

Catalysis Science & Technology

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

See Kevin M. Van Geem,
Georgios D. Stefanidis et al.,
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2025, 15, 7014.

EDITORIAL

6925

Introduction to Digital Catalysis

Evgeny A. Pidko* and Núria López*

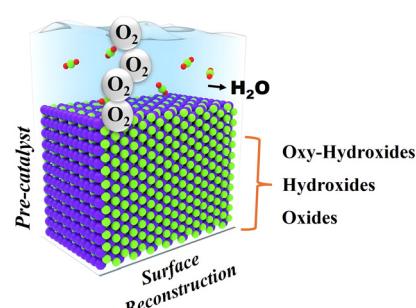


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Design and engineering of phosphide, sulfide, selenide, oxide and LDH based pre-catalysts for electrocatalytic oxygen evolution reaction: recent advances and perspectives

Rajini Murugesan, N. Clament Sagaya Selvam*
and Arthanareeswari Maruthapillai*





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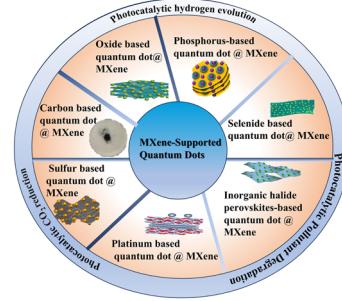


REVIEWS

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A review on MXene modified quantum dot photocatalysts for sustainable energy generation and environmental remediation

Prativa Das, Lijarani Biswal and Kulamani Parida*

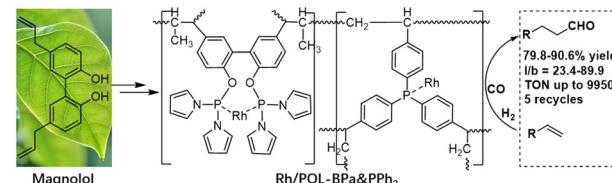


COMMUNICATIONS

7004

Efficient synthesis of π -acidic phosphorus-containing porous polymer supported catalysts for hydroformylation of olefins

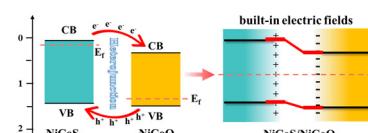
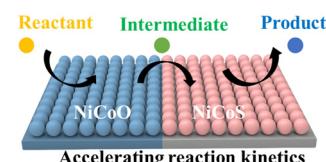
Weiyue Qu, Jinhao Hu, Hanzi Xu, Canyuan Chen,* Qiwen Sun,* Jianbin Chen and Xiaofei Jia*



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Ir-modulated NiCoS/NiCoO p-n heterojunction nanocages with intensified built-in electric field for the accelerated oxygen evolution reaction

Dong Li, Xu Pu, Li Deng, Minglei Wang, Qilin Wu* and Anqi Ju*

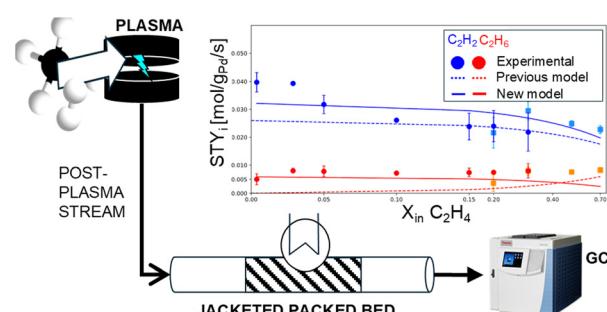


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7014

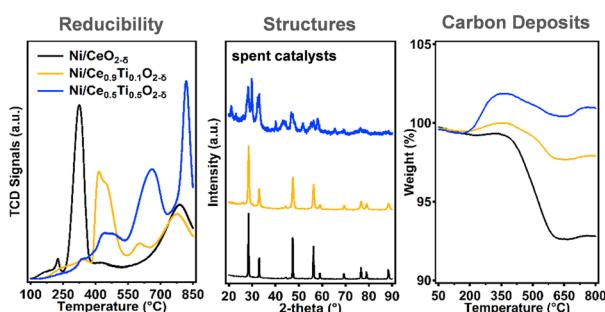
A kinetic model for Pd-based hydrogenation of acetylene-rich streams typical of post-plasma applications

