

# Catalysis Science & Technology

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

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ISSN 2044-4761 CODEN CSTAGD 13(14) 4011-4258 (2023)



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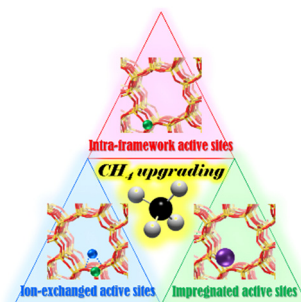
**Inside cover**  
See Masakazu Iwamoto *et al.*, pp. 4131–4140.  
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## PERSPECTIVE

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### Zeolite-based catalysts for oxidative upgrading of methane: design and control of active sites

Mizuho Yabushita,\* Ryota Osuga,\* Toshiyuki Yokoi and Atsushi Muramatsu\*

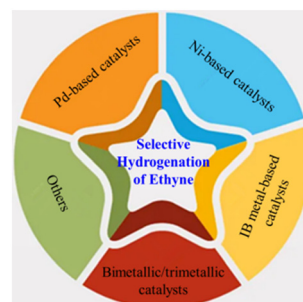


## MINI REVIEW

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### Recent research advances on catalysts for selective hydrogenation of ethyne

Jiawen Guo, Yiming Lei, Huimin Liu,\* Yuqiao Li, Dezheng Li and Dehua He\*



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Catalysis Science & Technology electronic: ISSN 2044-4761

is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK.

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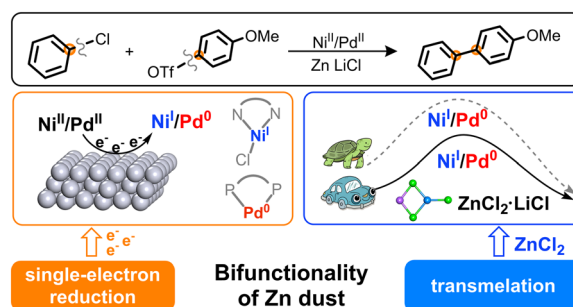


## COMMUNICATION

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**Bifunctionality of Zn dust in Ullmann C–C cross-coupling by Ni/Pd dual catalysis: theoretical insight**

Rong-Wan Gao, Yu-Jiao Dong, Bo Zhu\* and Wei Guan\*

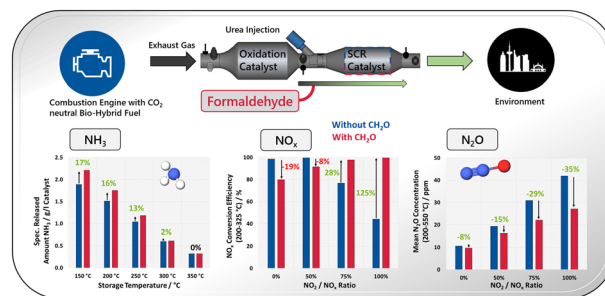


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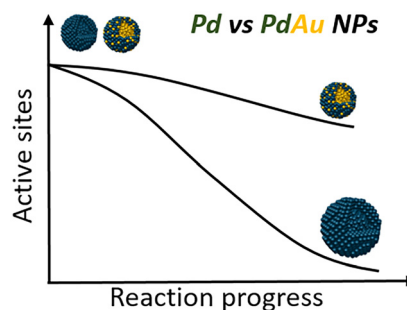
Ariel A. Schönberger Alvarez,\* Can Özyalçin, Tom Padeken, Peter Mauermann, Bastian Lehrheuer, Stefan Sterlepper, Ahd Abouserie, Maurice Vennewald, Ulrich Simon, Regina Palkovits and Stefan Pischinger



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**Unravelling synergistic effects in bi-metallic catalysts: deceleration of palladium–gold nanoparticle coarsening in the hydrogenation of cinnamaldehyde**

