

# Green Chemistry

Cutting-edge research for a greener sustainable future

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## IN THIS ISSUE

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### Cover

See Daipayan Roy,  
Imad A. Haidar Ahmad *et al.*,  
pp. 109–119.

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109.

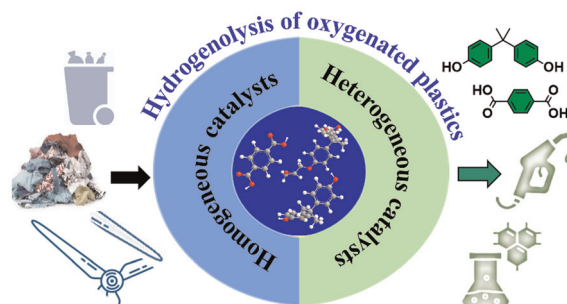
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## CRITICAL REVIEW

10

### Challenges and opportunities in catalytic hydrogenolysis of oxygenated plastics waste: polyesters, polycarbonates, and epoxy resins

Harisekhar Mitta, Lingfeng Li,  
Mohammadhossein Havaei, Dambarudhar Parida,  
Elias Feghali, Kathy Elst, Annelore Aerts,  
Karolien Vanbroekhoven and Kevin M. Van Geem\*

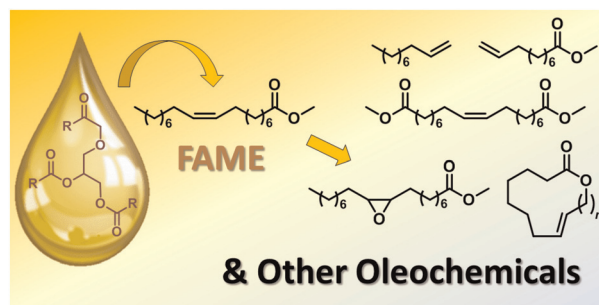


## TUTORIAL REVIEW

41

### The chemistry of oleates and related compounds in the 2020s

Pavel V. Ivchenko\* and Ilya E. Nifant'ev



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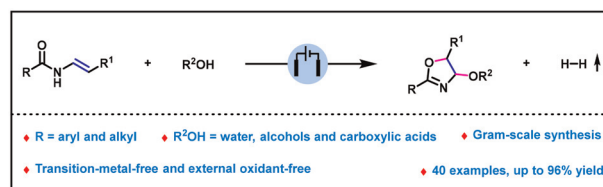
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## COMMUNICATIONS

96

**Electrochemical dehydrogenative annulation for the synthesis of 4-oxo-oxazolines**

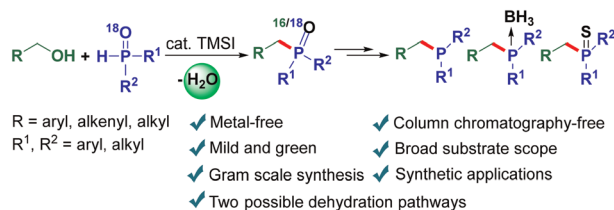
Yong Yuan,\* Xincong Liu, Feng Zhang, Chunyan Bai, Yuyan Tao, Xiazhen Bao, Dongsheng Ji and Congde Huo



102

**Metal-free catalytic nucleophilic substitution of primary alcohols with secondary phosphine oxides**

Xiantao Ma,\* Xiaoyu Yan, Jing Yu, Jiarui Guo, Jiakun Bian, Ran Yan, Qing Xu\* and Li-Biao Han\*

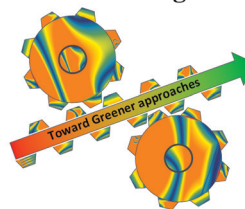


## PAPERS

109

**In silico modeling enables greener analytical and preparative chromatographic methods**

Troy T. Handlovic, Daipayan Roy,\* Muhammad Qamar Farooq, Gabriel Mazzi Leme, Kevin Crossley and Imad A. Haidar Ahmad\*

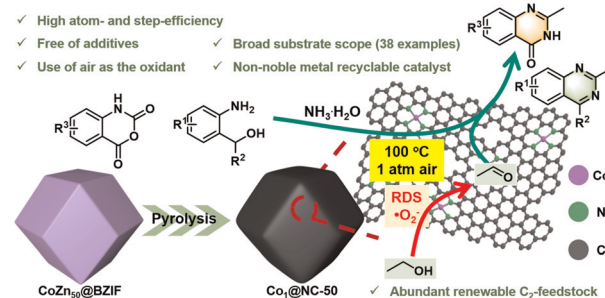
**In Silico Modeling Enables “Greener” Methodology**

- Applied to chromatographic methods at
  - ✓ Analytical scale
  - ✓ Preparative scale
- Less waste generated
- Switch to greener solvents & additives
- Scientific and Robust

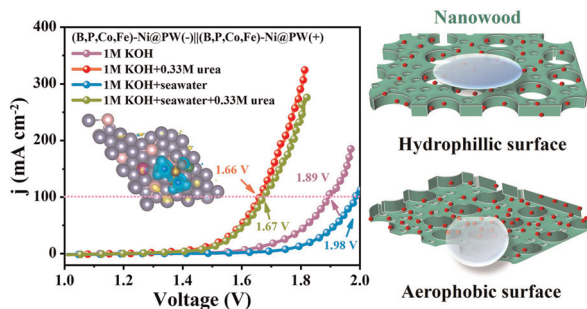
120

**Single cobalt atom catalysis for the construction of quinazolines and quinazolinones via the aerobic dehydrocyclization of ethanol**

