

Catalysis Science & Technology

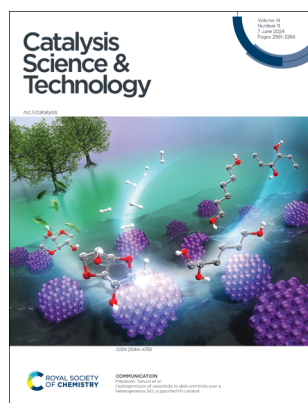
A multidisciplinary journal focussing on all fundamental science and technological aspects of catalysis

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See Masazumi Tamura *et al.*, pp. 3001–3006.
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Inside cover

See Zhaoyang Fei, Ziqi Tian, Xu Qiao *et al.*, pp. 3012–3020.
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EDITORIAL

2972

Introduction to integrated approaches for methane activation

Ken-ichi Shimizu, Wataru Ueda* and Hua Song

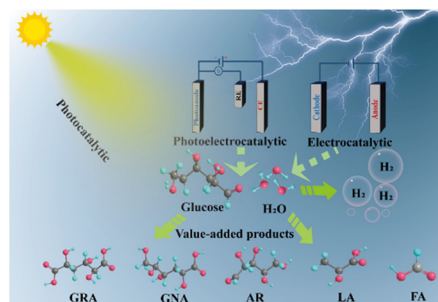


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Photo-, electro-, and photoelectro-catalytic conversion of glucose into high value-added products

Kang Lu, Yunfei Zhang, Yi Shen* and Hongying Li



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Elemental answers

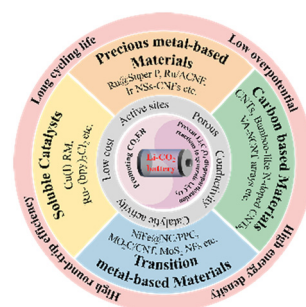
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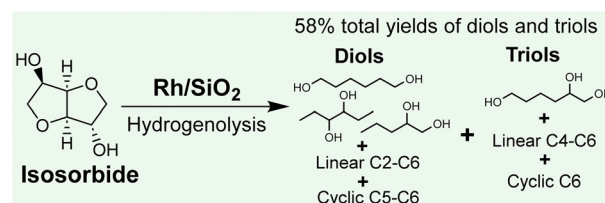
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Juan Wang, Senlin Tian, Yang Lin, Haoran Song,
Ningning Feng,* Gang Yang and Qun Zhao*

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Ningning Feng,* Gang Yang and Qun Zhao*



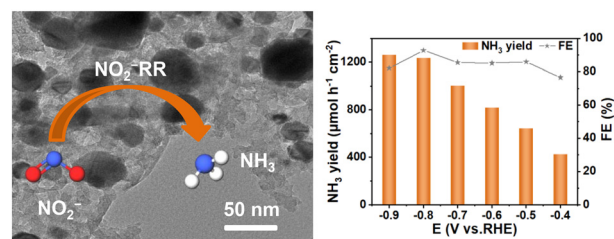
3001

Pengru Chen, Wataru Onodera, Masato Akatsuka,
Yusuke Kita and Masazumi Tamura*Pengru Chen, Wataru Onodera, Masato Akatsuka,
Yusuke Kita and Masazumi Tamura*

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Chengliang Ma, Li Bao, Xiaoya Fan, Xun He, Xuwei Liu,
Wei Chu, Asmaa Farouk, Mohamed S. Hamdy,
Shengjun Sun, Quan Li,* Min Wu* and Xuping Sun*

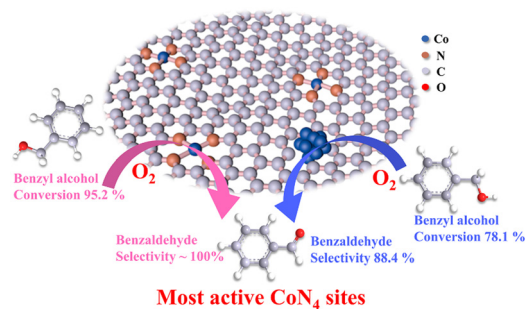
Chengliang Ma, Li Bao, Xiaoya Fan, Xun He, Xuwei Liu,
Wei Chu, Asmaa Farouk, Mohamed S. Hamdy,
Shengjun Sun, Quan Li,* Min Wu* and Xuping Sun*



