

# Catalysis Science & Technology

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**Cover**  
See Mitsuharu Chisaka *et al.*, pp. 5669–5677.  
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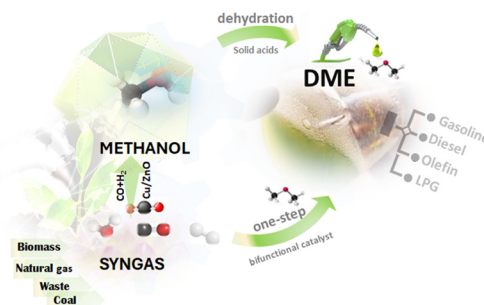
**Inside cover**  
See David Eisenberg *et al.*, pp. 5678–5689.  
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The authors would like to acknowledge Efrat (eshkat) Bronstein for the cover design.

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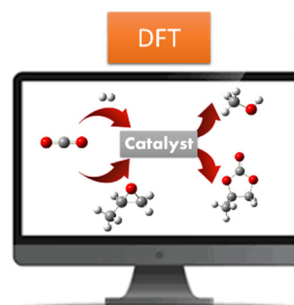
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Valeria Butera\* and Giampaolo Barone





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## REVIEWS

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## Advanced strategies for plastic upcycling: unlocking sustainable waste valorization pathways for a green and sustainable environment

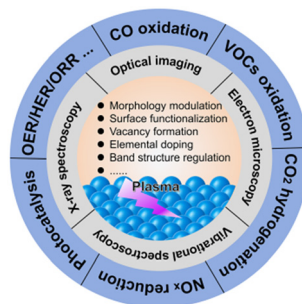
Talaat Hassan Habeeb\* and Umar Farooq\*



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Si Jiang, Yong Yin, Yang Zhang, Zimeng Li, Shuai Guo, Yaogeng Lu, Zhaoxi Zhang, Tianle Zhu, Yifei Sun and Xiang Li\*

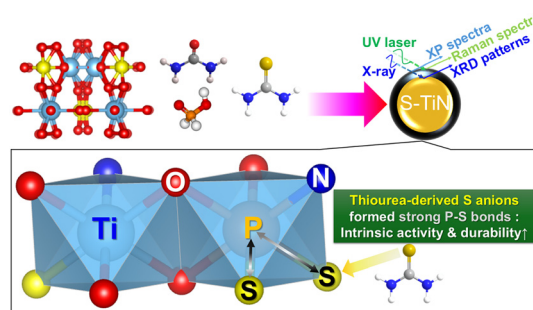


## PAPERS

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Mitsuharu Chisaka,\* Jubair A. Shamim and Hirofumi Daiguji



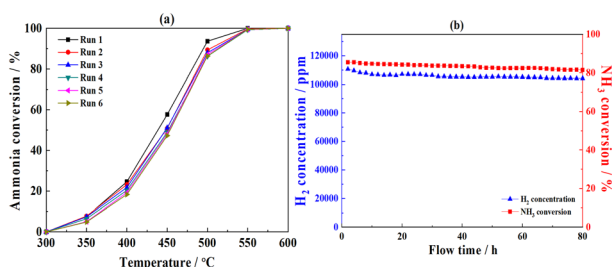
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## Biomass or bio-mess: tackling reproducibility in biomass-derived carbon electrocatalysts

Shir Tabac-Agam, Shelly Burda, Syeda M. Zahan, Dario R. Dekel and David Eisenberg\*



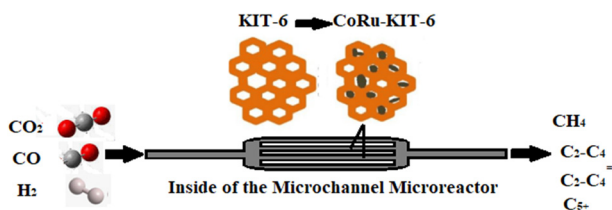
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Yeon-Bin Choi, Tae Wook Kang, Seo Ra Woo, Do yun Kim, Sun Woog Kim and Byungseo Bae\*

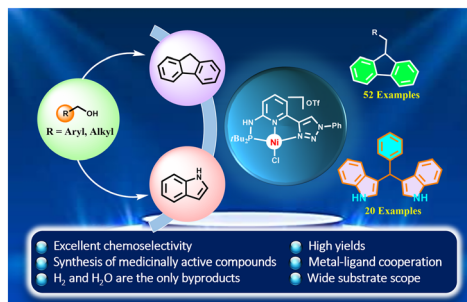
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Sujoy Bepari, Nafeezuddin Mohammad and Debasish Kuila\*

