

# Catalysis Science & Technology

A multidisciplinary journal focussing on all fundamental science and technological aspects of catalysis  
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See Tatsuo Kimura et al., pp. 2927–2936.  
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### Inside cover

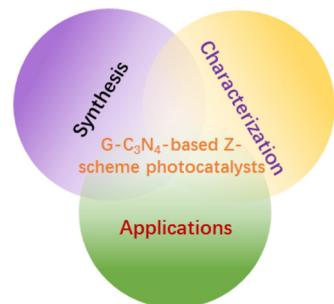
See Peter Deglmann, Alex J. Plajer et al., pp. 2937–2945.  
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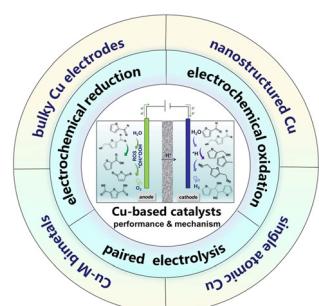
Chunxue Li, Hao Lu,\* Guixiang Ding, Qing Li\* and Guangfu Liao\*



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Jingwen Tan, Mei Jiang, Kun Yu, Yuyang Song, Wenbiao Zhang and Qingsheng Gao\*



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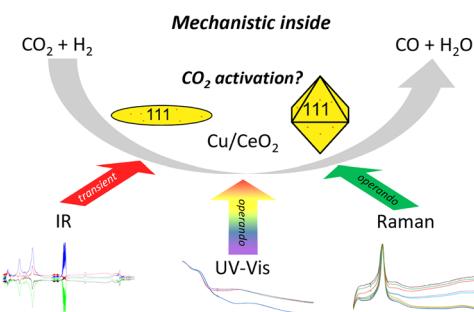


## COMMUNICATION

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Unravelling the mechanism of  $\text{CO}_2$  activation over low-loaded Cu/CeO<sub>2</sub>(111) catalysts using *operando* and transient spectroscopies

Marc Ziemba and Christian Hess\*

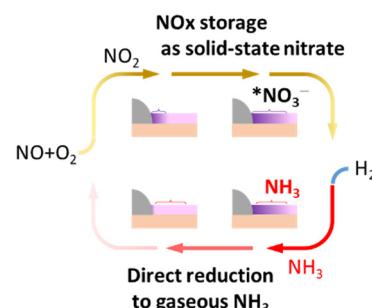


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## Catalytic conversion to ammonia through solid-state nitrate as a proposal for the emerging usage of nitrogen oxides

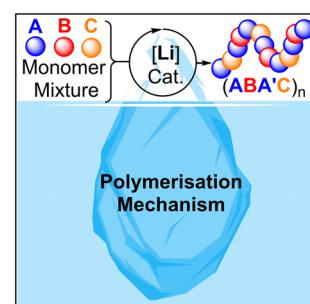
Atsuko Tomita, Ryutaro Wakabayashi and Tatsuo Kimura\*



2937

## Lithium catalysed sequence selective ring opening terpolymerisation: a mechanistic study

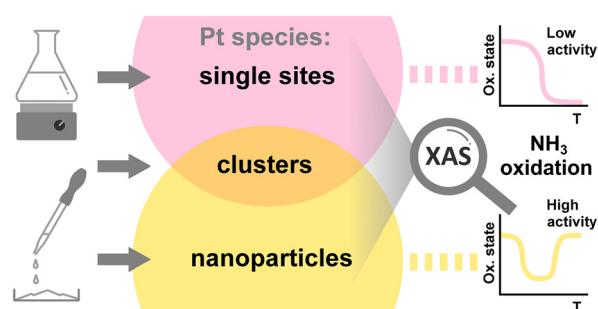
Peter Deglmann,\* Sara Machleit, Cesare Gallizzioli, Susanne M. Rupf and Alex J. Plajer\*



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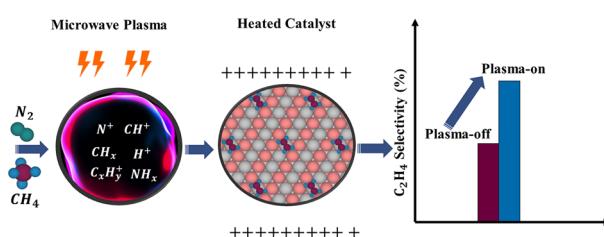
## Structure sensitivity of alumina- and zeolite-supported platinum ammonia slip catalysts

