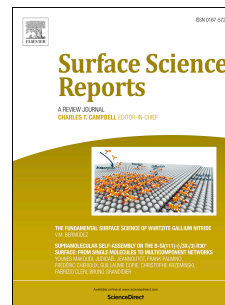


Accepted Manuscript

Regulating the surface of nanoceria and its applications in heterogeneous catalysis

Yuanyuan Ma, Wei Gao, Zhiyun Zhang, Sai Zhang, Zhimin Tian, Yuxuan Liu, Johnny C. Ho, Yongquan Qu



PII: S0167-5729(18)30010-4

DOI: [10.1016/j.surfrep.2018.02.001](https://doi.org/10.1016/j.surfrep.2018.02.001)

Reference: SUSREP 457

To appear in: *Surface Science Reports*

Accepted Date: 2 February 2018

Please cite this article as: Y. Ma, W. Gao, Z. Zhang, S. Zhang, Z. Tian, Y. Liu, J.C. Ho, Y. Qu, Regulating the surface of nanoceria and its applications in heterogeneous catalysis, *Surface Science Reports* (2018), doi: 10.1016/j.surfrep.2018.02.001.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Regulating the Surface of Nanoceria and its Applications in Heterogeneous Catalysis

Yuanyuan Ma^a, Wei Gao^{a,b,c}, Zhiyun Zhang^a, Sai Zhang^a, Zhimin Tian^a, Yuxuan Liu^a, Johnny C. Ho^{b,c}, Yongquan Qu^{a*}

^a Center for Applied Chemical Research, Frontier Institute of Science and Technology, and Shaanxi Key Laboratory of Energy Chemical Process Intensification, School of Chemical Engineering and Technology, Xi'an Jiaotong University, Xi'an 710049, China.

^b Department of Materials Science and Engineering City University of Hong Kong 83 Tat Chee Avenue, Kowloon, Hong Kong, P. R. China

^c Shenzhen Research Institute City University of Hong Kong Shenzhen, 518057, P. R. China

Abstract

Ceria (CeO₂) as a support, additive, and active component for heterogeneous catalysis has been demonstrated to have great catalytic performance, which includes excellent thermal structural stability, catalytic efficiency, and chemoselectivity. Understanding the surface properties of CeO₂ and the chemical reactions occurred on the corresponding interfaces is of great importance in the rational design of heterogeneous catalysts for various reactions. In general, the reversible Ce³⁺/Ce⁴⁺ redox pair and the surface acid-base properties contribute to the superior intrinsic

Download English Version:

<https://daneshyari.com/en/article/7844982>

Download Persian Version:

<https://daneshyari.com/article/7844982>

[Daneshyari.com](https://daneshyari.com)