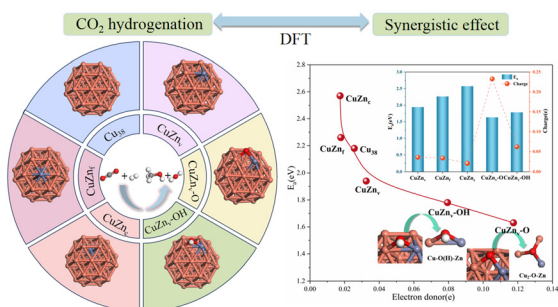
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Manali A. Mohite and Maravanji S. Balakrishna\*

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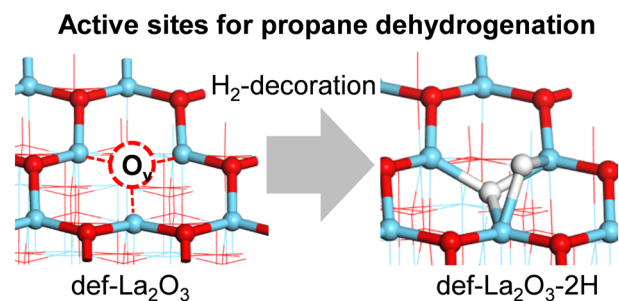
Caixia Song, Xiaojiao Zhang, Xuan Zhao, Yiwei Jia, Dong Duan and Hui Li\*



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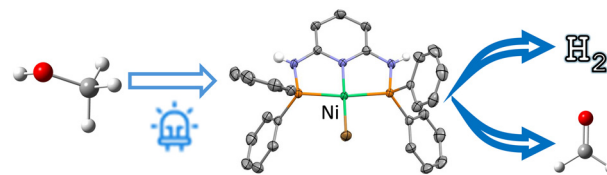
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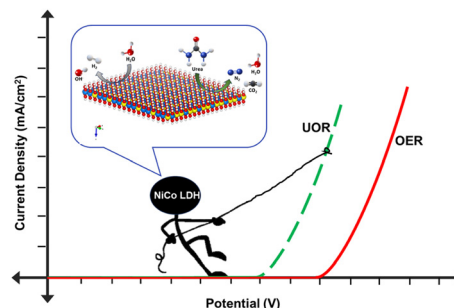
Eman Mohamad and Darrin Richeson\*



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### Urea-assisted hydrogen production: insights into Ni(Co, Mn) LDH-based multifunctional electrocatalysts

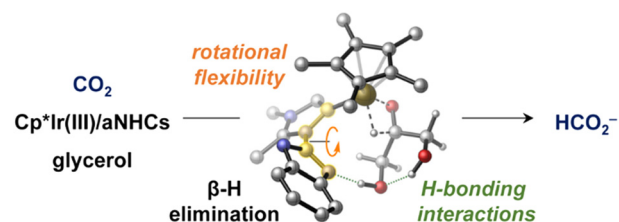
Subramanian Rajalekshmi, Kodiyarasu Sooriya, Suresh Varsha and Alagarsamy Pandikumar\*



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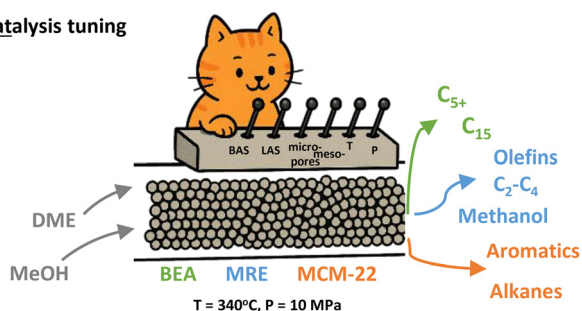
### Computational insights into Ir-catalyzed transfer hydrogenation of $\text{CO}_2$ to formate: critical roles of abnormal NHC ligands and hydrogen donors

Han Gao, Xiaofang Zhai, Feng Ye, Wujie Wang,\* Gang Lu\* and Yuliang Li\*



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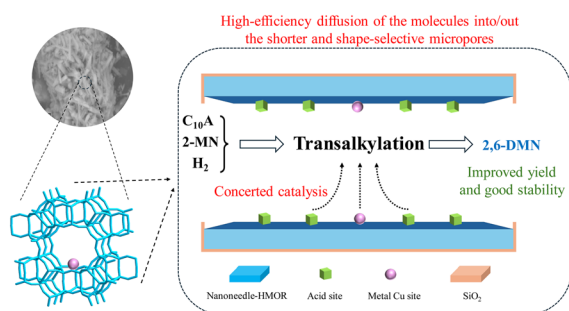
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## Conversion of dimethyl ether and methanol to hydrocarbons over zeolites with BEA, MRE, and MWW structures