Vasyl Marchuk, Xiaohui Huang, Jan-Dierk Grunwaldt and Dmitry E. Doronkin\*



## PAPERS

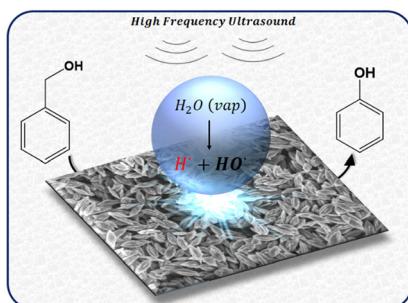
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**Post-plasma catalysis: charge effect on product selectivity in conversion of methane and nitrogen plasma to ethylene and ammonia**

Sarojini Tiwari, Saleh Ahmat Ibrahim, Brandon Robinson, Siobhan Brown, Qiang Wang, Fanglin Che\* and Jianli Hu\*

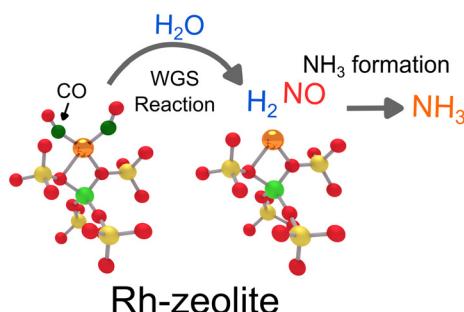
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**Water-assisted sonochemically-induced demethylenation of benzyl alcohol to phenol over a structurally stable cupric oxide catalyst**

Teseer Bahry, Shang Jiang, Umesh Jonnalagadda, Wen Liu, Benoit Teychene, Francois Jerome, Samir H. Mushrif\* and Prince N. Amaniampong\*

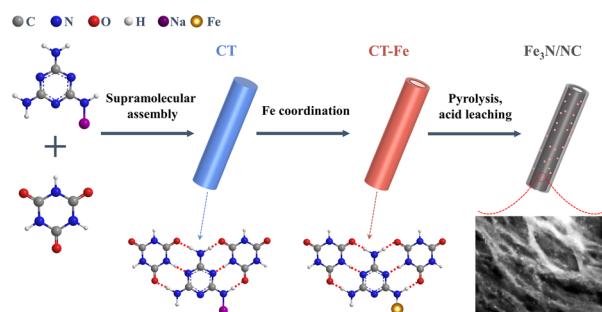
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**Multi-functionality of rhodium-loaded MOR zeolite: production of H<sub>2</sub> via the water gas shift reaction and its use in the formation of NH<sub>3</sub>**

Shunsaku Yasumura, Ken Nagai, Yucheng Qian, Takashi Toyao, Zen Maeno and Ken-ichi Shimizu\*

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**Supramolecular confinement synthesis of ultrafine iron nitride nanocrystals for the oxygen reduction reaction in Zn-air batteries**

Fanglei Yao, Jiabao Bi, Lei Yu, Liming Dai, Wenkang Xue, Jingyao Deng, Zhihui Yao, Yunyan Wu, Jingwen Sun\* and Junwu Zhu

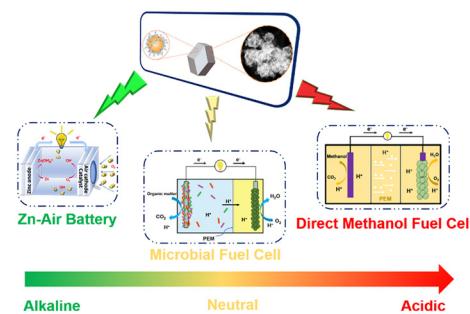


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**Metal-organic framework-loaded carbon-encapsulated nano-catalyst as a pH-universal oxygen reduction reaction electrocatalyst for various fuel cell devices**

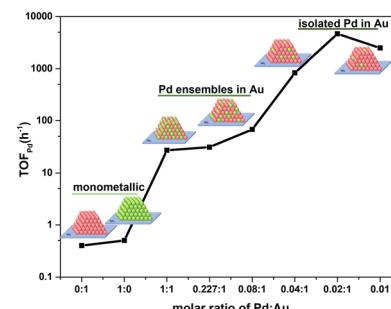
Xintao Zhou, Mingyang Wu, Kai Chen, Suqin Ci\* and Zhenhai Wen\*



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**The preparation of silica supported, dilute limit PdAu alloys via simultaneous strong electrostatic adsorption**

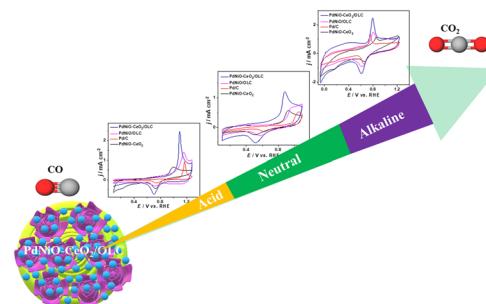
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**Ternary PdNiO nanocrystals-ornamented porous CeO<sub>2</sub>/onion-like carbon for electrooxidation of carbon monoxide: unveiling the effect of supports and electrolytes**

