

Catalysis Science & Technology

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IN THIS ISSUE

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Cover

See Kevin M. Van Geem, Georgios D. Stefanidis et al., pp. 7014–7029.

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EDITORIAL

6925

Introduction to Digital Catalysis

Evgeny A. Pidko* and Núria López*

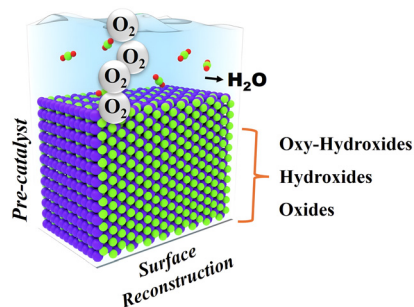


REVIEWS

6928

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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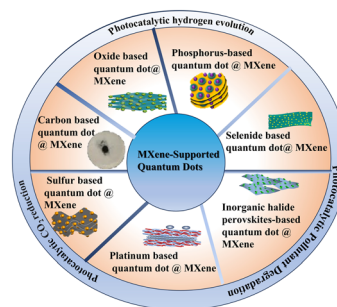


REVIEWS

6976

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

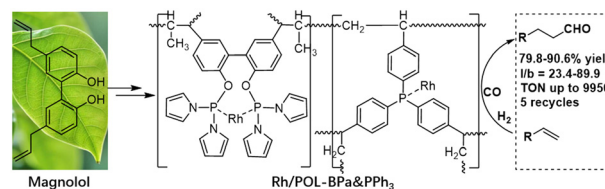
Prativa Das, Lijarani Biswal and Kulamani Parida*



COMMUNICATIONS

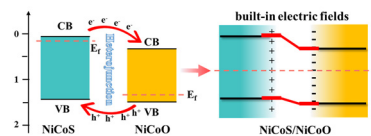
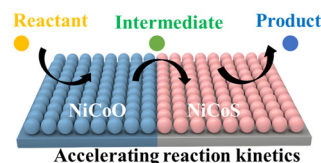
7004

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*

7009

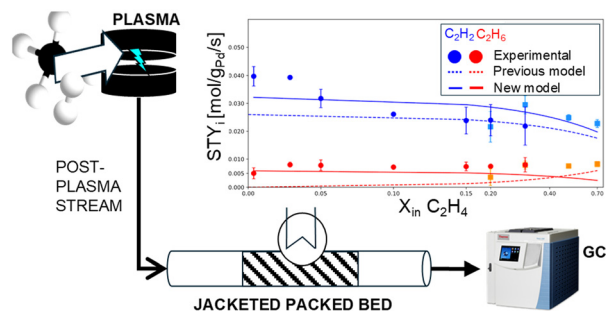
Ir-modulated NiCoS/NiCoO p-n heterojunction nanocages with intensified built-in electric field for the accelerated oxygen evolution reaction

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

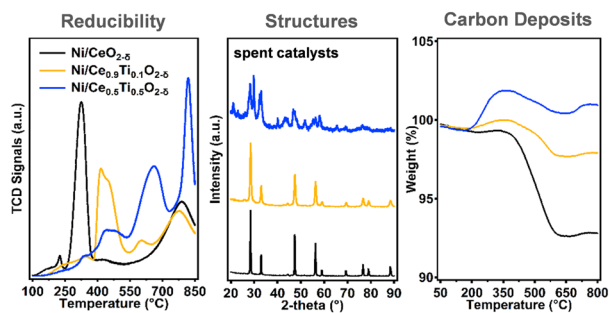
PAPERS

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*

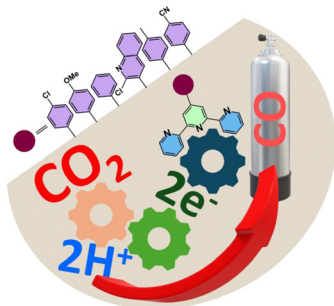
7030



Effect of Ti dopants in $\text{Ce}_{1-x}\text{Ti}_x\text{O}_{2-\delta}$ -supported Ni catalysts: structure, redox properties, and carbon resistance in DRM

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

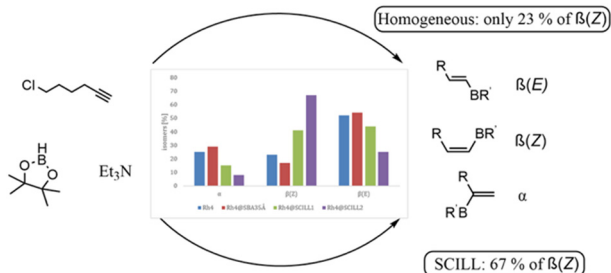
7043



Manoeuvring organo-electrocatalytic selective CO_2 reduction to CO by terpyridine derivatives: DFT mechanistic exploration

