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See Yandong Duan,  
Desong Wang *et al.*,  
pp. 113–123.  
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2026, **16**, 113.

**Deactivation**

**Chemical deactivation**

Poisoning:  $\text{Pt} + \text{CO} + \text{H}_2\text{O} \rightarrow \text{Pt-CO} + \text{Pt-OH}$

Sintering:  $\text{Pt} + \text{PtO}_x \rightarrow \text{PtO}_x + \text{PtO}_x$

**Physical deactivation**

Phase transition:  $\text{Pt} + \text{PtO}_x \rightarrow \text{PtO}_x + \text{PtO}_x$

**Inhibition Strategy**

**Bimetallic system**:  $\text{Pt} + \text{Pt} \rightarrow \text{Pt-Pt}$

**Structural modification**:  $\text{Pt} + \text{Pt} \rightarrow \text{Pt-Pt}$

**Additive incorporation**:  $\text{Pt} + \text{Pt} \rightarrow \text{Pt-Pt}$

**Preparation process optimization**:  $\text{Pt} + \text{Pt} \rightarrow \text{Pt-Pt}$

**Inhibitor supply**:  $\text{NO, CO, HCs} \rightarrow \text{Inhibitor supply} \rightarrow \text{O}_2, \text{N}_2, \text{CO}_2, \text{H}_2\text{O, etc.}$

**Plastics waste recycling**

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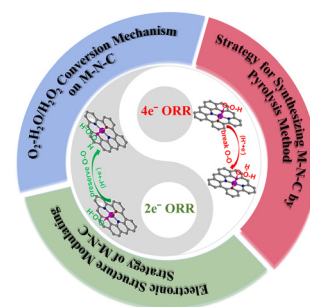


## REVIEWS

72

### Electronic structure modulation of atomically dispersed metal electrocatalysts for the electrocatalytic oxygen reduction reaction

Yan Xu, Long Chen, Yuelan Zhang,\* Shanyong Chen\* and Xiaoqing Qiu\*

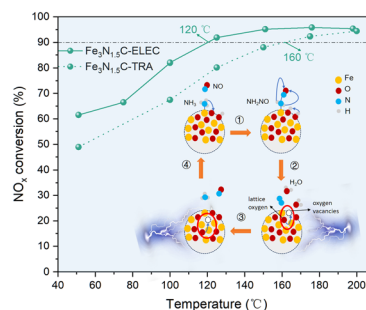


## COMMUNICATIONS

91

### Revealing the effect of electrochemical promotion on FeNC catalysts for electro-assisted NH<sub>3</sub>-SCR

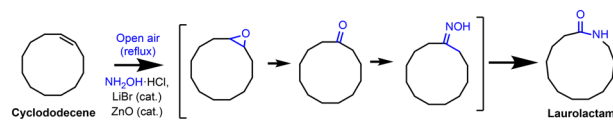
Xinying Liu, Qingling Liu,\* Yan Zhang, Yuankai Shao, Bingjie Zhou, Zhenguo Li,\* Caixia Liu,\* Xiaona Yan and Bin Shen



96

### One-pot synthesis of laurilactam from cyclododecene and air

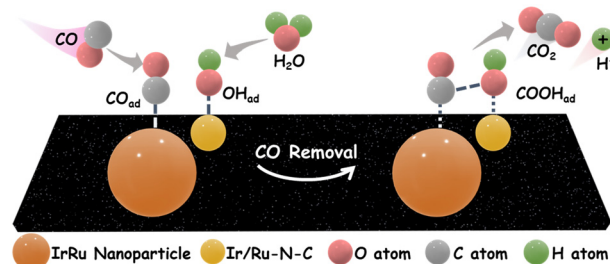
Susi Hervàs-Arnandis, Silvia Rodríguez-Nuévalos, Judit Oliver-Meseguer\* and Antonio Leyva-Pérez\*



