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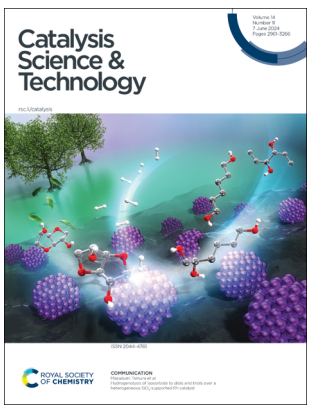

Cover
See Masazumi Tamura *et al.*, pp. 3001–3006.
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See Zhaoyang Fei, Ziqi Tian, Xu Qiao *et al.*, pp. 3012–3020.
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Ken-ichi Shimizu, Wataru Ueda* and Hua Song

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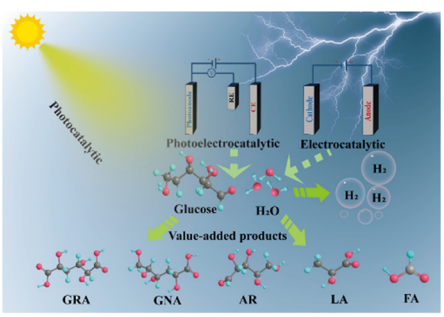

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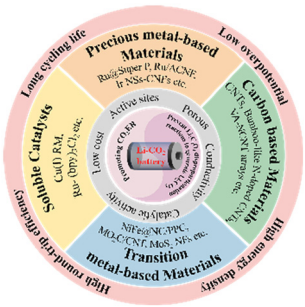
REVIEWS

2991

Recent advancement in designing catalysts for rechargeable Li–CO_2 batteries

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



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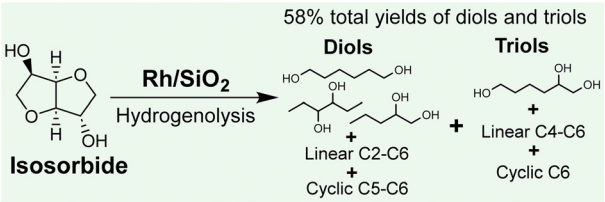
Hydrogenolysis of isosorbide to diols and triols over a heterogeneous SiO_2-supported Rh catalyst

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



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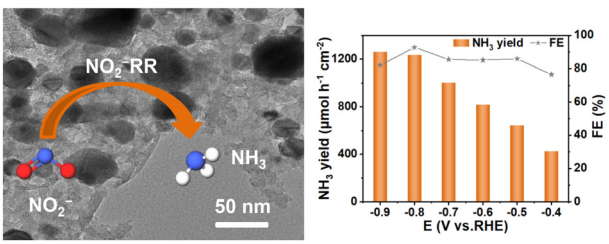
Co nanoparticle-decorated radix cynanchi daniculati-derived carbon for efficient electrocatalytic nitrite reduction to ammonia

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*



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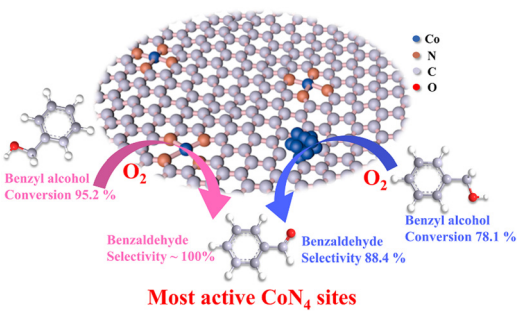
3012

Highly-selective oxidation of benzyl alcohol to benzaldehyde over Co_1/NC catalysts

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



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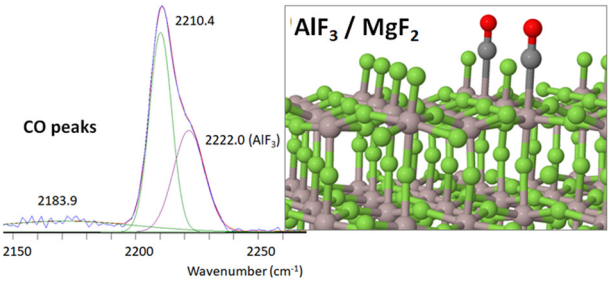

CO adsorption on pure, defective and mixed composition AlF_3 and MgF_2 surfaces

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

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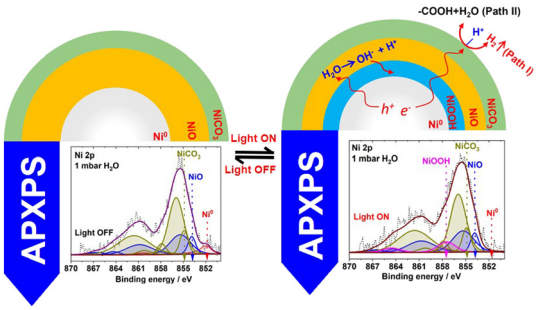