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

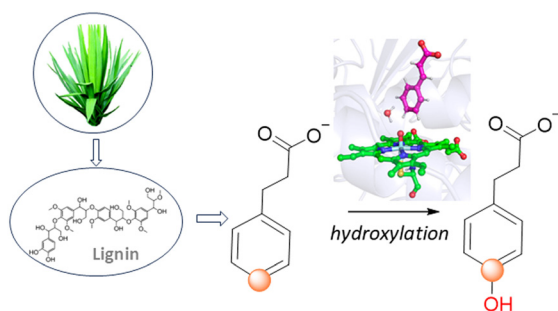
7059



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*

7067



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

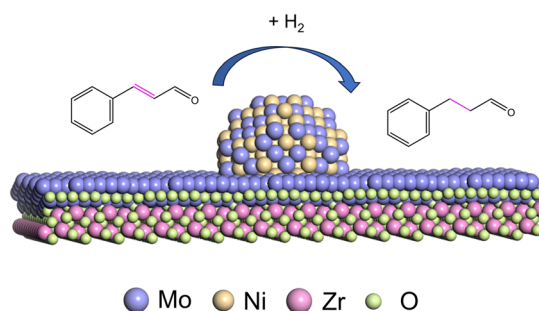
Sónia F. G. Santos, Paul James, Rajesh Reddy Bommarreddy, Yunhong Jiang, Jun Li, Chun Li, Warispreet Singh* and Meilan Huang*



7079

Tailoring selective hydrogenation of cinnamaldehyde with MoO_x-functionalized Ni nanocrystals

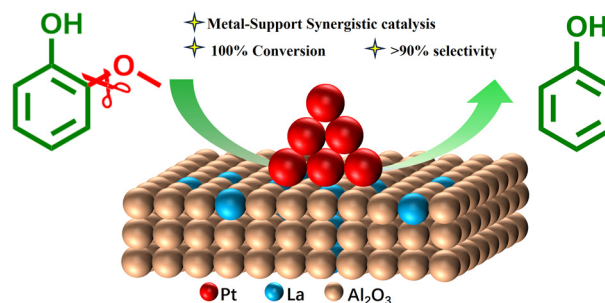
Lei Wang,* Fengyu Jin, Xiaoge Li, Lin-Wei Chen, Yilin Dong* and Yu Gu



7087

Selective hydrodeoxygenation of aromatics to phenols by Pt nanoparticles supported on La-modified Al₂O₃

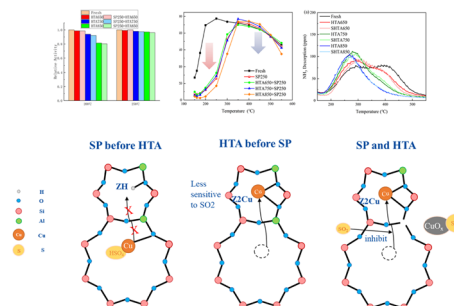
Kaili Zhang,* Hongyi Yao, Jiawei Zhang, Ran Tao, Hao Xu, Haitao Yu, Jing Yang, Ning Zhang, Kui Wang and Jianchun Jiang*



7098

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

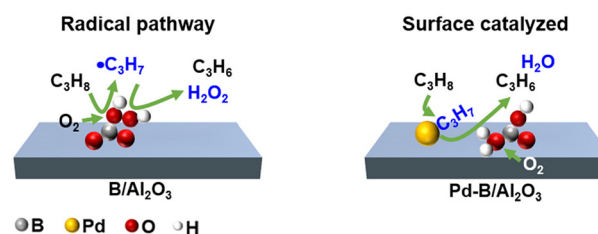
Dongwei Yao,* Jiadong Hu, Xiaohan Hu, Yuxi Li, Weiyang Jin and Feng Wu



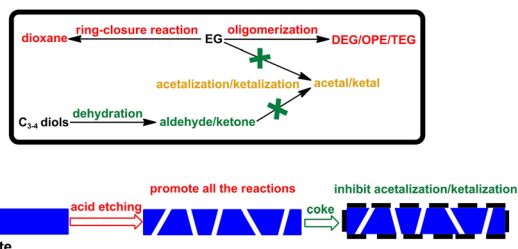
7110

Tuning the oxidative dehydrogenation of propane mechanism by Pd-B/Al₂O₃ 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