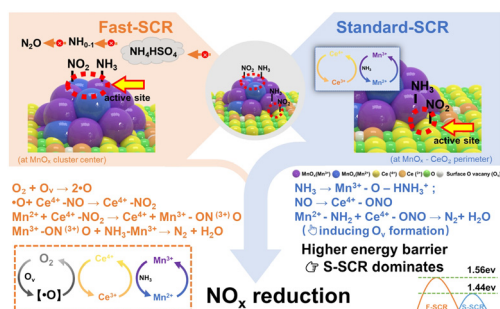
101

### IrRu nanoparticles boosted by Ir/Ru-N-C for acidic hydrogen oxidation with high CO tolerance

Mengyu Yang, Rui Gao,\* Shuo Han, Zhongyu Qiu, Chunxiao Chai, Hao Yang, Yang Zhao, Ruijie Song, Xihong Shen, Xingchen Zeng and Yujiang Song\*



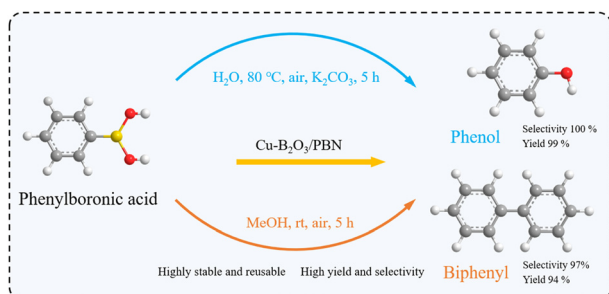
107



### Mechanism of fast selective catalytic reduction of NO with NH<sub>3</sub> over MnO<sub>x</sub>-CeO<sub>2</sub> catalysts

Hongmei Zheng, Zhihao Zhao, Kai Zhang, Fei Wang, Songda Li, Zhongkang Han,\* Yong Wang, Ze Zhang and Hangsheng Yang\*

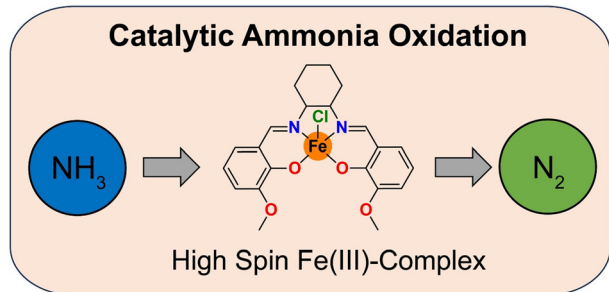
113



### Solvoselective effect of Cu-B<sub>2</sub>O<sub>3</sub>/porous boron nitride on catalytic conversion of arylboronic acids to phenols and biphenyls

Yumei Zhang, Yue Wang, Dongle Wang, Yating Liu, Tong Gao, Qingqiang Zhou, Qingzhi Luo, Jing An, Xueyan Li, Yandong Duan\* and Desong Wang\*

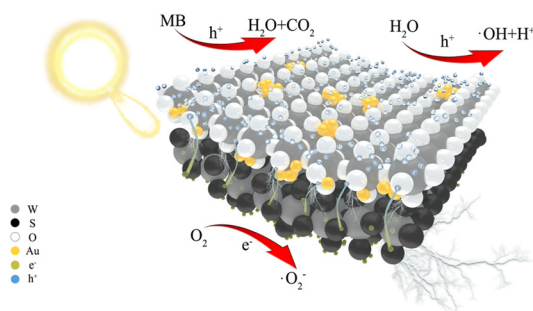
124



### Catalytic ammonia oxidation mediated by high-spin Fe(III) complex: combined experimental and DFT study

Mohammad Usman, Mohamed A.T. Hussein, Tarek A. Kandiel, Zain H. Yamani and M. Nasiruzzaman Shaikh\*

137



### Enhancement of Z-scheme behavior by coupling local WO<sub>3-x</sub>-WS<sub>2</sub> with Au nanoparticles for efficient photoelectrochemical degradation of methylene blue