Victor Rosa, Fabio Cameli, Yves Schuurman, Kevin M. Van Geem* and Georgios D. Stefanidis*



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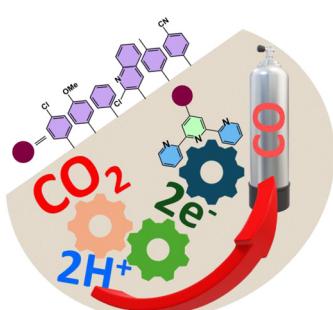
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Effect of Ti dopants in Ce_{1-x}Ti_xO_{2-d}-supported Ni catalysts: structure, redox properties, and carbon resistance in DRM

Jintao Miao, Nishan Paudyal, Rosa V. Melinda and Jing Zhou*

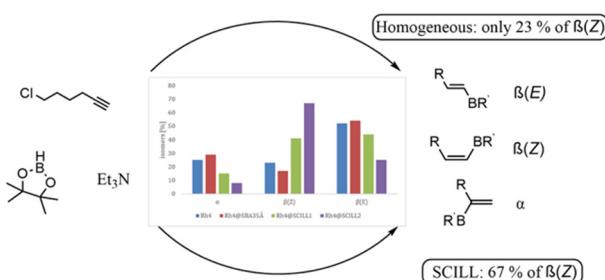
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Manoeuvring organo-electrocatalytic selective CO₂ reduction to CO by terpyridine derivatives: DFT mechanistic exploration

Sk Samim Akhter, Koushik Makhral, Dev Raj, Thillai Natarajan M., Palak Kumari Jaiswal, Arun Biswas, Bhabani S. Mallik, Pankaj Kumar and Sumanta Kumar Padhi*

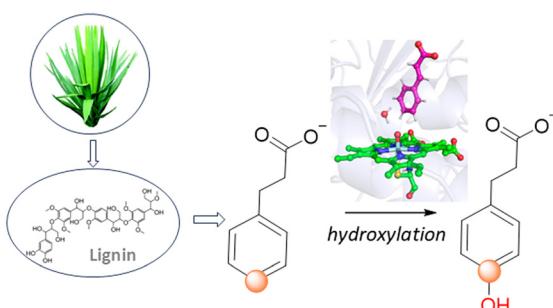
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Confinement-induced Z-selectivity in the rhodium N-heterocyclic carbene-catalyzed hydroboration of terminal alkynes

Boshra Atwi, Dongren Wang, Johanna R. Bruckner, Wolfgang Frey and Michael R. Buchmeiser*

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Hydroxylation mechanism of lignin-derived aromatic substrates catalyzed by plant P450 cinnamate 4-hydroxylase

Sónia F. G. Santos, Paul James, Rajesh Reddy Bommareddy, Yunhong Jiang, Jun Li, Chun Li, Warispreet Singh* and Meilan Huang*

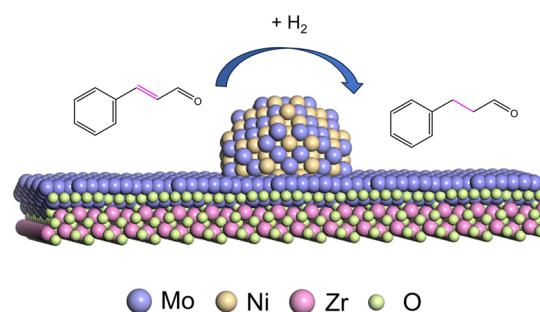


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Tailoring selective hydrogenation of cinnamaldehyde with MoO_x -functionalized Ni nanocrystals

