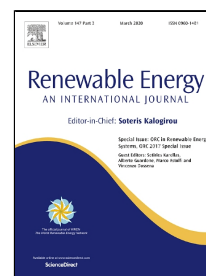


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PII: S0960-1481(19)31961-5  
DOI: <https://doi.org/10.1016/j.renene.2019.12.089>  
Reference: RENE 12798

To appear in: *Renewable Energy*

Received Date: 30 July 2019  
Accepted Date: 20 December 2019

Please cite this article as: Chunxiang Chen, Dengchang Huang, Xiaoyan Bu, Yuting Huang, Jun Tang, Chenxu Guo, Shengxiong Yang, Haozhong Huang, Microwave-assisted catalytic pyrolysis of *Dunaliella salina* using different compound additives, *Renewable Energy* (2019), <https://doi.org/10.1016/j.renene.2019.12.089>

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## Microwave-assisted catalytic pyrolysis of *Dunaliella salina* using different compound additives

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### Abstract

Microwave-assisted pyrolysis of *Dunaliella salina* was carried out. The effect of different types (mixtures of activated carbon (AC) with CaO and AC with Fe<sub>2</sub>O<sub>3</sub>), different adding amounts (5, 10, 15, and 20%), and different mixing ratios (0:10, 3:7, 4:6, 5:5, 6:4, 7:3, and 10:0) of compound additives was evaluated, the results were compared with those of single additive and no additive groups. When the compound additive was a mixture of AC and CaO, the maximum weight loss rate ( $R_m$ ) and average weight loss rate ( $R_v$ ) of AC/CaO = 6:4 group at 20% addition were the largest, whereas the times corresponding to  $R_m$  ( $t_m$ ) and weight stabilization ( $t_s$ ) were the smallest. The total weight loss ( $M_t$ ) of AC/CaO = 0:10 and 4:6 groups at 20% addition were the largest. When the compound additive was a mixture of AC and Fe<sub>2</sub>O<sub>3</sub>, the  $R_v$  and  $R_m$  of AC/Fe<sub>2</sub>O<sub>3</sub> = 5:5 group at 15% addition were the largest, while the  $t_s$  and  $t_m$

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