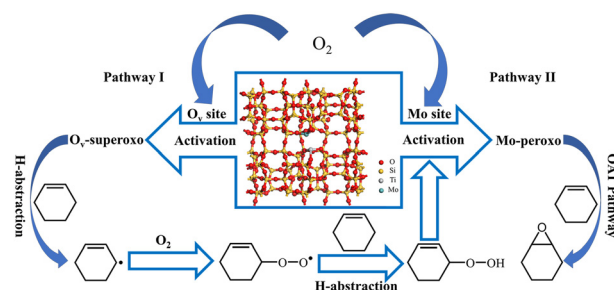
Qian Guo, Ying Wen, Tian Zhang, Long Ren, Xiaohui Ren,\* Yang Li, Huanyu He, Huating Liu,\* Ye Zhang, Hua Zhang and Hongwei Ni



148

### Importance of surface peroxo species in the epoxidation of cyclohexene by Mo-doped TS-1 and O<sub>2</sub> under solvent-free conditions

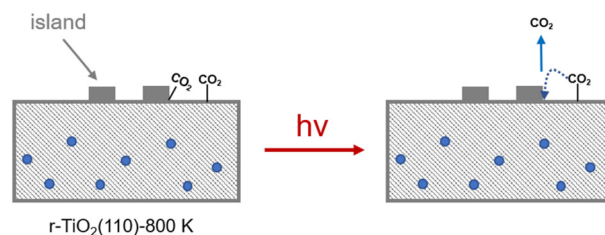
Yu-Le Wang, Song-Hai Wu, Yu-Zhen Xu, Yu-Dong Shan, Yong Liu and Xu Han\*



161

### Edge sites on TiO<sub>2</sub> are photocatalytic active site

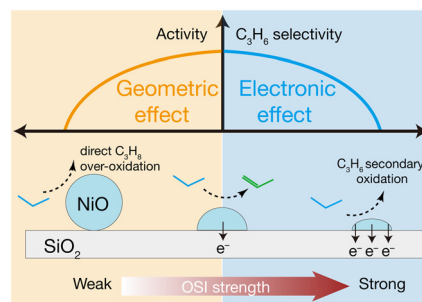
Longxia Wu, Zongfang Wu,\* Zhengming Wang, Hong Xu, Peng Chai, Junjie Shi and Weixin Huang\*



167

### Promoting low-temperature oxidative dehydrogenation of propane through oxide-support interaction regulation

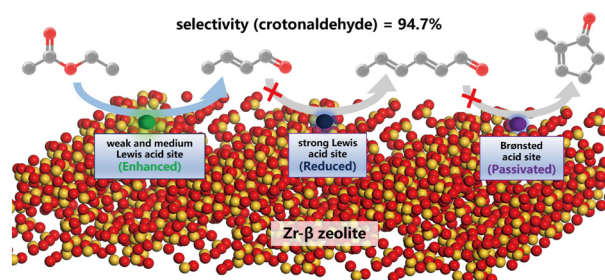
Wenjie Li, Hong Wang, Zhandong Wang, Heng Cao\* and Jun Bao\*



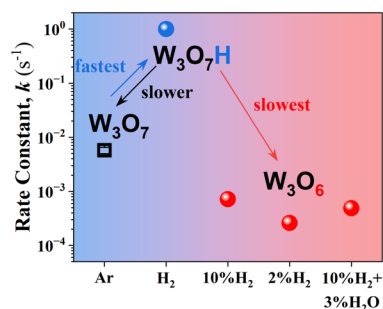
176

### Aldol condensation of acetaldehyde over Zr-β zeolites with tailored Lewis acidity and passivated Brønsted sites: toward environmentally benign crotonaldehyde synthesis

Haoxi Jiang, Qian Ran, Yingying Zhao, Guochao Yang and Lingtao Wang\*



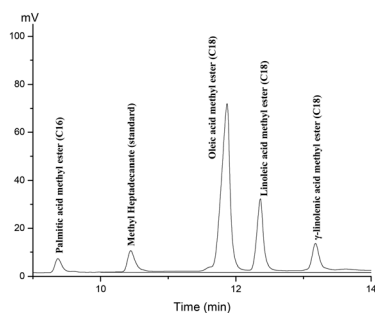
189



### Dynamics of inverse metal oxides on metal catalysts using spectro-kinetics: reversible Brønsted acid site formation and irreversible reduction