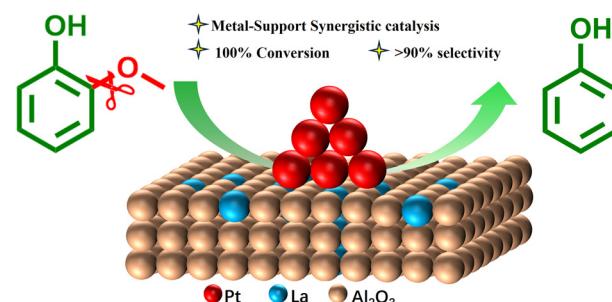
Lei Wang,* Fengyu Jin, Xiaoge Li, Lin-Wei Chen, Yilin Dong* and Yu Gu



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Selective hydrodeoxygenation of aromatics to phenols by Pt nanoparticles supported on La-modified Al_2O_3

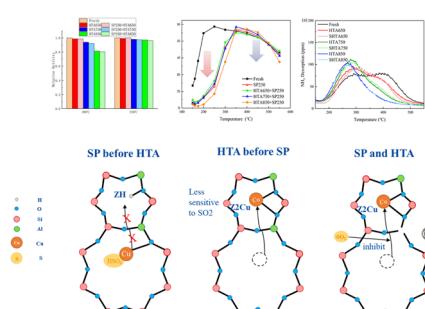
Kaili Zhang,* Hongyi Yao, Jiawei Zhang, Ran Tao, Hao Xu, Haitao Yu, Jing Yang, Ning Zhang, Kui Wang and Jianchun Jiang*



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Experimental investigation on the coupling mechanism between sulfur poisoning and hydrothermal aging of the Cu-SSZ-13 SCR catalyst

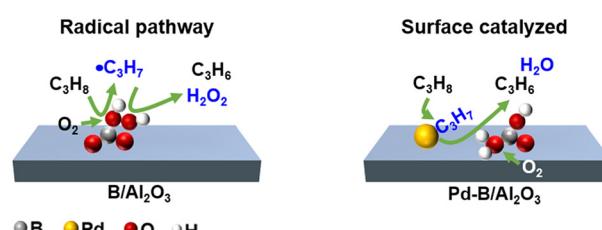
Dongwei Yao,* Jiadong Hu, Xiaohan Hu, Yuxi Li, Weiyang Jin and Feng Wu



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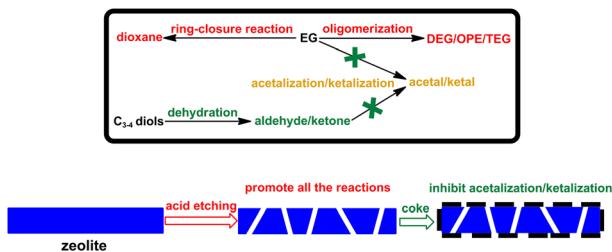
Tuning the oxidative dehydrogenation of propane mechanism by Pd-B/ Al_2O_3 bifunctional catalysis through suppression of gas-phase radicals and enhancement of surface-mediated pathways

Chunyan Ma, Cheng Chen, Zhenhao Hou, Zilin Yan, Fengbang Wang, Lei Bi, Maoyong Song* and Guibin Jiang



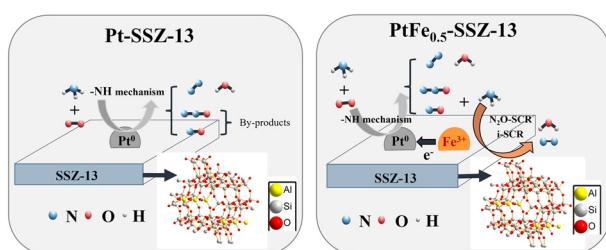
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Modification of zeolite via acid-etching and coke-deposition for the selective transformation of propylene glycol and butylene glycol in ethylene glycol

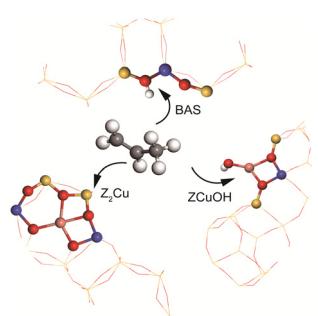
Shuo Ai,* Yihan Yang, Linghui Liu and Wanguo Yu

