

Accepted Manuscript

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PII: S0960-8524(18)31423-8

DOI: <https://doi.org/10.1016/j.biortech.2018.10.009>

Reference: BITE 20573

To appear in: *Bioresource Technology*

Received Date: 27 September 2018

Revised Date: 2 October 2018

Accepted Date: 3 October 2018

Please cite this article as: Kim, Y., Lee, J., Yi, H., Fai Tsang, Y., Kwon, E.E., Investigation into Role of CO₂ in Two-Stage Pyrolysis of Spent Coffee Grounds, *Bioresource Technology* (2018), doi: <https://doi.org/10.1016/j.biortech.2018.10.009>

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Investigation into Role of CO₂ in Two-Stage Pyrolysis of Spent Coffee Grounds

Youkwan Kim^{1,a}, Jechan Lee^{2,a}, Haakrho Yi³, Yiu Fai Tsang⁴, and Eilhann E. Kwon^{1,*}

¹*Department of Environment and Energy, Sejong University, Seoul, 05005, South Korea*

²*Department of Environmental and Safety Engineering, Ajou University, Suwon, 16499, South Korea*

³*Gwangyang Research Group, Research Institute of Industrial Science and Technology, Gwangyang, 37673, South Korea*

⁴*Department of Science and Environmental Studies, Education University of Hong Kong, Tai Po, New Territories, Hong Kong*

Abstract

As a way of improving process efficiency of pyrolysis of waste biomass, the effect of carbon dioxide (CO₂) on pyrolysis of spent coffee grounds (SCGs) was examined using a two-stage pyrolysis reactor consisting of a region with increasing temperature and an isothermal region. It was experimentally validated that CO₂ accelerates thermal cracking of organic compounds formed during the pyrolysis of SCGs. The expedited thermal cracking attributed to employing CO₂ in pyrolysis of SCGs led to changing pyrolytic products in gas,

^aThese authors are co-first authors because they contributed equally to this work.

*Corresponding author: Prof. Eilhann E. Kwon (E-mail: ekwon74@sejong.ac.kr)

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