

# Catalysis Science & Technology

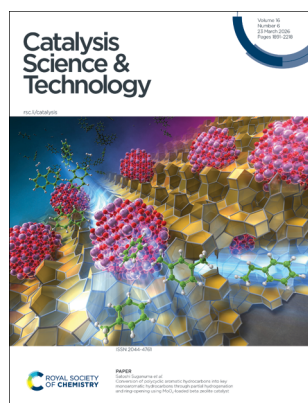
A multidisciplinary journal focussing on all fundamental science and technological aspects of catalysis

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## IN THIS ISSUE

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**Cover**  
See Satoshi Suganuma *et al.*, pp. 1925–1934.  
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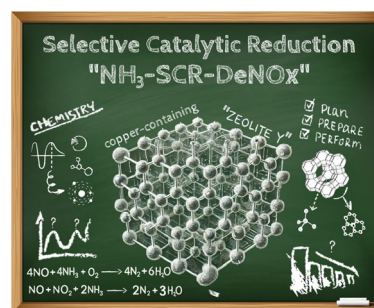
**Inside cover**  
See Avtar Changotra, Subhas Samanta *et al.*, pp. 1935–1950.  
Image reproduced by permission of Subhas Samanta from *Catal. Sci. Technol.*, 2026, 16, 1935.

## REVIEW

1902

### Modulated excitation DRIFTS and steady-state isotopic transient kinetic analysis (SSITKA) of $\text{NH}_3$ -SCR-De $\text{NO}_x$ on Cu-containing zeolite Y

Magdalena Jabłońska,\* Rujito S. R. Suharbiansah, Jie Yang, Marek Rotko, Pranjit Das, Marko Bertmer, Jacek Grams, Junjiang Zhu and Andreas Pöpl

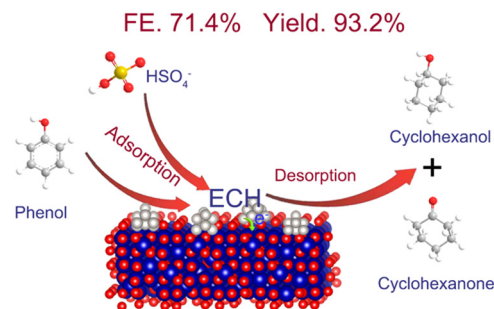


## COMMUNICATIONS

1913

### Interfacial electronic tuning of Pt-Co<sub>3</sub>O<sub>4</sub> enables highly efficient electrocatalytic hydrogenation of phenol

FenHong Zhao, Yue Wang, Long Chen, MengYv Guo, Xuejun Liu,\* Fengshan Zhang\* and Lixue Zhang





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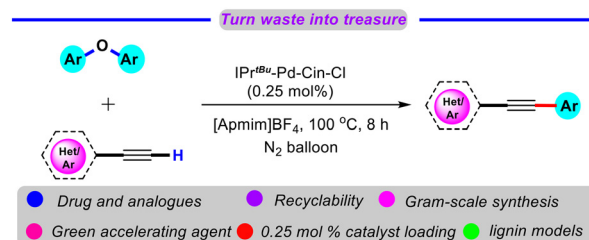


## COMMUNICATIONS

1918

### Directional degradation of lignin model compounds by a palladium-catalyzed alkynylation under ambient environment

Kaitong Zeng, Fanghua Mao, Huanfeng Jiang and Jianxiao Li\*

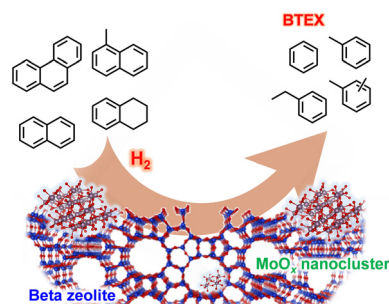


## PAPERS

1925

### Conversion of polycyclic aromatic hydrocarbons into key monoaromatic hydrocarbons through partial hydrogenation and ring-opening using MoO<sub>x</sub>-loaded beta zeolite catalyst