Sagar Sourav, Jiahua Zhou, Quentin Kim, Kewei Yu, Weiqing Zheng and Dionisios G. Vlachos\*

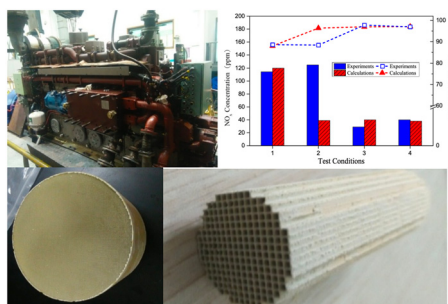
199



### Hierarchical CaO catalyst derived from rape pollen for high-efficiency glycerol-free biodiesel production via tri-component coupling transesterification

Kefan Wang, Ying Yang,\* Xiaoli Wang, Yang Song, Hua Song and Ying Tang\*

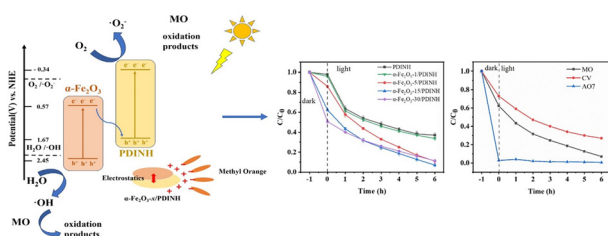
211



### Numerical simulation study on urea-SCR system of diesel engine

Bin Guan,\* Zhongqi Zhuang, Lei Zhu,\* Jiangli Ma, Tiankui Zhu, Luoxin Xu, Xuehan Hu, Chenyu Zhu, Sikai Zhao, Junyan Chen, Junjie Gao, Kaiyou Shu, Hongtao Dang, Luyang Zhang, Yuan Li, Wenbo Zeng, Shuai Chen, Linhui Wang, Can Zhu, Jiaming He, Qinghan Xian and Zhen Huang

227



### Synergistic adsorption-photocatalysis in α-Fe<sub>2</sub>O<sub>3</sub>/PDINH Z-scheme heterojunction for efficient azo dye wastewater treatment

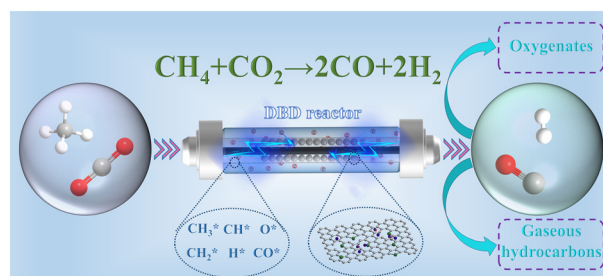
Ying Hu,\* Rongkang Yan, Huiyan Pan, Ruyi Cai, Zhili Zeng, Jialun Jiang, Meng Wang, Meng Shan, Shasha Liu and Hai Tang\*



239

### Plasma-catalytic reforming of CH<sub>4</sub>-CO<sub>2</sub> over porous Ni/N-doped carbon: efficient syngas production and mechanistic insights

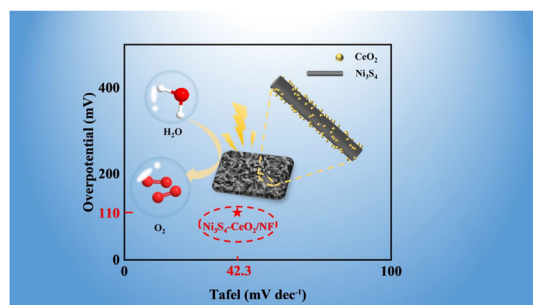
Tian Chang,\* Zhao Yang, Zuotong Zhao, Xuanchen Chang and Chuanyi Wang



256

### Construction of Ni<sub>3</sub>S<sub>4</sub>-CeO<sub>2</sub> nanocomposites for enhanced electrocatalytic alkaline oxygen evolution reactions