Solar light driven atomic and electronic transformations in a plasmonic Ni@NiO/$NiCO_3$ photocatalyst revealed by ambient pressure X-ray photoelectron spectroscopy

Manoj Kumar Ghosalya,* Parisa Talebi, Harishchandra Singh,* Alexander Klyushin, Esko Kokkonen, Mohammed Alaoui Mansouri, Marko Huttula, Wei Cao and Samuli Urpelainen*

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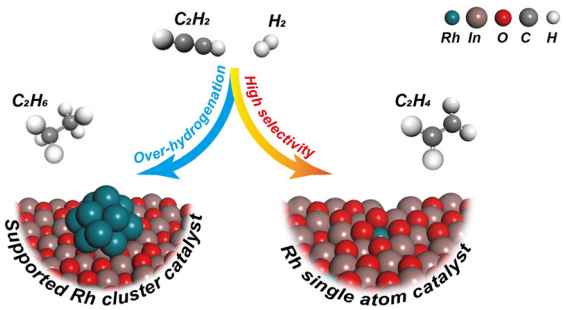

Exploration of the active sites on a Rh–In_2O_3 catalyst for the semi-hydrogenation of acetylene: a theoretical study

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

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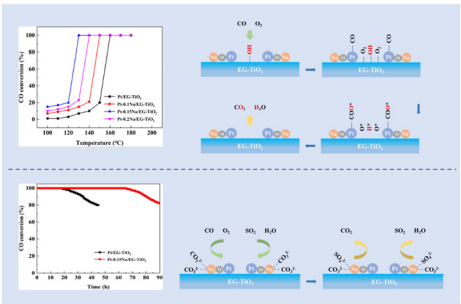

Alkali metal modified Pt/EG-TiO_2 catalysts for CO oxidation with efficient resistance to SO_2 and H_2O

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

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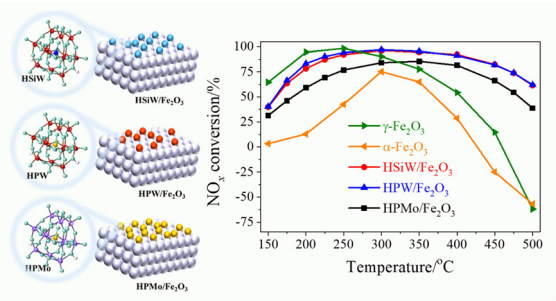
Heteropoly acid-grafted iron oxide catalysts for efficient selective catalytic reduction of NO_x with NH_3

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



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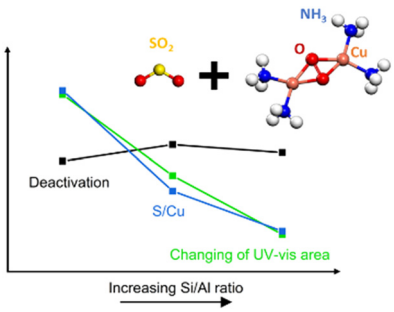
Probing the effect of the Si/Al ratio in Cu-CHA zeolite catalysts on SO_2 exposure: *in situ* DR UV-vis spectroscopy and deactivation measurements

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



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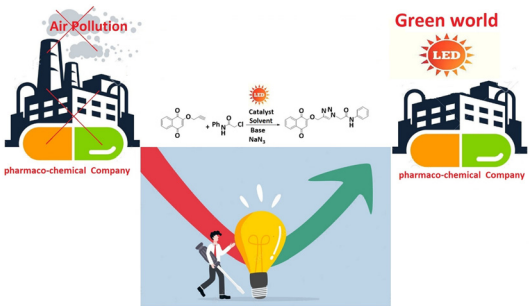
Synthesis of a new 1,2,3-triazoles scaffold using a heterogeneous multifunctional copper photocatalyst for *in vitro* investigation *via* click reaction

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



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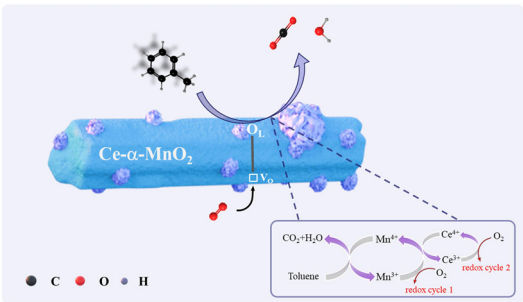
Enhanced catalytic performance for toluene combustion *via* Ce-doped α-MnO_2: efficient balance between toluene adsorption and activation oxidation