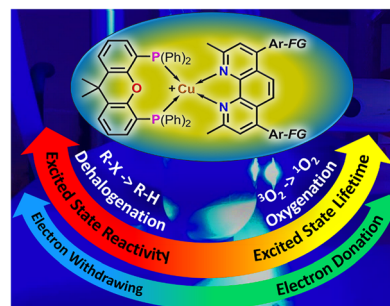
Jose Pinto, Andreas Weilhard,\* Luke T. Norman, Rhys W. Lodge, David M. Rogers, Aitor Gual, Israel Cano, Andrei N. Khlobystov, Peter Licence\* and Jesum Alves Fernandes\*



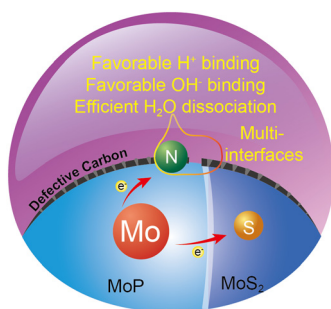
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**Rich or poor: the impact of electron donation and withdrawal on the photophysical and photocatalytic properties of copper(I) complexes**

Florian Doettinger, Christian Kleeberg, Clémence Queffélec, Stefanie Tschierlei, Yann Pellegrin\* and Michael Karnahl\*



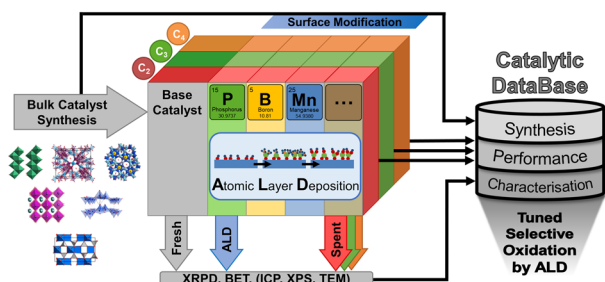
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### Multi-interfacial charge polarization for enhancing the hydrogen evolution reaction

Di Zhao,\* Mengyun Hou, Wuyi Feng, Pengyu Song, Kaian Sun, Lirong Zheng, Shoujie Liu, Jiatao Zhang,\* Minhua Cao\* and Chen Chen\*

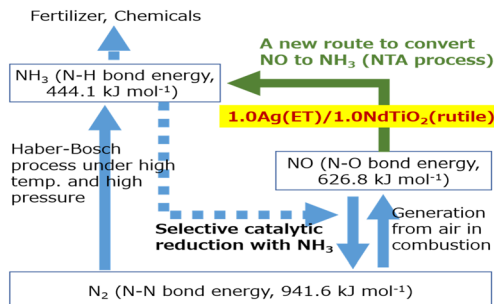
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### Tuning catalysis by surface-deposition of elements on oxidation catalysts via atomic layer deposition

Frederik R ther, Robert Baumgarten, Fabian Ebert, Esteban Gioria, Raoul Naumann d'Alnoncourt,\* Annette Trunschke and Frank Rosowski

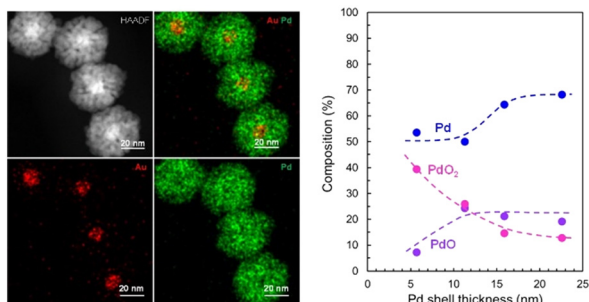
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### Catalysts for selective conversion of nitric oxide to ammonia (NTA) with propene in the presence of a large excess of oxygen and water vapor

Bungo Suzumura, Kiyokazu Tanaka, Kasumi Kitazume, Shougo Hioki, Ayaka Kubo and Masakazu Iwamoto\*