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Revealing the effects of introducing Fe on the N₂ selectivity of Pt-SSZ-13 catalyst for ammonia selective catalytic oxidation

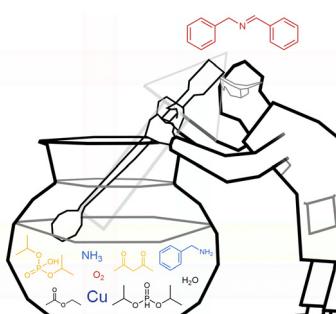
Jiayi Li, Pan Yao, Yan Huang, Yan Li, Jianli Wang, Yaoqiang Chen and Haidi Xu*

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Unraveling the C₃H₆ poisoning mechanism of Z₂Cu and ZCuOH sites over Cu-SSZ-13 during NH₃-SCR

Miaomiao Jin, Chengcheng Ao, Yuankai Shao, Kaixiang Li, Zhenguo Li, Ntini Nhlakanipho Versatile, Jing Yi, Lidong Zhang and Pan Wang*

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Ambient condition imine formation from the homocoupling of benzylamine using copper catalysis and dialkylphosphite as a substoichiometric additive

Luke H. Park, Malachy M. Gilbert, Cameron C. Weber* and Erin M. Leitao*

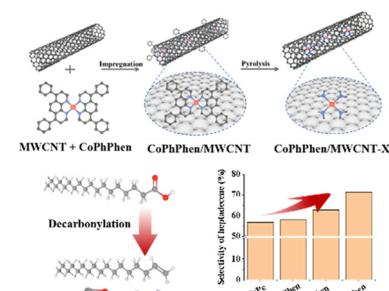


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Decarbonylation of fatty acids to alkenes over Co-N-C catalysts derived from Co complexes

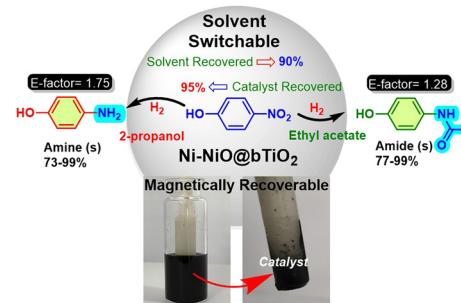
Canyang Zhang, Yin Liang, Chao Chen, Wei Zhao, Bolong Li,* Jianghao Wang, Zhenyu Zhang, Huiping Ji, Feng Zhou,* Kaige Wang, Reinout Meijboom and Jie Fu*



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Magnetically recoverable Ni–NiO–bTiO₂ heterojunction catalyst for solvent switchable synthesis of amides and amines from nitroarenes

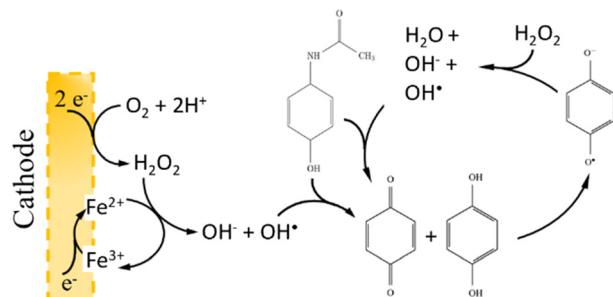
Jyotiranjan Mishra, Padariya Mrugesh, Palani S. Subramanian and Sanjay Pratihar*



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Degradation and post-treatment reaction cascade of acetaminophen after electro-Fenton treatment on heterogeneous catalyst active sites