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



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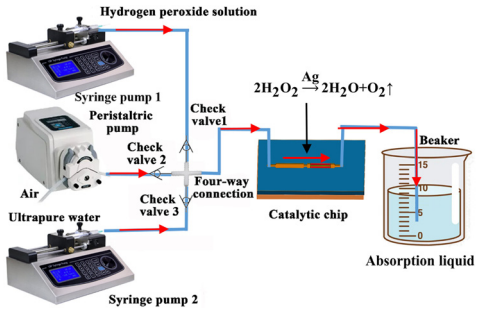

Reaction rate and thermal effects of hydrogen peroxide decomposition in microfluidic chips containing channel-type silver catalysts

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

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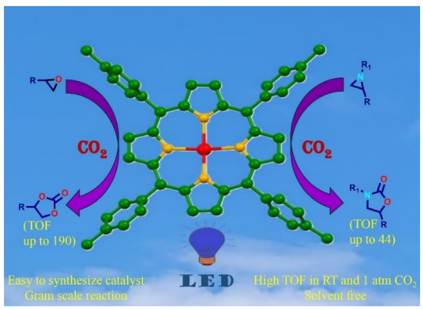

Magnesium-porphyrin as an efficient photocatalyst for the transformation of CO_2 to cyclic carbonates and oxazolidinones under ambient conditions

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

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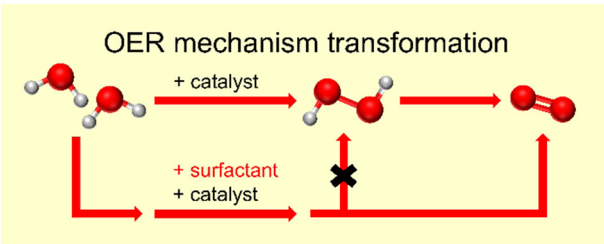

Blocking the bimolecular pathway of water oxidation electrocatalyzed by copper porphyrin with a surfactant

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

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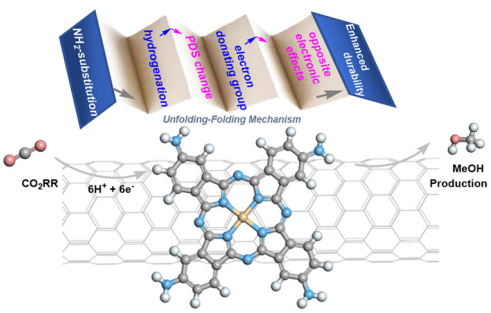

New insights into the enhanced CO_2RR durability caused by electron-donating substitution of heterogeneous CoPc

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

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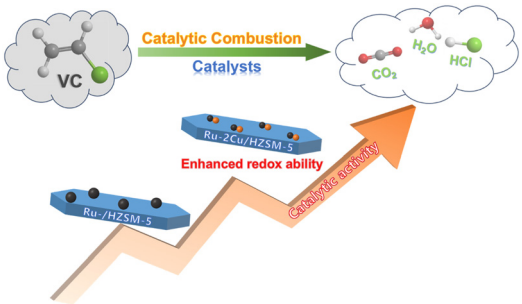
Effect of Cu modification to Ru/HZSM-5 catalysts on the catalytic combustion of vinyl chloride

Mingqi Li, Yunyun Wang, Min Ding, Wangcheng Zhan, Li Wang, Qiguang Dai, Yun Guo, Aiyong Wang* and Yanglong Guo*



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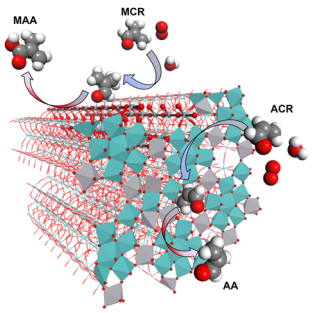
Role of the heptagonal channel of crystalline Mo_3VO_x catalyst for the selective oxidation of acrolein and methacrolein

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



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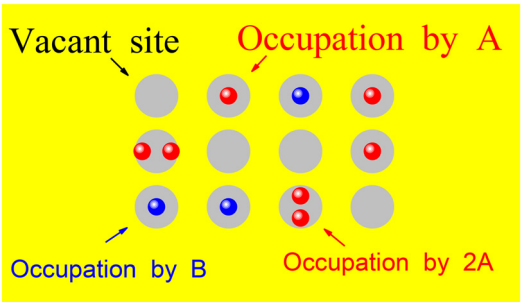
Heterogeneous catalytic reactions with double occupation of binding sites

Vladimir P. Zhdanov*



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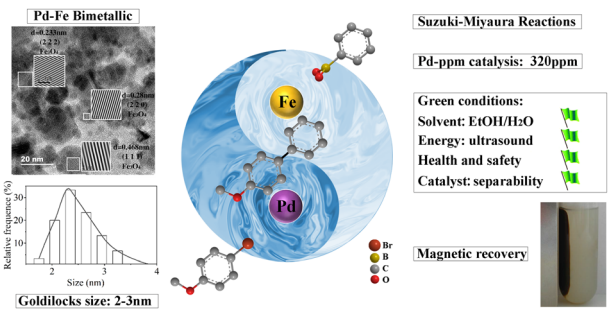
Magnetic Pd–Fe nanoparticles for sustainable Suzuki–Miyaura cross-coupling reactions