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### Large Au@Pd/PdO<sub>x</sub> core-porous shell nanoparticles as efficient ethanol oxidation electrocatalysts

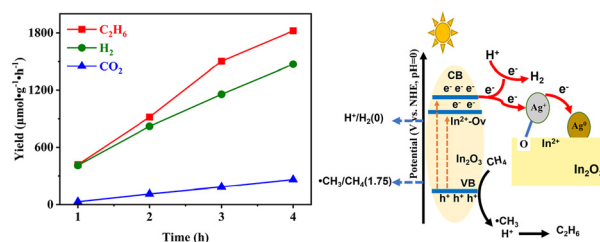
Junfang Hao, Bin Liu, Mari Takahashi, Shinya Maenosono\* and Jianhui Yang\*



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### Oxygen vacancies stabilized Ag<sup>+</sup> to enhance the performance of an Ag/In<sub>2</sub>O<sub>3</sub> photocatalyst for non-oxidative coupling of methane

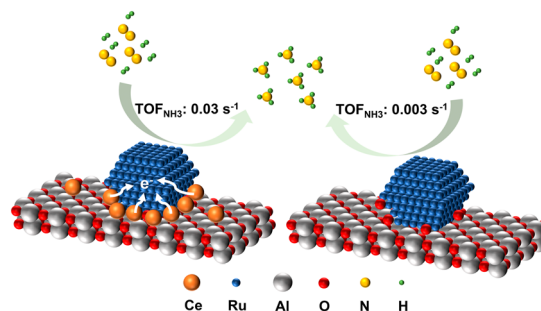
Mingquan Xiao, Liang Wang, Hong Wang, Jie Yuan, Xun Chen, Zizhong Zhang, Xianzhi Fu\* and Wenxin Dai\*



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### Decoration of Ru nanoparticles on $\gamma$ -alumina with sub-nanometer ceria species for efficient catalytic ammonia synthesis

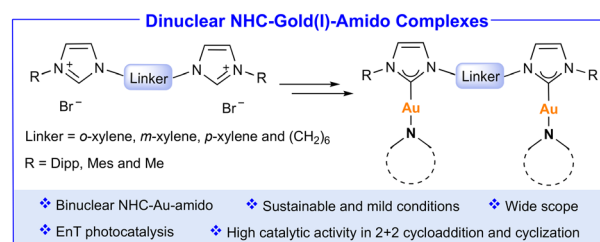
Ji Feng, Lin Liu,\* Xiaohua Ju, Qike Jiang, Jiemin Wang, Jianping Guo, Teng He and Ping Chen



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### Novel dinuclear NHC-gold(i)-amido complexes and their application in energy transfer photocatalysis

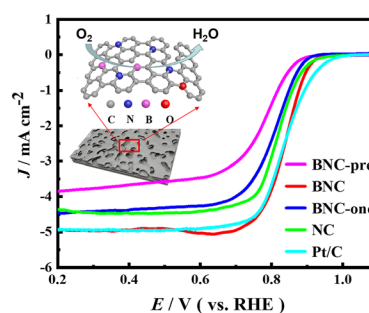
Xinyuan Ma, Vladislav A. Voloshkin, Ekaterina A. Martynova, Marek Beliš, Min Peng, Marco Villa, Nikolaos V. Tzouras, Wim Janssens, Kristof Van Hecke, Paola Ceroni and Steven P. Nolan\*



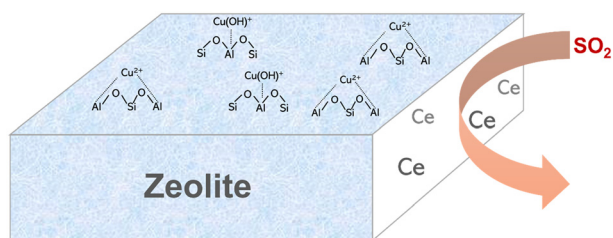
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### Effective construction of a B and N co-doped 3D porous carbon metal-free oxygen reduction reaction catalyst by a secondary pyrolysis strategy