3012

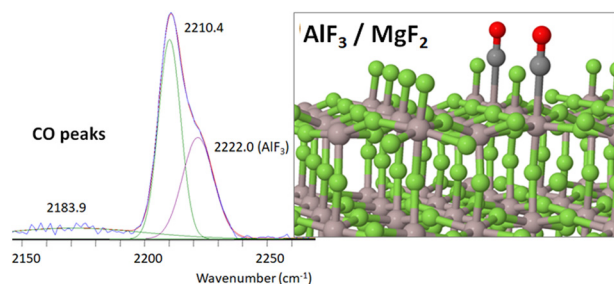
Fan Xue, Yanle Li, Jingyue Bi, Shangpu Zhuang,
Mifen Cui, Zhaoyang Fei,* Ziqi Tian* and Xu Qiao*

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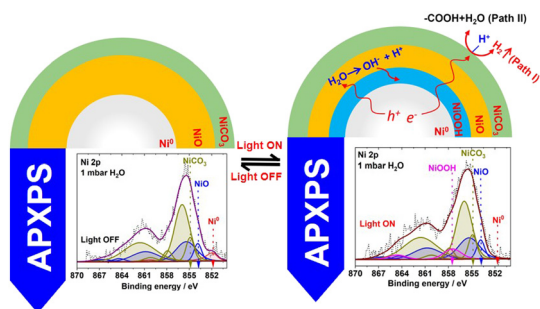
PAPERS

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CO adsorption on pure, defective and mixed composition AlF_3 and MgF_2 surfaces

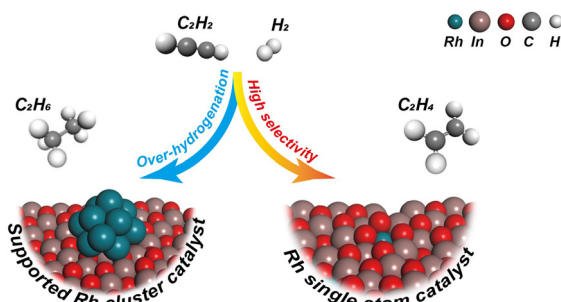
A. Impellizzeri, J. Dieu, J. Rousseau, S. Brunet* and C. P. Ewels*

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Solar light driven atomic and electronic transformations in a plasmonic Ni@NiO/NiCO_3 photocatalyst revealed by ambient pressure X-ray photoelectron spectroscopy

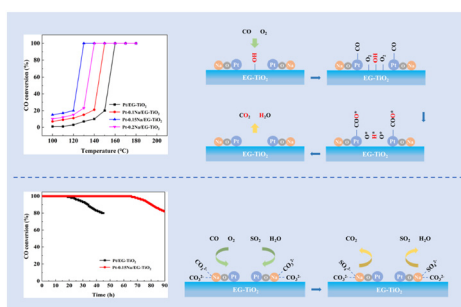
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Exploration of the active sites on a $\text{Rh-In}_2\text{O}_3$ catalyst for the semi-hydrogenation of acetylene: a theoretical study

Kaihang Sun, Rui Zou, Chenyang Shen and Chang-jun Liu*

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Alkali metal modified Pt/EG-TiO_2 catalysts for CO oxidation with efficient resistance to SO_2 and H_2O

Hongtai Zhu, Wenge Qiu,* Rui Wu, Kai Li and Hong He*

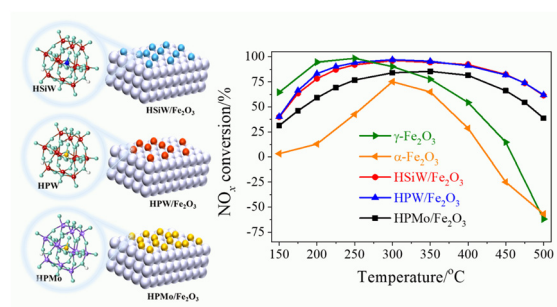


PAPERS

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Heteropoly acid-grafted iron oxide catalysts for efficient selective catalytic reduction of NO_x with NH₃