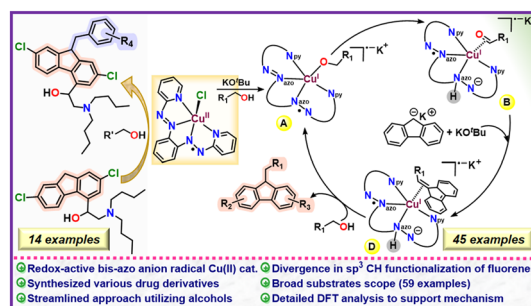
Satoshi Suganuma,\* Sayaka Sekino, Kazuki Nakajima, Kazu Okumura, Etsushi Tsuji and Naonobu Katada



1935

### sp<sup>3</sup> C–H alkylation of fluorenes catalyzed by o-phenylene-bridged noninnocent bis-azopyridyl complexes of copper

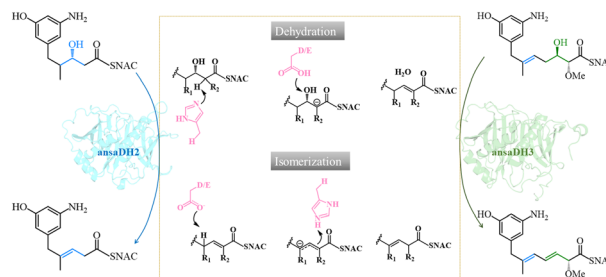
Kamal Shivali Hans, Ambika Devi, Nisha Yadav, Muskan, Avtar Changotra\* and Subhas Samanta\*



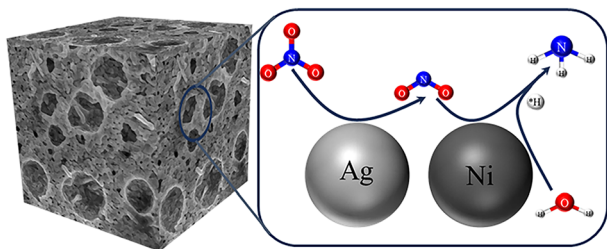
1951

### Mechanistic insights into double-bond migration mediated by bifunctional dehydratases in ansamitocin biosynthesis

Yingzhe Guo, Jiaxi Guo, Zeqian Du\* and Ting Shi\*



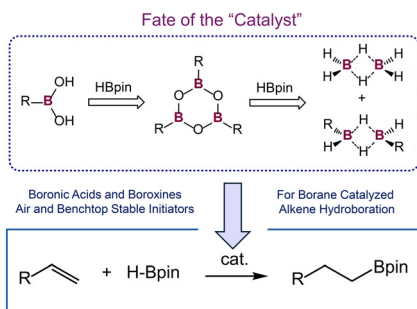
1962



### Constructing AgNi biphasic catalysts with a hierarchical pore structure for efficient nitrate reduction to ammonia at low potentials

Xuebing Hua, Hui Wang, Xiangwei Kong, Lingmeng Li, Kaige Duan, Chenjing Jia, Yongjie Ge,\* Jinjie Qian\* and Xiaofang Wang\*

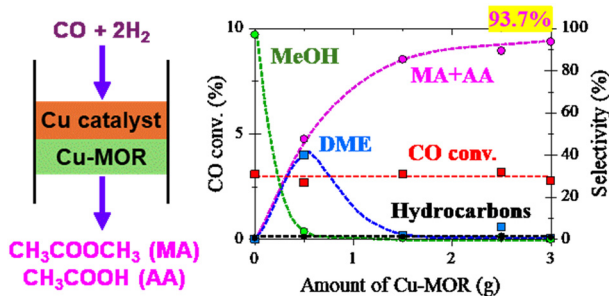
1973



### Uncovering the role of boronic acids and boroxines in the catalytic hydroboration of alkenes

Ryan Perry, Candace Richardson, Dustin Kenefake, Vani Gupta, Daniel Rose, Charles Leist, Suresh Mummadi\* and Clemens Krempner\*