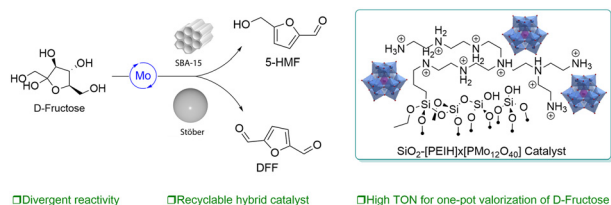
Maria V. Magomedova, Vera A. Ostroumova, Ilya A. Davidov, Ekaterina G. Galanova, Anastasiya V. Starozhitskaya\* and Anton L. Maximov

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Jiahao Wang, Qihao Yang and Junhui Li\*

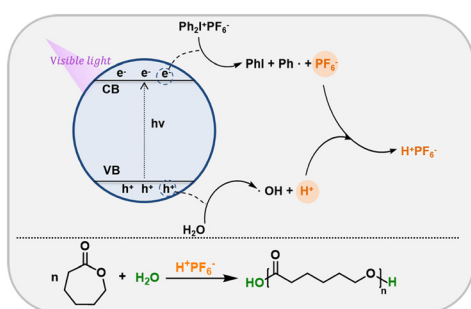
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## Catalytic valorisation of D-fructose and alcohols using silica-PEI-polyoxometalate composites

Israel T. Pulido-Díaz, Itzel Guerrero-Ríos\* and Dominique Agustin\*

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Yicheng Fan, Xiuyuan Ni\* and Wenbin Fu

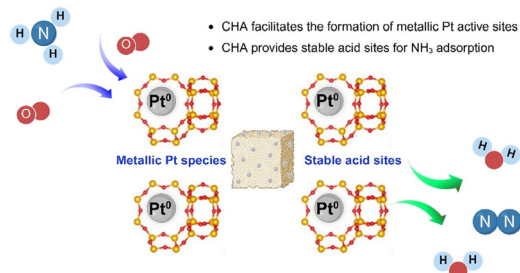


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## Unveiling the support effect in Pt-based catalysts for the selective catalytic oxidation of NH<sub>3</sub> under realistic diesel engine conditions

Daekun Kim, Shaohua Xie,\* Kailong Ye, Xing Zhang, Matthew T. Caudle, Lu Ma, Steven N. Ehrlich and Fudong Liu\*

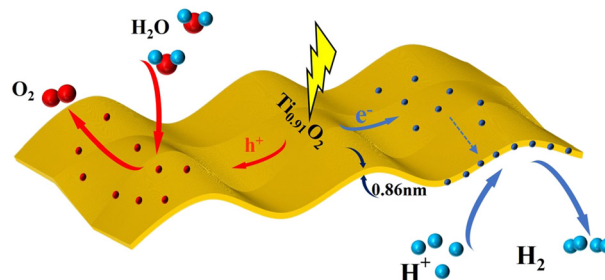
### Efficient Pt/CHA Catalyst for the Selective Catalytic Oxidation of Ammonia



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## Building monolayer Ti<sub>0.91</sub>O<sub>2</sub> nanosheets to enhance hydrogen production for photocatalytic water splitting

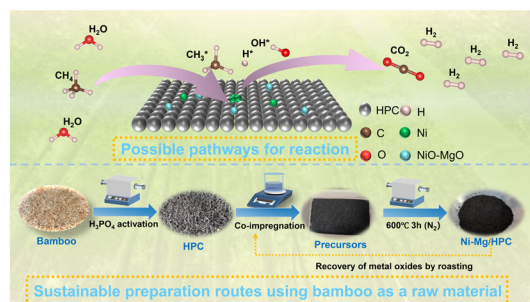
Canyi Qiu, Mukun Xu, Shitong Han,\* Liuhan Guo, Hua Zhao, Jinni Shen, Wenxin Dai, Xuxu Wang, Zizhong Zhang\* and Hailing Xi\*



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## Hierarchical porous carbon-supported bimetallic catalyst for enhanced low-temperature steam methane reforming