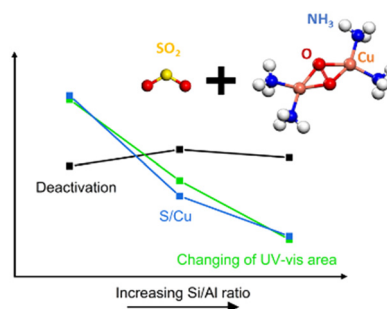
Yang Geng,* Zhihua Lian, Yan Zhang, Janqi Liu, Dongliang Jin and Wenpo Shan*



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Probing the effect of the Si/Al ratio in Cu-CHA zeolite catalysts on SO₂ exposure: *in situ* DR UV-vis spectroscopy and deactivation measurements

Reza K. Abasabadi, Ton V. W. Janssens,* Silvia Bordiga and Gloria Berlier*



3086

Synthesis of a new 1,2,3-triazoles scaffold using a heterogeneous multifunctional copper photocatalyst for *in vitro* investigation via click reaction

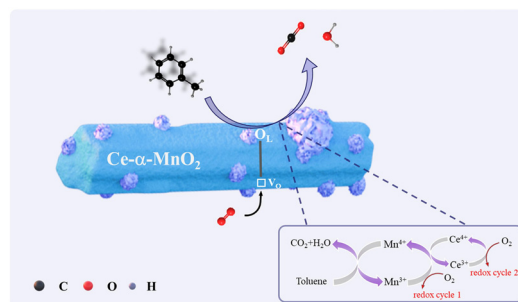
Abolfazl Mohammadkhani, Samanesadat Hosseini, Seied Ali Pourmousavi,* Akbar Heydari* and Mohammad Mahdavi



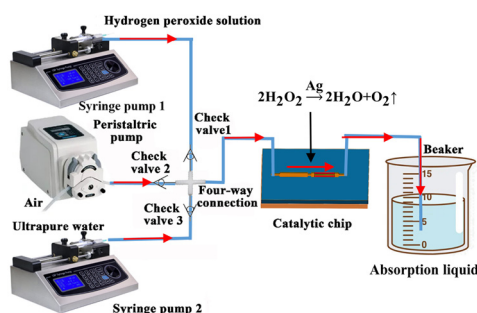
3098

Enhanced catalytic performance for toluene combustion via Ce-doped α -MnO₂: efficient balance between toluene adsorption and activation oxidation

Yongli Dong, Shuo Li, Chaoqun Chen, Weina Song,* Xinglong Li, Fan Wang, Lina Ma, Xiaotong Wang and Wei Li*



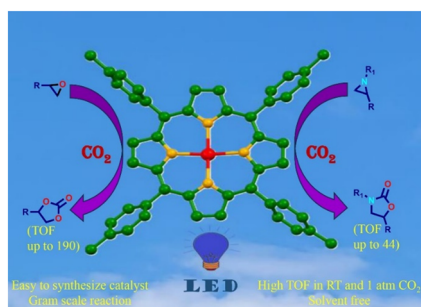
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Reaction rate and thermal effects of hydrogen peroxide decomposition in microfluidic chips containing channel-type silver catalysts

Yong Yang, Yinghua Ye, Peng Zhu, Wei Zhang and Ruiqi Shen*

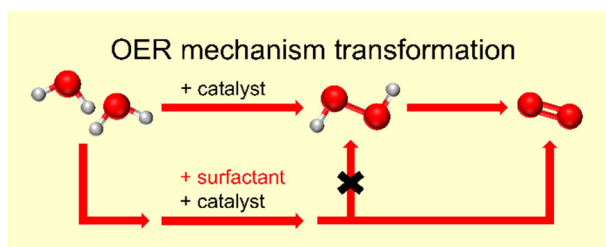
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Magnesium-porphyrin as an efficient photocatalyst for the transformation of CO₂ to cyclic carbonates and oxazolidinones under ambient conditions

Sushanta Kumar Meher, Prakash Nayak, Sasmita Dhala, Swetapadma Tripathy and Krishnan Venkatasubbaiah*