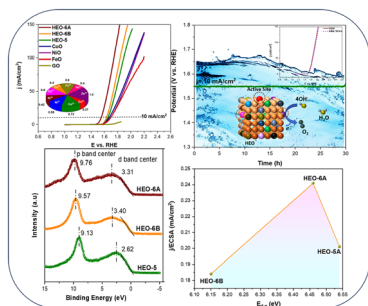
1983



### Direct synthesis of methyl acetate and acetic acid from syngas over tandem catalysts composed of a Cu-based catalyst and a Cu-exchanged mordenite zeolite

Katsuya Shimura,\* Isao Nakamura and Tadahiho Fujitani

1995



### Li and Na substituted (Fe,Co,Ni,Cu,Zn)O high entropy oxide catalysts for oxygen evolution reaction

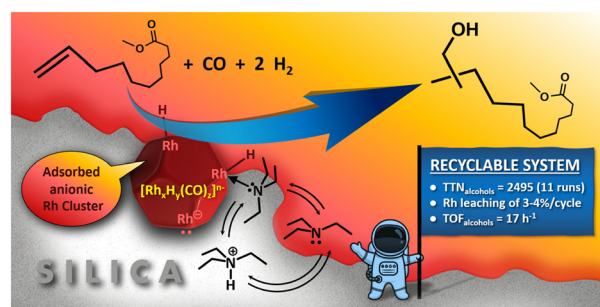
Ashwani Gautam and Md. Imteyaz Ahmad\*



2009

### Reductive hydroformylation of methyl 10-undecenoate catalyzed by a rhodium/trialkylamine combination associated with silica: a new step towards a simple, robust and recyclable catalytic system

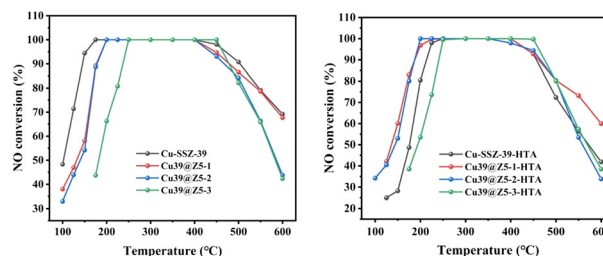
Abdelhadi Zouhair, Michel Ferreira, Hervé Bricout, Nicolas Kania, Bastien Léger, Jérémy Ternel, Anne Ponchel, Mohammed Lahcini, Sébastien Tilloy and Eric Monflier\*



2021

### Judicious design of Cu-SSZ-39@ZSM-5 core-shell architectural catalyst for elevated hydrothermal stability in the NH<sub>3</sub>-SCR reaction

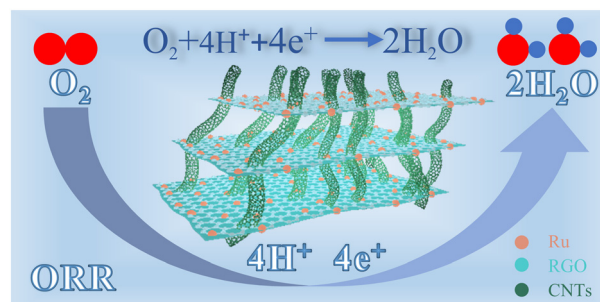
Ran Zhuang, Tong Wang, Amar Al-khawlani, Kang Zhou, Jiehua Bao,\* Shuang Liang and Yuming Zhou\*