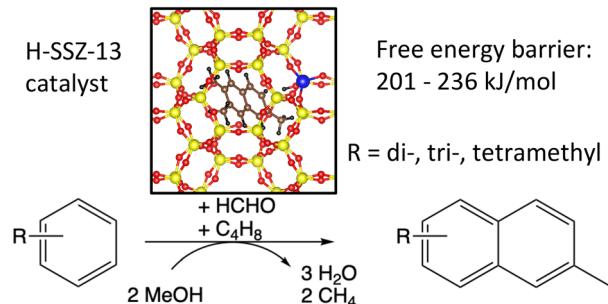
Fee Käufer* and Heike Kahlert



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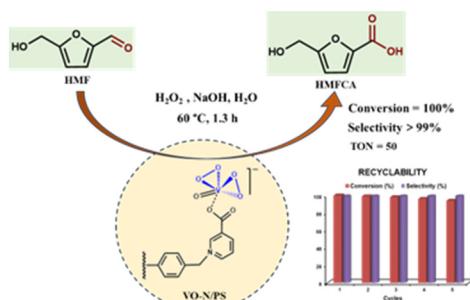
A computational study on the formation mechanism of naphthalenic species under MTO conditions in H-SSZ-13

Annika E. Enss, Philipp N. Plessow* and Felix Studt



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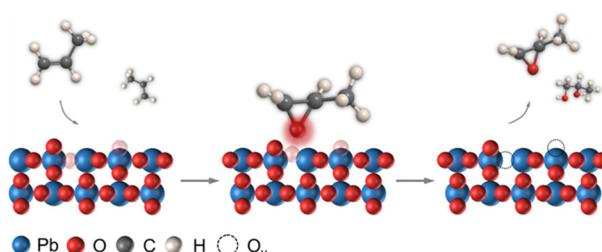
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Supported vanadium- and tungsten-based catalysts for selective and sustainable oxidation of 5-hydroxymethylfurfural to 5-hydroxymethyl-2-furancarboxylic acid with H_2O_2 in water

Sazida Yasmin Sultana, Kabirun Ahmed, Jumana Ishrat, Pratyasha Borthakur, Hiya Talukdar and Nasreen S. Islam*

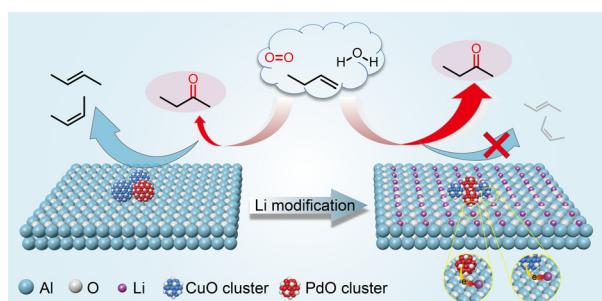
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Probing the reactivity of *in situ* formed oxygen vacancies of non-noble lead oxides for anodic propylene oxidation

Jia Ge, Tian-Yi Wang, Xiao-Long Zhang, Hongyu Sun, Renying Wang, Peng-Cheng Yu, Xiandi Sun, Shu-Ping Sun, Hang Liu, Yu Liu, Chuan-Ling Zhang, Bo Da, Ya-Rong Zheng,* Min-Rui Gao* and Hao Li*

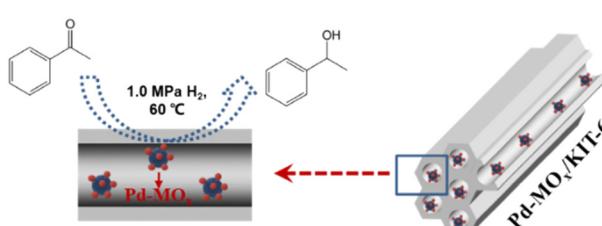
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An efficient Li-modified heterogeneous Pd–Cu/ Al_2O_3 Wacker catalyst for selective oxidation of 1-butene to 2-butanone

Xiaofei Qin, Gaolei Qin, Xiangjie Zhang, Nengfeng Gong, Xiaodong Sun,* Hongying Chang, Guo Sun and Jianguo Wang*

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Enhanced selective hydrogenation of acetophenone over KIT-6 supported Pd–MO_x (M = Fe, Co, Ni) hybrid nanostructures

Yifan Zhang, Jiaying Liu, Shiwei Wang, Zhihao Yu, Haojian Zhang, Dong Wang,* Lin Zhu,* Chunzheng Wu and Hongbo Yu*

