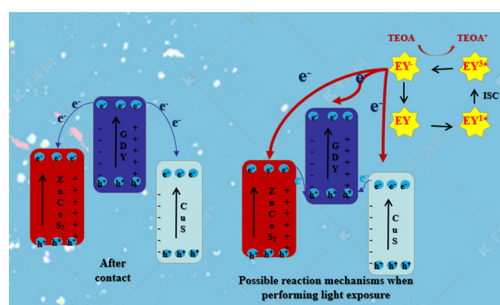
Luo Chen, Tao Li, Bin Xie,* Chuan Lai,* Run-Wu Ji, Jia-Yu He, Jia-Xi Cao, Meng-Nan Liu, Wei Li and Dong-Liang Zhang



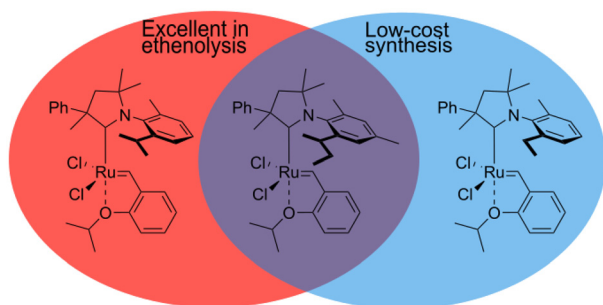
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Graphdiyne ($\text{C}_n\text{H}_{2n-2}$) coupled with ZnCo-MOF double S-scheme heterojunction forms an efficient electron transport layer and its characterization via *in situ* XPS

Linqing Zhang, Xuanpu Wang, Youji Li* and Zhiliang Jin*



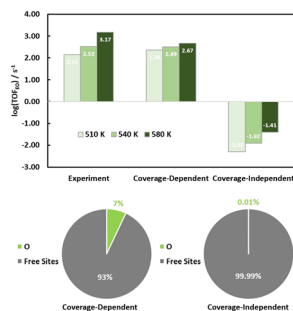
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Aza-Claisen rearrangement as a key step in synthesis of specialised anilines used in the production of efficient ethenolysis catalysts

Adrian Sytniczuk, Filip Struzik, Vishal Purohit, Karol Grela and Anna Kajetanowicz*

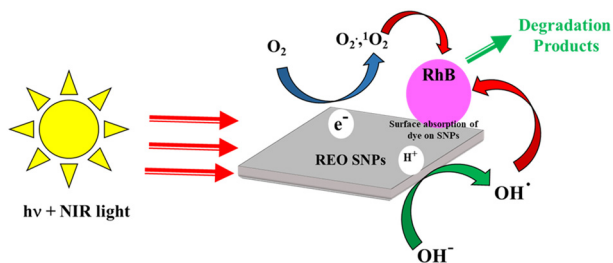
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Insights into coverage-affected selective catalytic oxidation of ethylene on Ag(111) from comprehensive microkinetic analyses

Zhuozheng Wang, Wenbo Xie, Yarong Xu, Menglei Jia, Jiayan Xu and P. Hu*

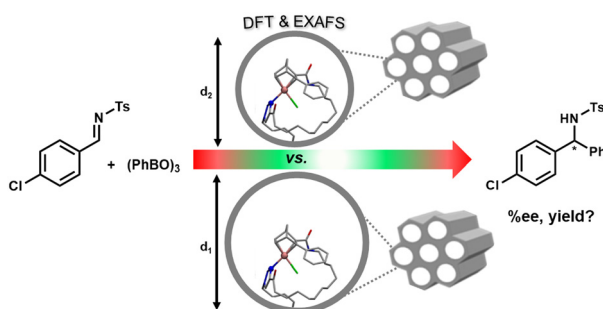
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Synthesis of high yield, crystalline and thermally stable rare earth (Sm, Eu, Gd) oxide square nanoplates for near-infrared light activatable photocatalysis

Sanjeevan Rajagopal, Suresh Thangudu and Kuo Chu Hwang*

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Tethering chiral Rh diene complexes inside mesoporous solids: experimental and theoretical study of substituent, pore and linker effects on asymmetric catalysis

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