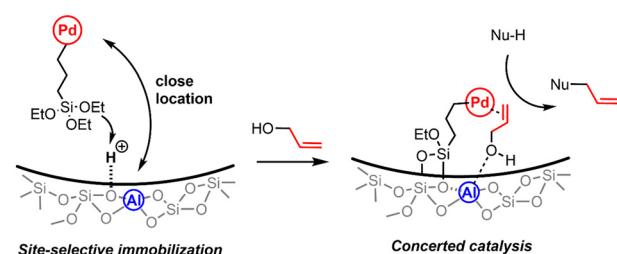
Adewale K. Ipadeola, Aderemi B. Haruna, Aboubakr M. Abdullah,\* Rashid S. Al-Hajri, Roman Viter, Kenneth I. Ozoemena\* and Kamel Eid\*



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**A heterogeneous Pd complex catalyst for allylation with allylic alcohols enhanced by an aluminum-doped mesoporous silica support**

Siming Ding, Yuichi Manaka, Masayuki Nambo, Wang-Jae Chun, Ikuyoshi Tomita and Ken Motokura\*



## PAPERS

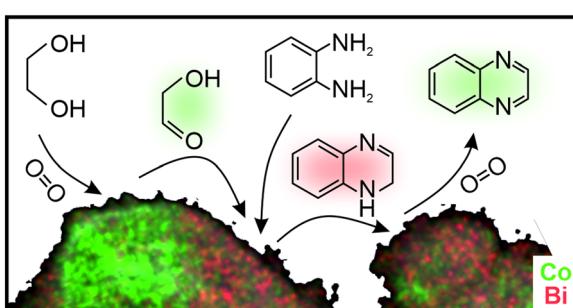
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**Full-crystalline monolithic EU-1 zeolite: sustainable synthesis and its applications in the hydroisomerization of ethylbenzene with meta-xylene**

Guanghua Liang, Jianyi Chen,\* Tao Dou, Zijie Wu, Xiaofeng Li and Yuanshuai Liu\*

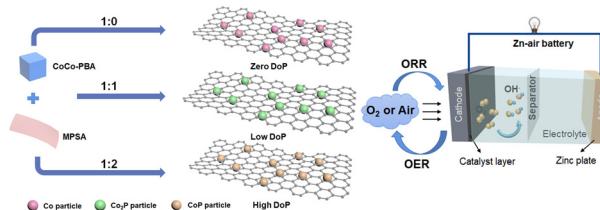
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**Sustainable synthesis of azobenzenes, quinolines and quinoxalines via oxidative dehydrogenative couplings catalysed by reusable transition metal oxide–Bi(III) cooperative catalysts**

Marianna Kocsis, Kornélia Baán, Sándor B. Ötvös, Ákos Kukovecz, Zoltán Kónya, Pál Sipos, István Pálinkó and Gábor Varga\*

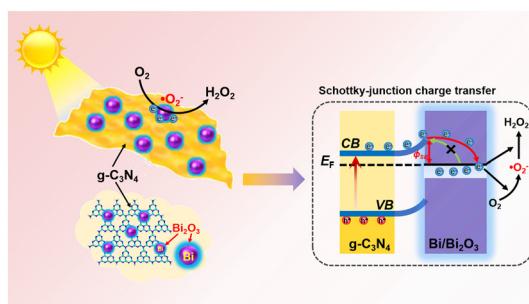
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**Tunable phosphorization degree of Co<sub>x</sub>P<sub>y</sub>@N,P-doped carbon as a highly-active bifunctional electrocatalyst for rechargeable zinc–air batteries**

Yang Liu, Chen Li, Min Yuan, Xinghao Zhang, Haikuo Lan, Yuting Chen, Minge Tian, Kang Liu\* and Lei Wang\*

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**Schottky junction with Bi/Bi<sub>2</sub>O<sub>3</sub> core–shell nanoparticle modified g-C<sub>3</sub>N<sub>4</sub> for boosting photocatalytic H<sub>2</sub>O<sub>2</sub> evolution from pure water**

