

*Supplementary material for Article*

# Pyrolysis of solid digestate from sewage sludge and lignocellulosic biomass: kinetic and thermodynamic analysis, characterization of biochar

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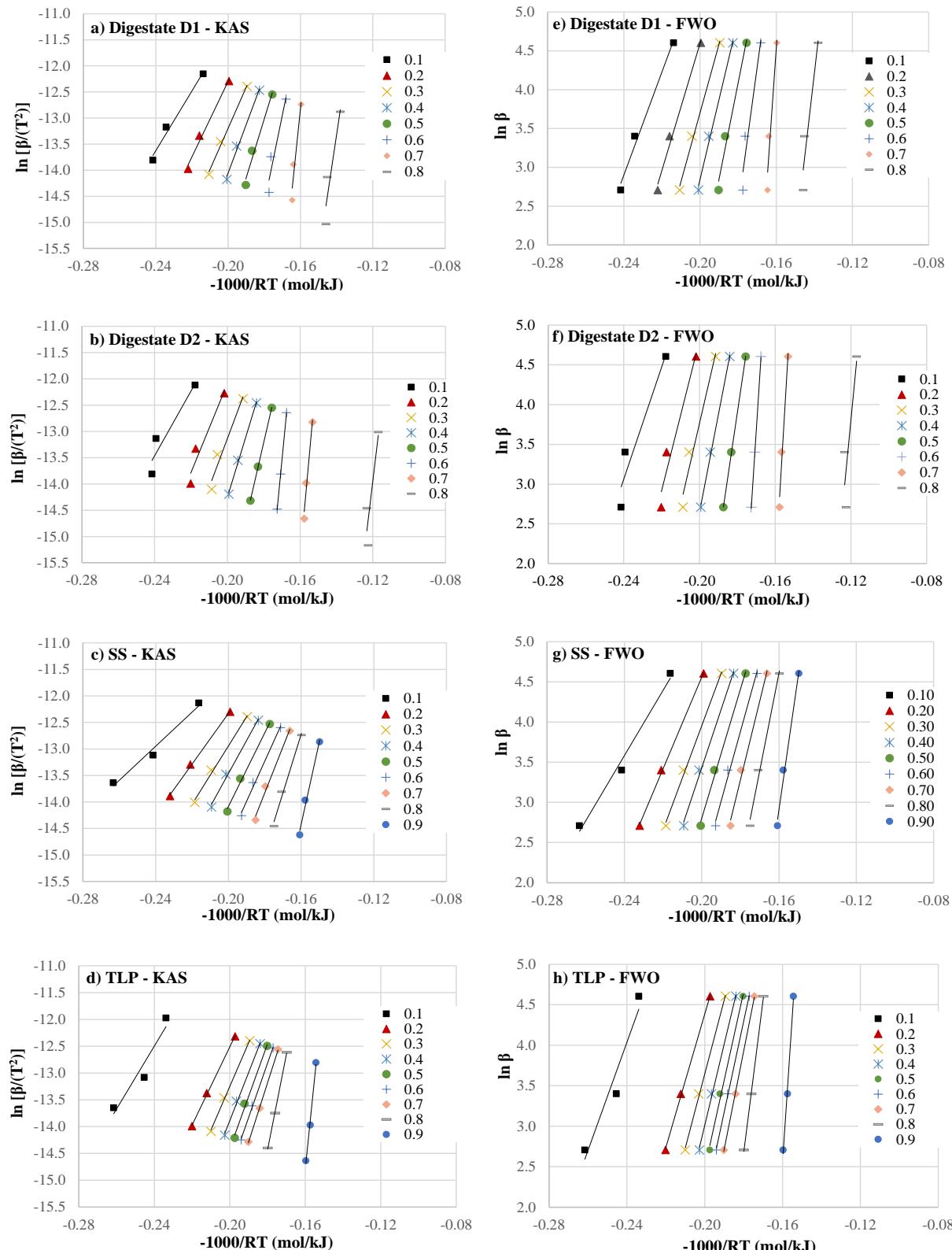