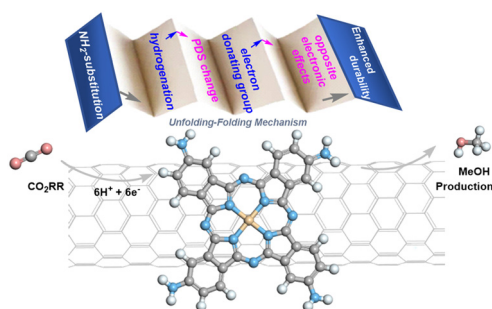
3131



Blocking the bimolecular pathway of water oxidation electrocatalyzed by copper porphyrin with a surfactant

Luna Yang, Shujiao Yang, Jiafan Kong, Wenjie Yuan, Sisi Li, Xiaohan Liu, Rui Cao and Wei Zhang*

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New insights into the enhanced CO₂RR durability caused by electron-donating substitution of heterogeneous CoPc

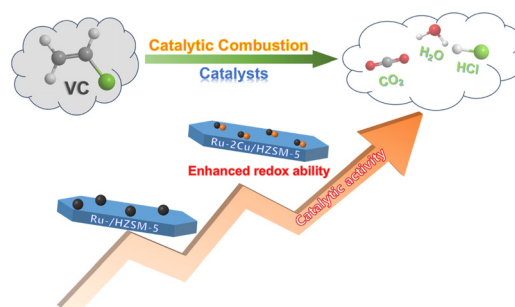
Qi Zhang,* Pingao Hu, Chao Ma, Zhiyuan Xu and Beibei Tang



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Effect of Cu modification to Ru/HZSM-5 catalysts on the catalytic combustion of vinyl chloride

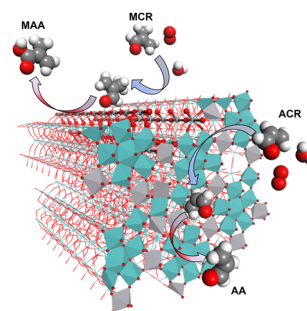
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Role of the heptagonal channel of crystalline Mo_3VO_x catalyst for the selective oxidation of acrolein and methacrolein

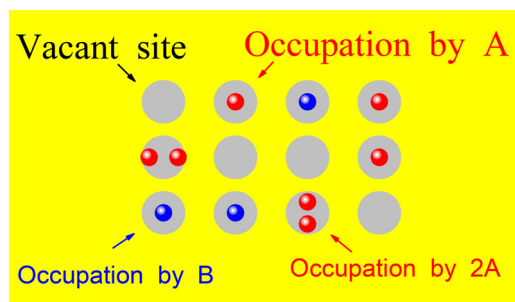
Satoshi Ishikawa,* Nagisa Noda, Kosuke Shimoda, Toru Murayama and Wataru Ueda*



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Heterogeneous catalytic reactions with double occupation of binding sites

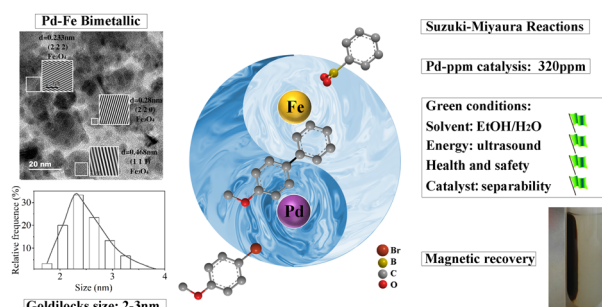
Vladimir P. Zhdanov*



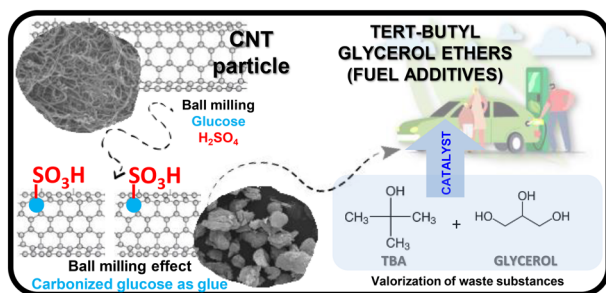
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Magnetic Pd-Fe nanoparticles for sustainable Suzuki-Miyaura cross-coupling reactions