Xueping Zhang, Kai Xu, Yi Zhuang, Shihao Yuan, Yamei Lin and Guo-Ping Lu\*



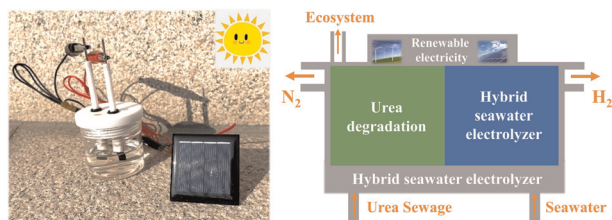
133



### (B,P,Co,Fe)-Ni modified on nanowood for boosting seawater urea electro-oxidation

Hongjiao Chen, Kewei Zhang, Yanzhi Xia, Jian Li and Bin Hui\*

144



### Crystalline/amorphous c-NiMo/a-NiMoO<sub>x</sub> nanoarrays for urea-assisted energy-saving H<sub>2</sub> production in alkaline seawater

Dongxue Guo,\* Yi Ping, Chuanjiao Wang, Changan Hou and Danhong Wang\*

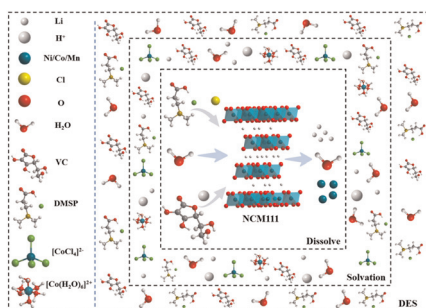
155



### DIPEA-induced Si–H activation of siloxane for hydrosilylation polymerization *via* metal-free photocatalysis

Hangcen Xie, Rui Xu, Bin Huang, Pingping Lou, Hua-Feng Fei\* and Zhijie Zhang\*

163



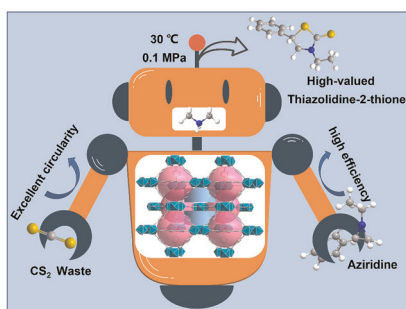
### High-efficiency leaching of valuable metals from waste lithium-ion ternary batteries under mild conditions using green deep eutectic solvents

Bo Li, Chengping Li, Jinsong Wang, Rundong Wan, Jiangzhao Chen, Ying Liu, Zhengfu Zhang,\* Yuejing Bin,\* Xiaoping Yang,\* Chongjun Bao and Shaohua Ju





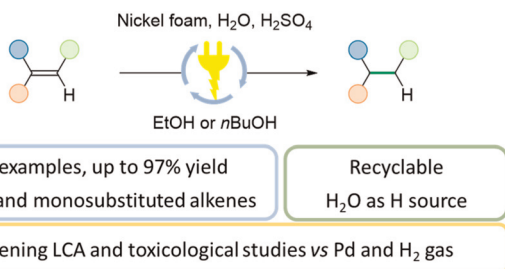
218



### High-efficiency green catalytic conversion for waste CS<sub>2</sub> by non-noble metal cage-based MOFs: an access pathway to high-value thiazolidine-2-thione

Wenyu Ding, Xinyu Tang, Sheng Jin, Zhao Li, Dongwei Xu, Xiaomin Kang\* and Zhiliang Liu\*

227



### Electrochemical hydrogenation of alkenes over a nickel foam guided by life cycle, safety and toxicological assessments

Pedro J. Tortajada, Therese Kärnman, Pablo Martínez-Pardo, Charlotte Nilsson, Hanna Holmqvist, Magnus J. Johansson and Belén Martín-Matute\*

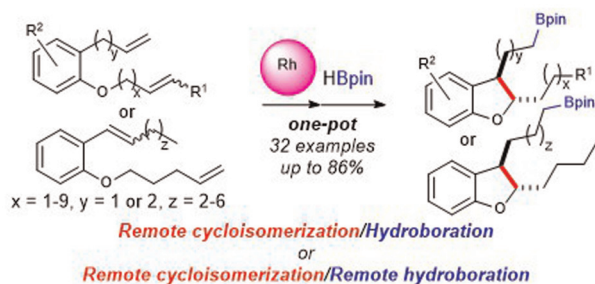
240



### A green and efficient strategy to utilize spent SCR catalyst carriers: *in situ* remediation of Cu@TiO<sub>2</sub> for photocatalytic hydrogen evolution

Zhuo Wang, Ling Ma, Bingzhang Chen, Yubo Zhang, Kai Hong Wong, Wei Zhao, Chunxia Wang,\* Guoyong Huang\* and Shengming Xu

248



### Multitasking rhodium-catalyzed remote C(sp<sup>3</sup>)-H functionalization reactions of acyclic dienes to yield benzene-fused heterocycles

Yuta Sato, Momoko Nagafuchi, Masaharu Takatsuki, Tsuyoshi Matsuzaki, Takeyuki Suzuki, Makoto Sako and Mitsuhiro Arisawa\*



256

## Halogen-bond-assisted radical remote difunctionalization of bicyclo[1.1.1]butane skeletons

Hui Liu, Zhenda Fu, Xingwei Li\* and Songjie Yu\*