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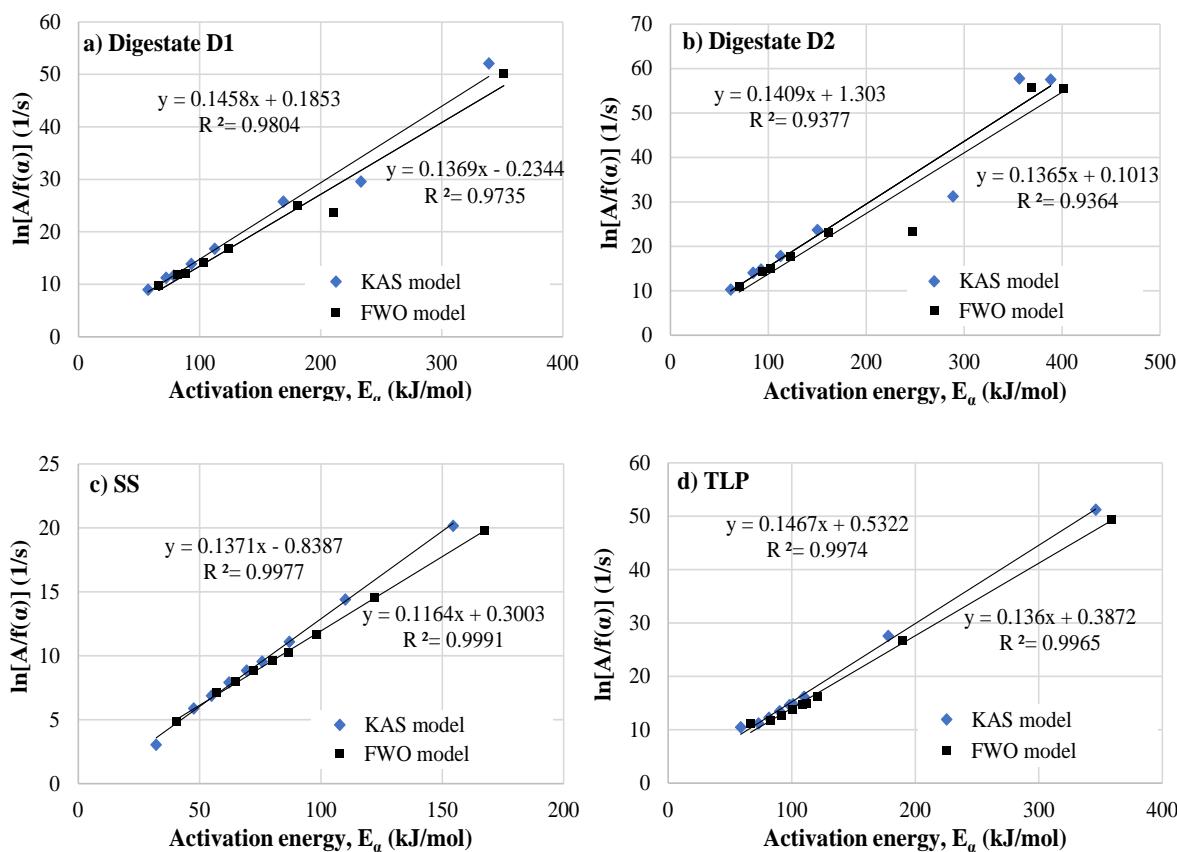
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**Table S1:** Composition of the digestate mixtures D1 and D2.