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



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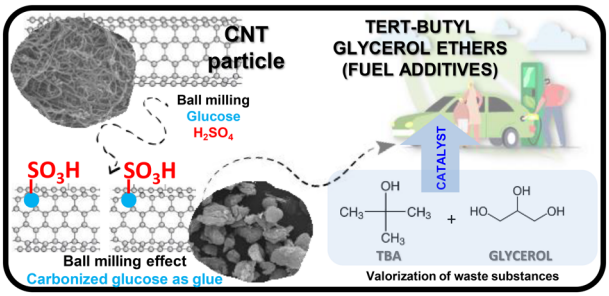

The role of mechanochemical treatment of carbon nanotubes in promoting glycerol etherification

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

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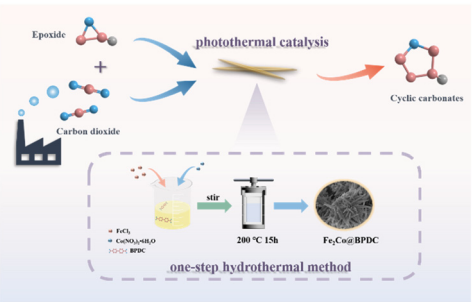

Bimetallic Fe/Co photothermal catalyst for fixing CO_2 to cyclic carbonates under atmospheric pressure

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

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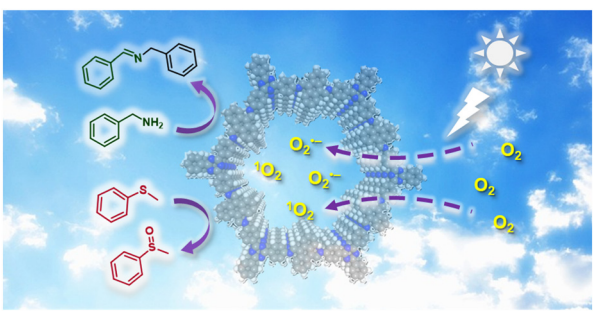

Extending 2D covalent organic frameworks by inserting anthracene for promoted white-light-mediated photocatalysis

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

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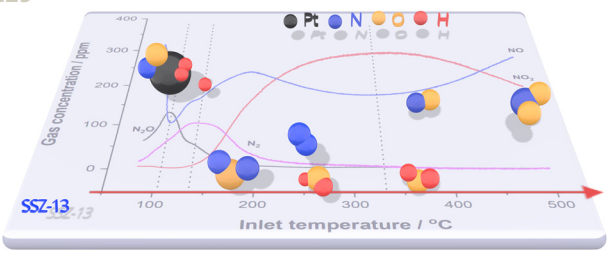

Pt-based catalysts for NO_x reduction from H_2 combustion engines

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

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PAPERS

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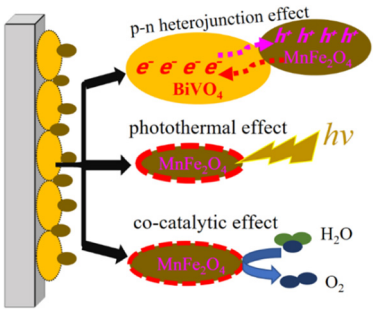
A $MnFe_2O_4/BiVO_4$ film photoanode with heterojunction, co-catalytic and photothermal effects for effective solar water oxidation

Guoqiang Shen, Haijiao Lu* and Hao Chen*



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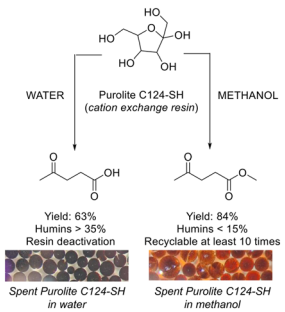
Mitigation of cation exchange resin deactivation in the one-pot conversion of fructose to methyl levulinate

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



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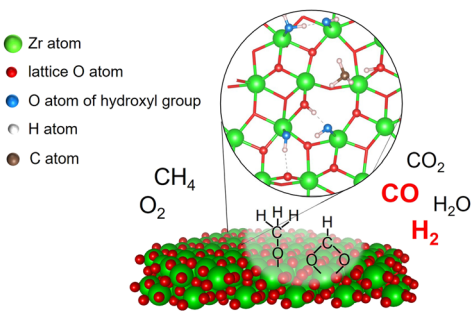
Active site for syngas production by direct partial oxidation of CH_4 over ZrO_2

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