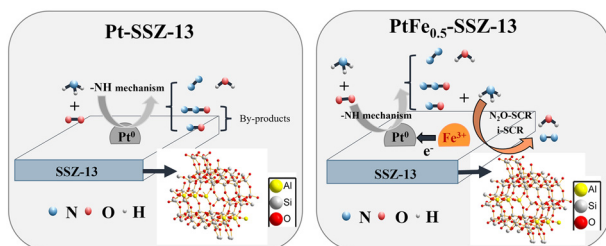
7120



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

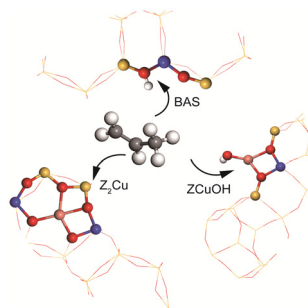
7129



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*

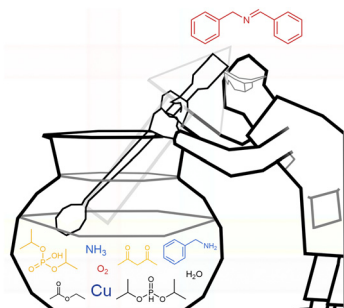
7139



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*

7151



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

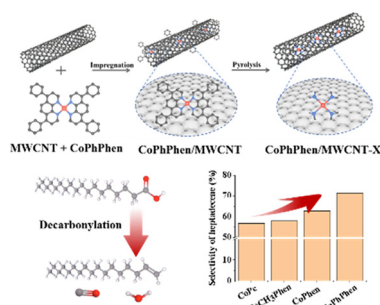
Luke H. Park, Malachy M. Gilbert, Cameron C. Weber* and Erin M. Leitao*



7163

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

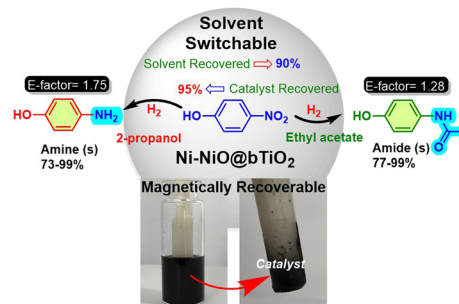
Canyang Zhang, Yin Liang, Chao Chen, Wei Zhao, Bolong Li,* Jianghao Wang, Zhenyu Zhang, Huiping Ji, Feng Zhou,* Kaige Wang, Reinout Meijboom and Jie Fu*



7173

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

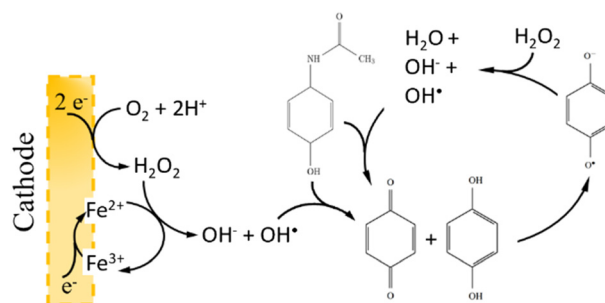
Jyotiranjana Mishra, Padariya Mrugesh, Palani S. Subramanian and Sanjay Pratihar*



7190

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

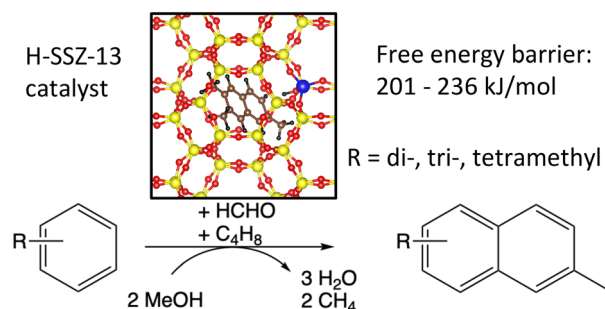
Fee Käufer* and Heike Kahlert



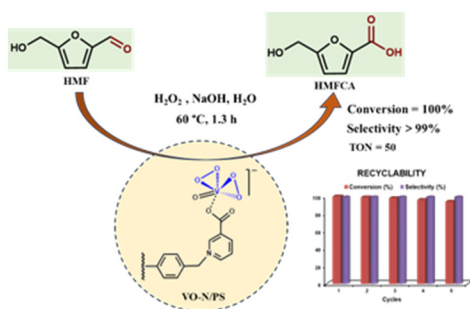
7200

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



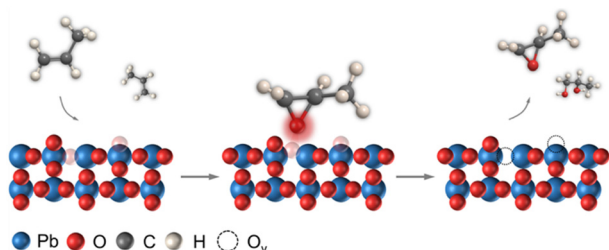
7209



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 Nashreen S. Islam*

7228



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*

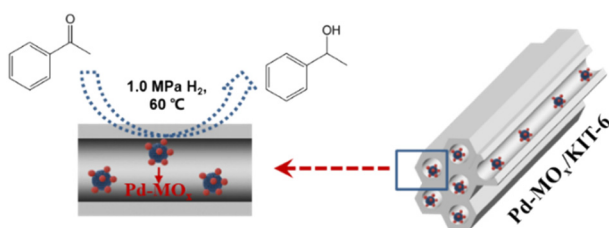
7236



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*

7244



Enhanced selective hydrogenation of acetophenone over KIT-6 supported Pd- MO_x ($\text{M} = \text{Fe}, \text{Co}, \text{Ni}$) hybrid nanostructures

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