2033

### Low-size Ru particles for the construction of 3D RGO/CNT carriers for boosting the oxygen reduction reaction

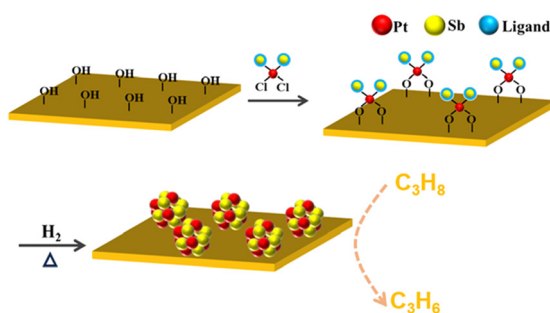
Haonan Shen, Tongtong Lian, Yide Hao, Yongxiang Wang, Zongyu Zhang, Yanchao Jin, Jiangshan Gao\* and Yan He\*



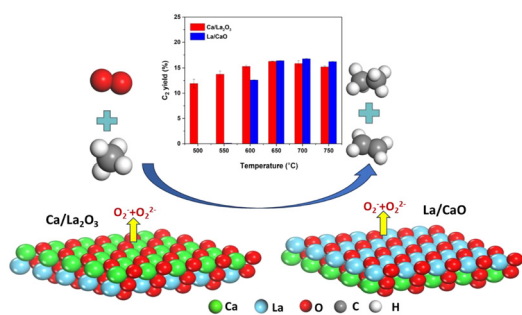
2045

### Well-alloyed Pt-Sb/Si-Beta from surface organometallic chemistry for propane dehydrogenation

Yuhe Lin, Kunbo Lian, Zhikang Xu, Lijuan Su\* and Haibo Zhu\*



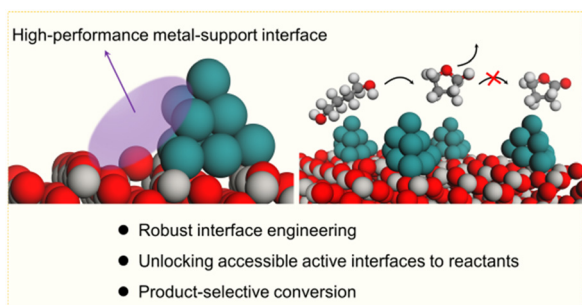
2055



### Influence of the interaction between alkaline earth and rare earth metal oxides on OCM reaction: elucidating the impact of different loading steps

Yanling Yu, Jingxuan Guo, Junwei Xu\* and Junwen Wang\*

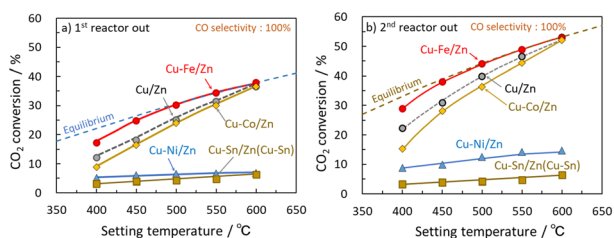
2074



### Ru-support interface tailoring for enhanced aerobic oxidation of 1,4-butanediol

Shufang Zhang,\* Peipei Lang, Xue Bai, Wenjin Zhen, Lili Zhao and Yongxiang Zhao

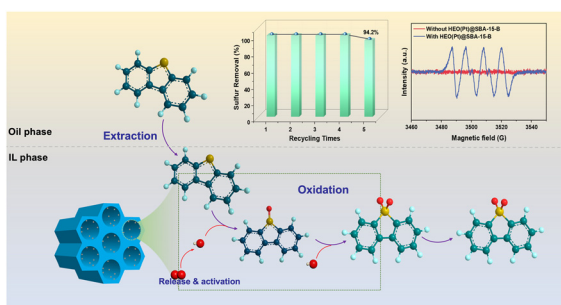
2084



### Low-temperature RWGS process with a two-stage Cu-Fe/Zn spiral-structured catalyst: the role of intermediate Fe plating in electroless plating