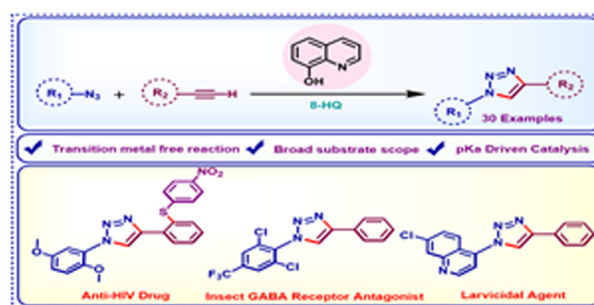
Yu-e Zhao, Jinxiao Li,\* Ao Xu, Yulong Liu, Minghui Lian, Jing Zhang, Hexiang Zhong, Chunhua Yang, Rensheng Song and Liwei Pan\*



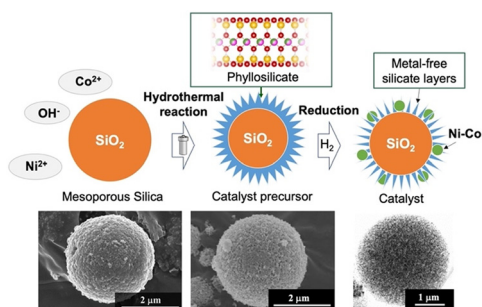
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Surbhi Bansal, Gopika R. Sreerexha, Ayanangshu Biswas, Alisha Sharma, Devika Girish, Debashis Adhikari\* and Sanjay Singh\*



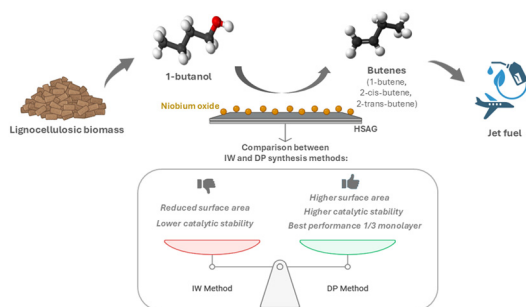
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### Fabrication of a highly stable Ni–Co bimetallic catalyst for the steam reforming of methane *via in situ* crystallization of phyllosilicate on porous spherical silica

Ryunosuke Nakamura, Hikari Minamisawa and Tomohiko Okada\*

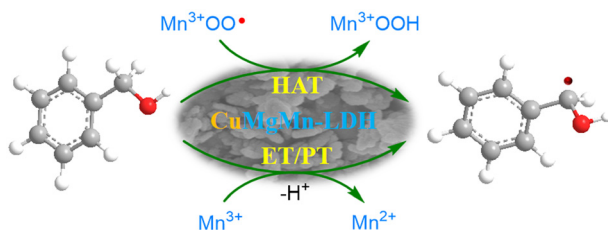
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### Niobium oxide deposited on high surface area graphite as a stable catalyst in the 1-butanol dehydration reaction

J. M. Conesa,\* A. Guerrero-Ruiz, I. Rodríguez-Ramos and M. V. Morales\*

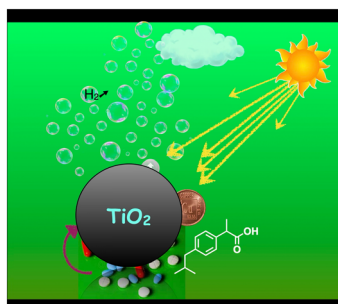
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Deqin Liang, Jiaqi Yan, Xiaojing Yin, Yu Wang, Jizhou Du, Junfeng Qian, Mingyang He\* and Weiyu Zhou\*

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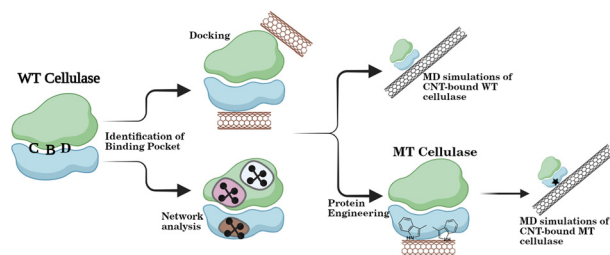
Nelson Rutajoga, Valerie Velez and Juan C. Scaiano\*



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Shubhashree Barik, Supriyo Mukherjee and Moumita Saharay\*



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Tamara S. Moraes, Victor B. Tinti, Daniel Z. de Florio, Andre S. Ferlauto, Fernando Piazzolla, Yohei Miura, David P. Dean, Hien N. Pham, Jeffrey T. Miller, Abhaya K. Datye and Fabio C. Fonseca\*