Zhuangli Zhu,* Sanqi Liang, Huaming Sun, Weiqiang Zhang,* Jianming Yang* and Ziwei Gao*



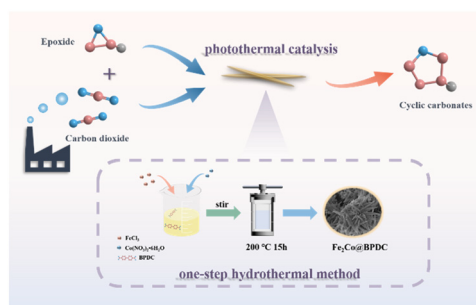
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The role of mechanochemical treatment of carbon nanotubes in promoting glycerol etherification

Karolina Ptaszyńska,* Katarzyna Morawa Eblagon,*
 Anna Malaika, José Luís Figueiredo
 and Mieczysław Kozłowski

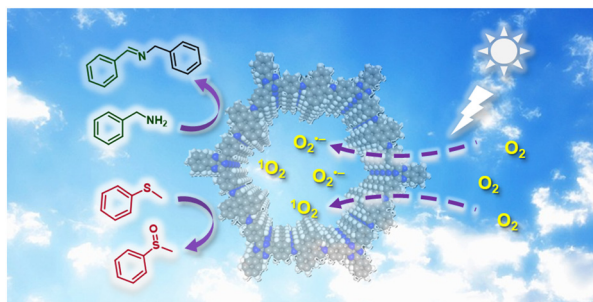
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Bimetallic Fe/Co photothermal catalyst for fixing CO_2 to cyclic carbonates under atmospheric pressure

Xuewei Tu, Can Sun, Yang Hu, Yutong Chen,
 Shouxin Zhu, Jingyi Qu, Zhexiao Zhu, Xiang Zhang*
 and Hui Zheng*

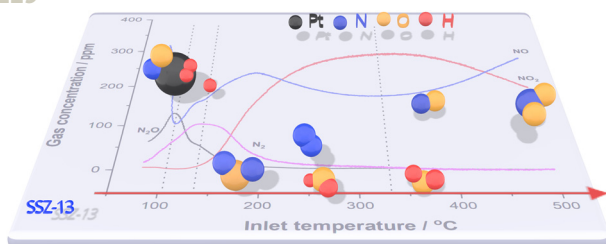
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Extending 2D covalent organic frameworks by inserting anthracene for promoted white-light-mediated photocatalysis

Yiqiong Liu, Zehao Zhao, Wenshuo Xu
 and Weitao Gong*

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Pt-based catalysts for NO_x reduction from H_2 combustion engines

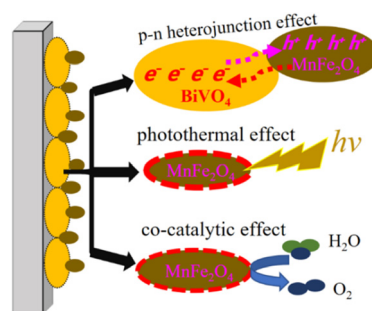
Jieling Shao, Phuoc Hoang Ho, Wei Di, Derek Creaser
 and Louise Olsson*



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A $\text{MnFe}_2\text{O}_4/\text{BiVO}_4$ film photoanode with heterojunction, co-catalytic and photothermal effects for effective solar water oxidation

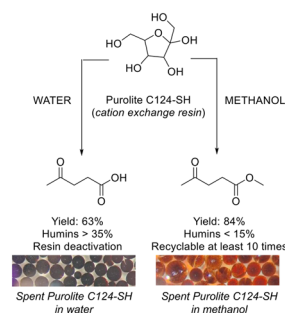
Guoqiang Shen, Haijiao Lu* and Hao Chen*



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Mitigation of cation exchange resin deactivation in the one-pot conversion of fructose to methyl levulinate

Aymeric Beaurepaire, Justine Bodin, Delphine Dufour, Quentin Blancart Remaury, Stanislas Baudouin, Karine de Oliveira Vigier and François Jérôme*



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Active site for syngas production by direct partial oxidation of CH_4 over ZrO_2

Kazumasa Murata,* Keita Arai, Nao Kondo, Ryo Manabe, Takashi Yumura and Saburo Hosokawa*

