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Authors: Xiaodan Li, Binhang Yan, Siyu Yao, Shyam Kattel, Jingguang G. Chen, Tiefeng Wang



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Xiaodan Li^{a,b}, Binhang Yan^{a,c}, Siyu Yao^c, Shyam Kattel^c, Jingguang G. Chen^{b,c,*}, Tiefeng Wang^{a,*}

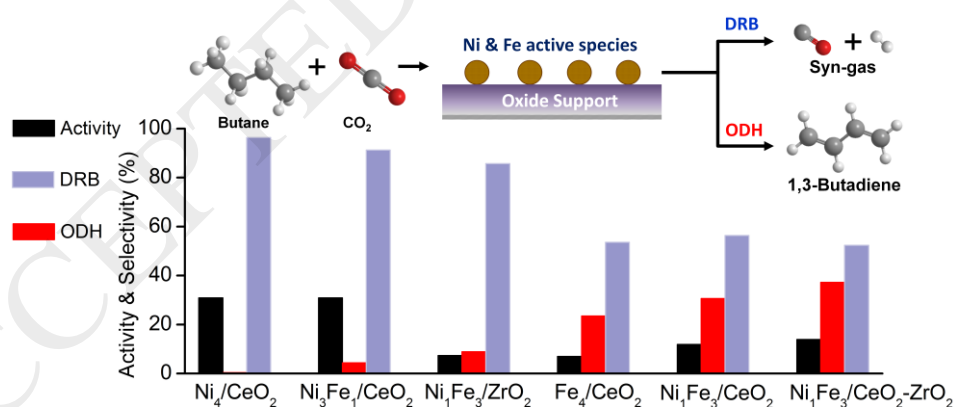
^a Beijing Key Laboratory of Green Reaction Engineering and Technology, Department of Chemical Engineering, Tsinghua University, Beijing 100084, China

^b Department of Chemical Engineering, Columbia University, New York, NY 10027, USA

^c Chemistry Department, Brookhaven National Laboratory, New York, NY 11973, USA

* Corresponding author: jgchen@columbia.edu ; wangtf@tsinghua.edu.cn

Graphical abstract



Highlights

- *n*-Butane is dehydrogenated to 1,3-butadiene with CO₂ as a soft oxidant.
- Ni₁Fe₃/CeO₂ and Ni₃Fe₁/CeO₂ are selective for the ODH of *n*-butane to 1,3-butadiene and the

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