Xinyue Yan, Guiyang Yu,\* Chuanwang Xing, Yujia Hu, Heyuan Liu and Xiyou Li\*

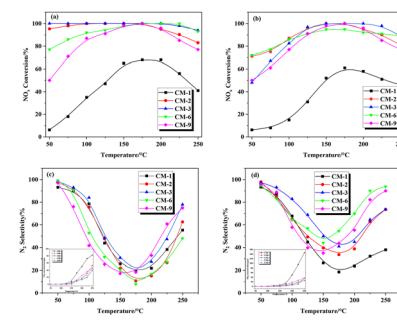


## PAPERS

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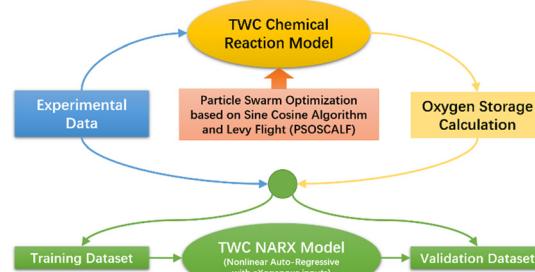
Chengbo Xuan, Shiwang Han, Luyuan Wang,\* Xingyu Zhang,\* Rongfeng Sun, Xingxing Cheng, Zhiqiang Wang, Chunyuan Ma, Tiantian Zhao and Xukai Hou



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**Oxygen storage modeling of a three-way catalyst based on a NARX network**

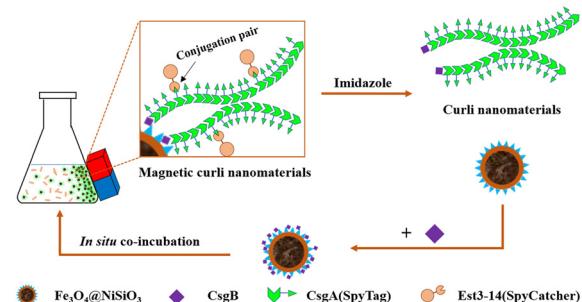
Zhuoxiao Yao, Tao Chen,\* Weipeng Lin, Yifang Feng, Ran Xia, Le Li and Tao Song



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**In situ preparation of programmable curli nanomaterials as fine-tuned sustainable supports enabling selective and oriented incorporation of enzymes**

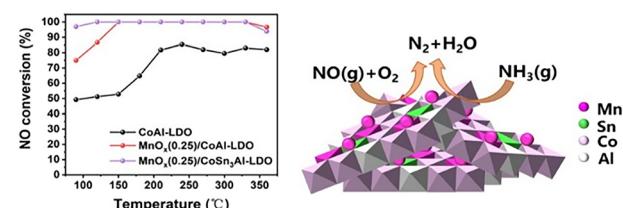
Hao Dong, Wenzhe Zhang, Chao Chen\* and Ping Wang\*

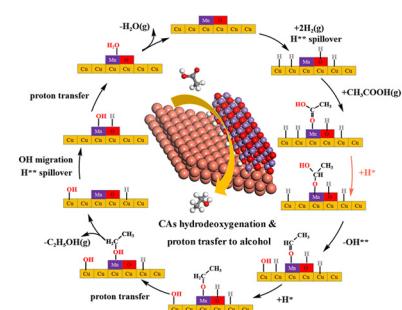


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**Mn mixed oxide catalysts supported on Sn-doped CoAl-LDO for low-temperature NH<sub>3</sub>-SCR**

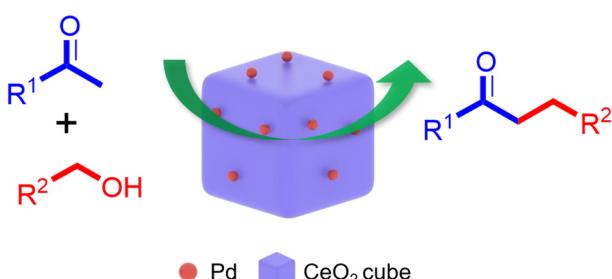
Hange Wang, Wen Chen, Wei Jin and Yueli Liu\*





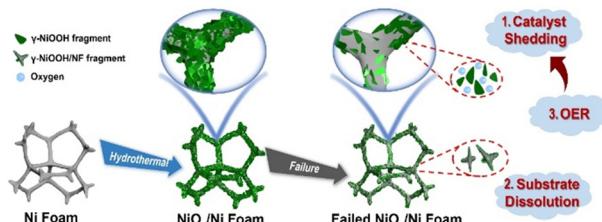
## Insights into the mechanism of carboxylic acid hydrogenation into alcohols at the MnO/Cu (111) interface: a combined DFT and kinetic study

Jingbo Du, Yifei Chen, Lingtao Wang and Minhua Zhang\*



## Palladium single-atom catalyst supported on ceria for $\alpha$ -alkylation of ketones with primary alcohols

Dongyuan Yang, Hongli Wang,\* Ce Liu and Chun-Ran Chang\*



## Insights into the deactivation mechanism of a self-supported nickel electrode for 5-hydroxymethyl furfural electrooxidation: focus on the stability of the electrode as a whole

Fangbing Liu, Nan Lin,\* Deyuan Xin, Xinxin Li, Linchuan Cong, Fuyu Han and Haibo Lin