Hiroshi Akama, Yuma Nakazawa, Ryo Watanabe\* and Choji Fukuhara\*

2095



### Pt-containing high-entropy oxide confined in SBA-15 for efficient extractive-oxidative desulfurization

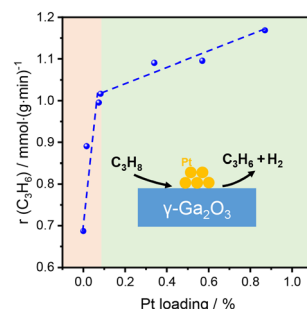
Ruoyu Liu, Weiming Zhai, Jiahui Li, Linlin Chen, Peng Cui, Zhendong Yu, Wenshuai Zhu\* and Peiwen Wu\*



2106

### Effects of Pt loading on the activity of Pt/ $\gamma$ -Ga<sub>2</sub>O<sub>3</sub> for propane dehydrogenation

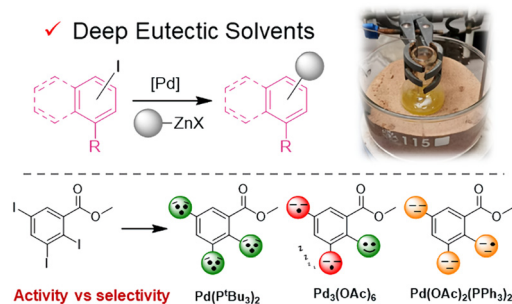
Salman Khan, Kaijie Wang, Zhaoshuo Ge, Lixia Bao, Yi Dai, Qi Liu, Daxin Shi,\* Qin Wu, Kangcheng Chen, Guiyuan Jiang, Hansheng Li and Yaoyuan Zhang\*



2115

### Exploring pre-catalyst scope and selectivity in Negishi coupling of aryl iodides in deep eutectic solvents

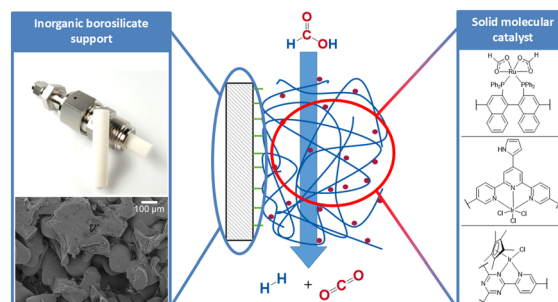
L. Mauricio Murillo-Herrera, Spencer A. Frederick, Scott A. Hicks, Simon B. Duckett and John M. Slattery\*



2129

### Shaped inorganic–organic hybrid catalysts based on solid molecular catalysts for continuous formic acid dehydrogenation

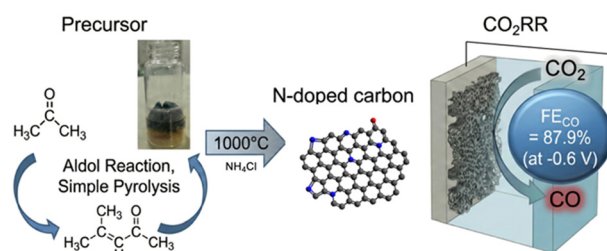
Sebastian Seidel, Keanu V. A. Birkelbach, J. Mädicke, M. Pilaski, Peter J. C. Hausoul and Regina Palkovits\*



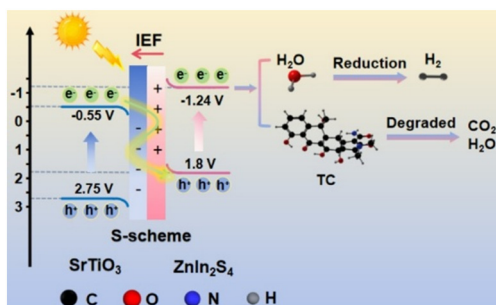
2139

### Facile synthesis of metal-free N-doped carbon electrocatalyst from acetone aldol reaction products towards selective CO<sub>2</sub>-to-CO conversion