Guang-Lan Li,\* Xin Wang, Fei Deng, Zhong-Fa Lu, Ce Hao, Suli Wang\* and Gongquan Sun



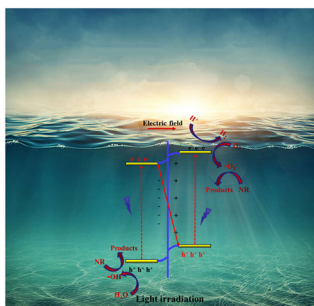
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### NO<sub>x</sub> reduction against sulfur poisoning by using Ce-modified Cu-SAPO-34 catalysts

Liumei Ge, Aiyong Wang, Xiaonan Hu, Jin Zhang, Jiebing He, Penglu Wang, Lupeng Han and Dongsong Zhang\*

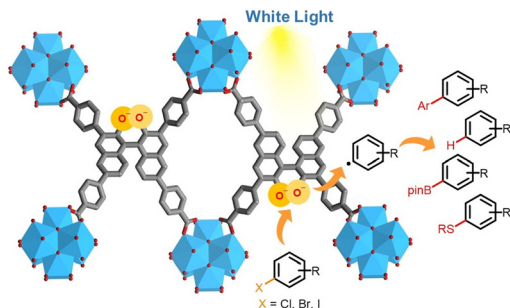
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### *In situ* construction of S-scheme heterojunction-conjugated polymer/g-C<sub>3</sub>N<sub>4</sub> photocatalysts for enhanced H<sub>2</sub> production and organic pollutant degradation

Na Mao

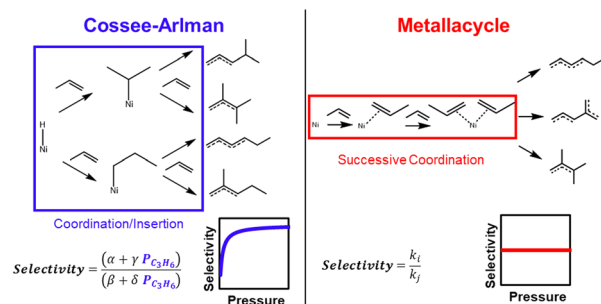
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### Binaphthol derivatives as catalysts for visible light induced aryl halide derivatizations

Zhenghua Zhao, Mingjie Liu, Kai Zhou, Yajing Shen, Longcheng Hong, Zongbi Bao, Qiwei Yang, Qilong Ren and Zhiguo Zhang\*

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### Validation of the Cossee–Arlman mechanism for propylene oligomerization on Ni/Uio-66

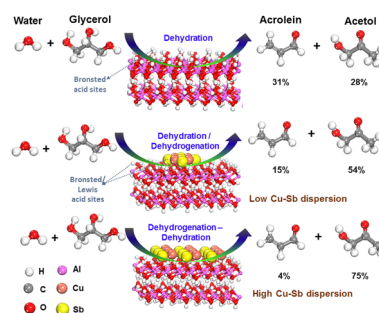
Benjamin Yeh, Saamil Chheda, Jian Zheng, Julian Schmid, Laura Löbber, Ricardo Bermejo-Deval, Oliver Y. Gutiérrez, Johannes A. Lercher, Laura Gagliardi and Aditya Bhan\*



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## Effect of Cu and Sb active sites on the acid–base properties and reactivity of hydrated alumina for glycerol conversion by dehydrogenation and dehydration reactions

Regina Claudia Rodrigues dos Santos,\*  
Moacir José da Silva Júnior, Gabriel Lima Nunes  
and Antoninho Valentini\*



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## Bandgap matching-triggered self-sustaining photocatalytic oxidation

Weiwei Cheng, Zhiqin Yuan,\* Yanjun Lin and Chao Lu\*

