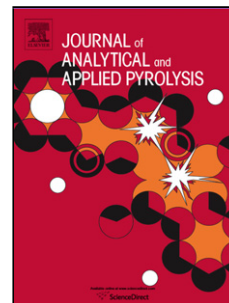


## Accepted Manuscript

Title: Bio-oil production from sequential two-step microwave-assisted catalytic fast pyrolysis of water hyacinth using Ce-doped  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>/ZrO<sub>2</sub> composite mesoporous catalyst

Authors: Bo Zhang, Zhaoping Zhong, Tong Li, Zeyu Xue, Roger Ruan



PII: S0165-2370(18)30154-2  
DOI: <https://doi.org/10.1016/j.jaap.2018.03.006>  
Reference: JAAP 4280

To appear in: *J. Anal. Appl. Pyrolysis*

Received date: 13-2-2018  
Revised date: 1-3-2018  
Accepted date: 4-3-2018

Please cite this article as: Bo Zhang, Zhaoping Zhong, Tong Li, Zeyu Xue, Roger Ruan, Bio-oil production from sequential two-step microwave-assisted catalytic fast pyrolysis of water hyacinth using Ce-doped  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>/ZrO<sub>2</sub> composite mesoporous catalyst, Journal of Analytical and Applied Pyrolysis <https://doi.org/10.1016/j.jaap.2018.03.006>

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.

# Bio-oil production from sequential two-step microwave-assisted catalytic fast pyrolysis of water hyacinth using Ce-doped $\gamma$ -Al<sub>2</sub>O<sub>3</sub>/ZrO<sub>2</sub> composite mesoporous catalyst

Bo Zhang,<sup>\* a,b,c</sup> Zhaoping Zhong,<sup>\* a</sup> Tong Li,<sup>a</sup> Zeyu Xue<sup>a</sup> and Roger Ruan<sup>c</sup>

<sup>a</sup> Key Laboratory of Energy Thermal Conversion and Control of Ministry of Education, Southeast University, Nanjing, Jiangsu 210096, China.

<sup>b</sup> Key Laboratory of Coal Science and Technology, Taiyuan University of Technology, Taiyuan, Shanxi 030024, China

<sup>c</sup> Center for Biorefining and Department of Bioproducts and Biosystems Engineering, University of Minnesota, 1390 Eckles Ave., St. Paul, MN 55108, USA

\* Corresponding author. Tel./fax: +86 25 83794700.

E-mail address: bozhang@seu.edu.cn (B. Zhang) and zzhong@seu.edu.cn (Z. Zhong).

## Highlights

- A sequential two-step microwave-induced catalytic pyrolysis is developed.
- Pyrolysis and catalytic upgrading are independently controlled.
- Water hyacinth is a good biomass candidate for fuel demand.
- Composite mesoporous catalyst favors hydrocarbon production.

Download English Version:

<https://daneshyari.com/en/article/7606304>

Download Persian Version:

<https://daneshyari.com/article/7606304>

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