Kou Adachi, Ryuji Takada,\* Koji Miyake,\* Yoshiaki Uchida and Norikazu Nishiyama



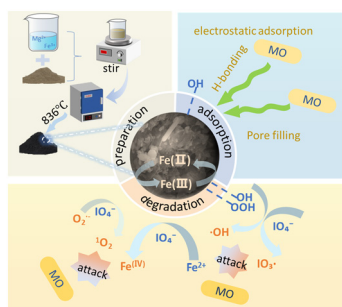
2145



### S-scheme heterojunction of flake-like ZnIn<sub>2</sub>S<sub>4</sub>/SrTiO<sub>3</sub> nanosheets for improved photocatalytic performance

Xinyu Yin, Limin Yu,\* Lijing Wang, Junjie Zhang, Yongya Zhang, Fei Li, Fenghua Zhang\* and Wei Wei\*

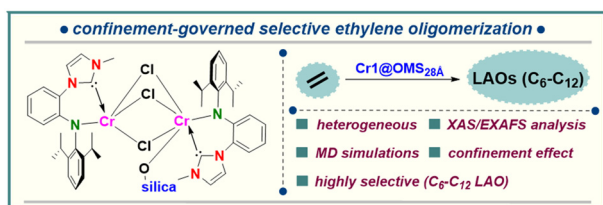
2154



### Magnesium-iron modified sludge biochar for methyl orange removal *via* adsorption and periodate-based advanced oxidation

Hongyun Sun, Duo Meng,\* Hehe Yang and Ziming Liu

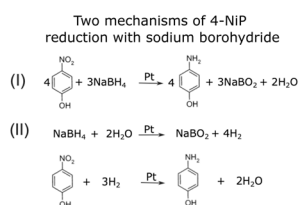
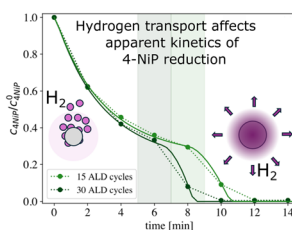
2170



### Ethylene oligomerization under confinement using supported Cr(II) and Cr(III) catalysts

Somnath Bhattacharya, Marc Höglér, Johanna R. Bruckner, Boshra Atwi, Matthias Bauer, Niels Hansen, Felix R. Fischer\* and Michael R. Buchmeiser\*

2185



### Effects of hydrogen transport on the kinetic regimes of 4-nitrophenol reduction by sodium borohydride

Tatiana Nizkaia, Philipp Groppe, Valentin Müller, Jens Harting, Susanne Wintzheimer and Paolo Malgaretti\*

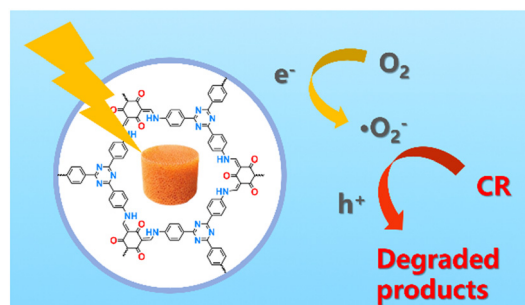


## PAPERS

2195

### Construction of hydrophilic triazine-based covalent organic framework aerogels for enhanced adsorption and photocatalytic degradation of Congo red

Haiping Liu, Yanyan Ren, Fang Duan,\* Zhijian Pan, Qingqiu Huang, Shuanglong Lu and Mingliang Du



2205

### Hydrous nickel oxyhydroxide thin films on copper foil as robust electrocatalysts for alkaline oxygen evolution

Ankith Shetty, Poulami Mukherjee, Koichi Higashimine, Toshiaki Taniike, Vishwanath R. S.\* and Kalathiparambil Rajendra Pai Sunajadevi\*

