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Production of bio-oil and biochar from soapstock via microwave-assisted cocatalytic fast pyrolysis

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ACCEPTED MANUSCRIPT

1	Production of bio-oil and biochar from soapstock via microwave-
2	assisted co-catalytic fast pyrolysis
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11	Abstract
12	In this study, production of bio-oil and biochar from soapstock via microwave-
13	assisted co-catalytic fast pyrolysis combining the advantages of in-situ and ex-situ
14	catalysis was performed. The effects of catalyst and pyrolysis temperature on product
15	fractional yields and bio-oil chemical compositions were investigated. From the
16	perspective of bio-oil yield, the optimal pyrolysis temperature was 550 °C. The use of
17	catalysts reduced the water content, and the addition of bentonite increased the bio-oil
18	yield. Up to 84.16 wt.% selectivity of hydrocarbons in the bio-oil was obtained in the
19	co-catalytic process. In addition, the co-catalytic process can reduce the proportion of
20	oxygenates in the bio-oil to 15.84 wt.% and eliminate the N-containing compounds

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