

Supplementary Material



## Influence of Phenethyl Acetate and Naphthalene Addition before and after Pyrolysis on the Quantitative Analysis of Bio-oil

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Figure S1. Schematic diagram of experimental device.



**Figure S2.** The composition distribution of noncondensable gas from tobacco waste (TW) and sawdust waste (SW) with and without the addition of phenethyl acetate (-phe) and naphthalene (-nap).



**Figure S3.** FTIR analysis of biochar from tobacco waste (TW) and sawdust waste (SW) with and without the addition of phenethyl acetate (-phe) and naphthalene (-nap): (**a**) the biochar from tobacco waste (TW); (**b**) the biochar from sawdust waste (SW).



**Figure S4.** GC/MS chromatograms of (**a**) bio-oil from tobacco waste with the addition of phenethyl acetate (**b**) bio-oil from sawdust waste with the addition of phenethyl acetate (**c**) bio-oil from tobacco waste with the addition of phenethyl acetate before pyrolysis (**d**) bio-oil from sawdust waste with the addition of phenethyl acetate before pyrolysis (**e**) bio-oil from tobacco waste with the addition of naphthalene before pyrolysis (**f**) bio-oil from sawdust waste with the addition of naphthalene before pyrolysis.



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