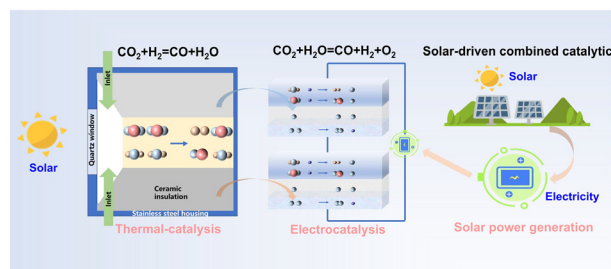
Shuqian Sun, Nan Li,\* Yi Wu, Xinding Lv,\* Yue Li, Can Zhao and Jiangquan Ma\*



267

### Advanced solar-driven CO<sub>2</sub> photothermal-electrocatalytic co-reduction system design and research

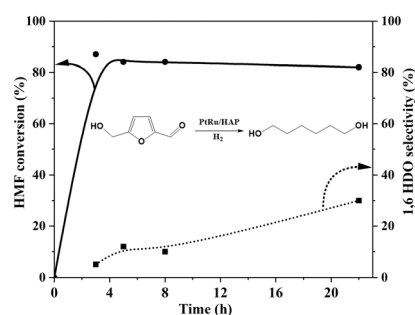
Jintao Song, Jiaxin Du, Fuqiang Wang,\* Guoliang Zhang, Yaping Fan, Hongliang Yi, Yong Shuai, Dong Li and Liwu Fan



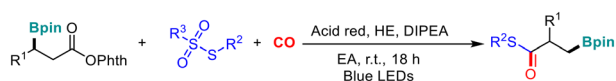
280

### Ring opening hydrogenolysis of 5-hydroxymethyl furfural over supported bimetallic catalysts

Heba Alsharif, Matthew Conway, Marina Chernova, David J. Morgan, Javier Ruiz Martínez, Stuart H. Taylor and Meenakshisundaram Sankar\*



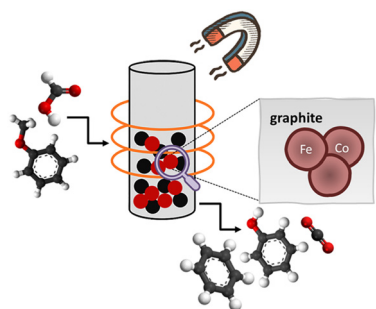
293



### Photoredox borocarbonylation through 1,2-boron migration

Xiao-Fan Cui, Le-Cheng Wang and Xiao-Feng Wu\*

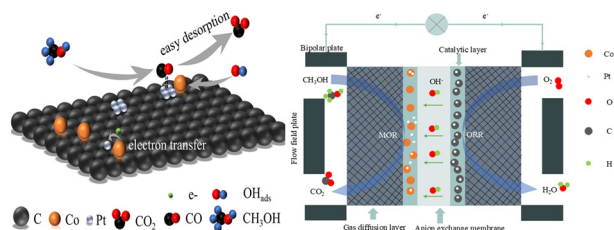
302



### Induction heating applied to anisole HDO using formic acid as a hydrogen source

Verónica Naharro-Ovejero, Mónica Dhanjani, Gorka Salas and Ana Belén Dongil\*

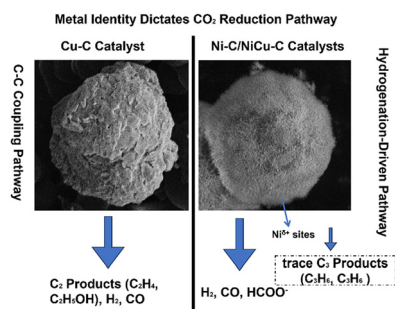
316



### Synergistic PtCo bimetallic nanocrystals on hollow carbon nanofibers for high-performance alkaline direct methanol fuel cells

Zexu Jia, Quan Zhou, Fei Chen and Congju Li\*

327



### A comparative study of electrochemical CO<sub>2</sub> reduction on hydrothermally synthesized carbon nanosphere-supported Ni-, Cu-, and NiCu-hydroxide catalysts

Yue Zhang, Qianqian Song, Jason M. J. J. Heinrichs, Marta Costa Figueiredo and Emiel J. M. Hensen\*