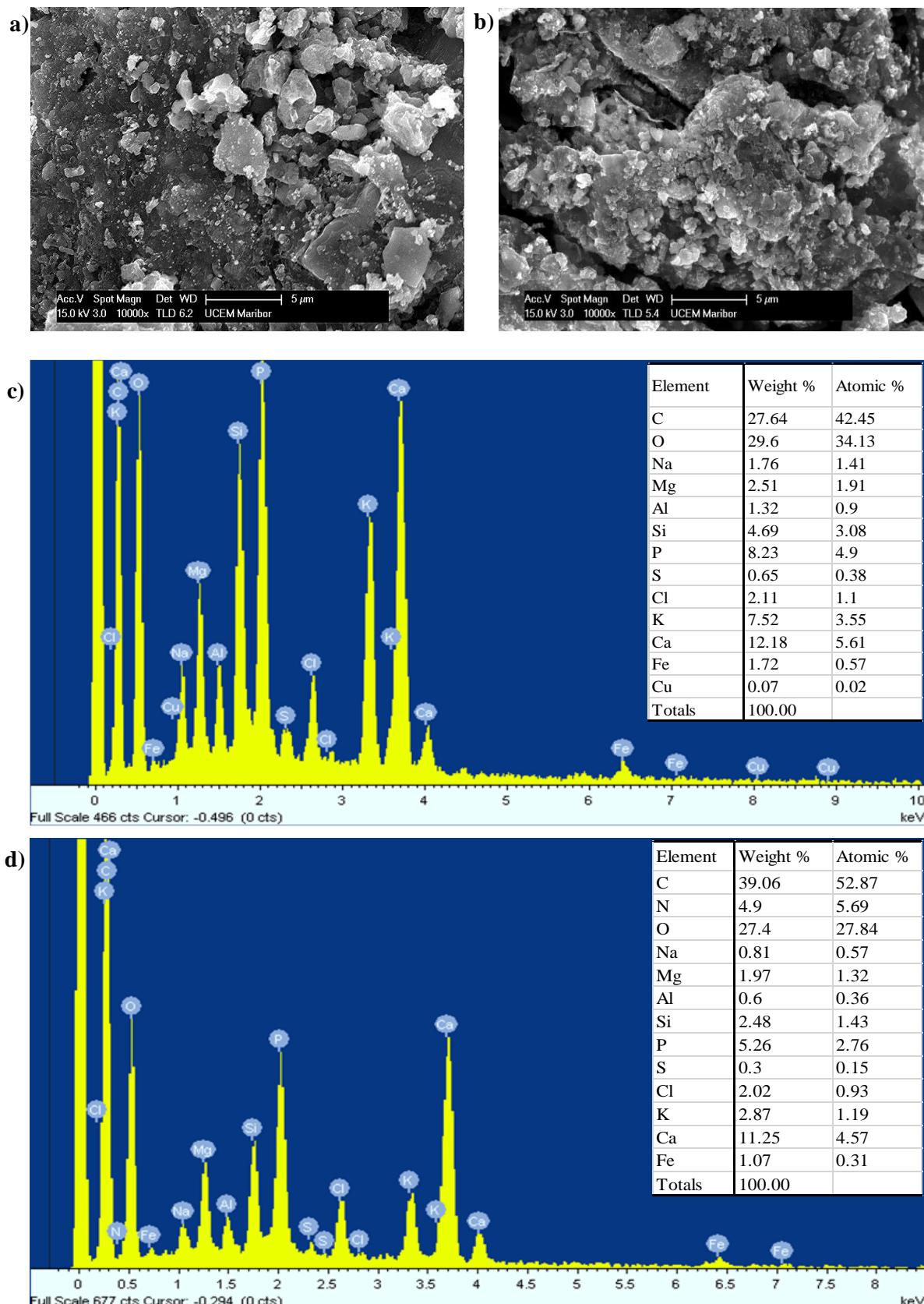
Digestate	Inoculum (g d.m.)	Sewage sludge (g d.m.)	<i>Typha latifolia</i> plant (g d.m.)	Cattle rumen fluid (mL)
D1	15	15	/	50
D2	15	7.5	7.5	50



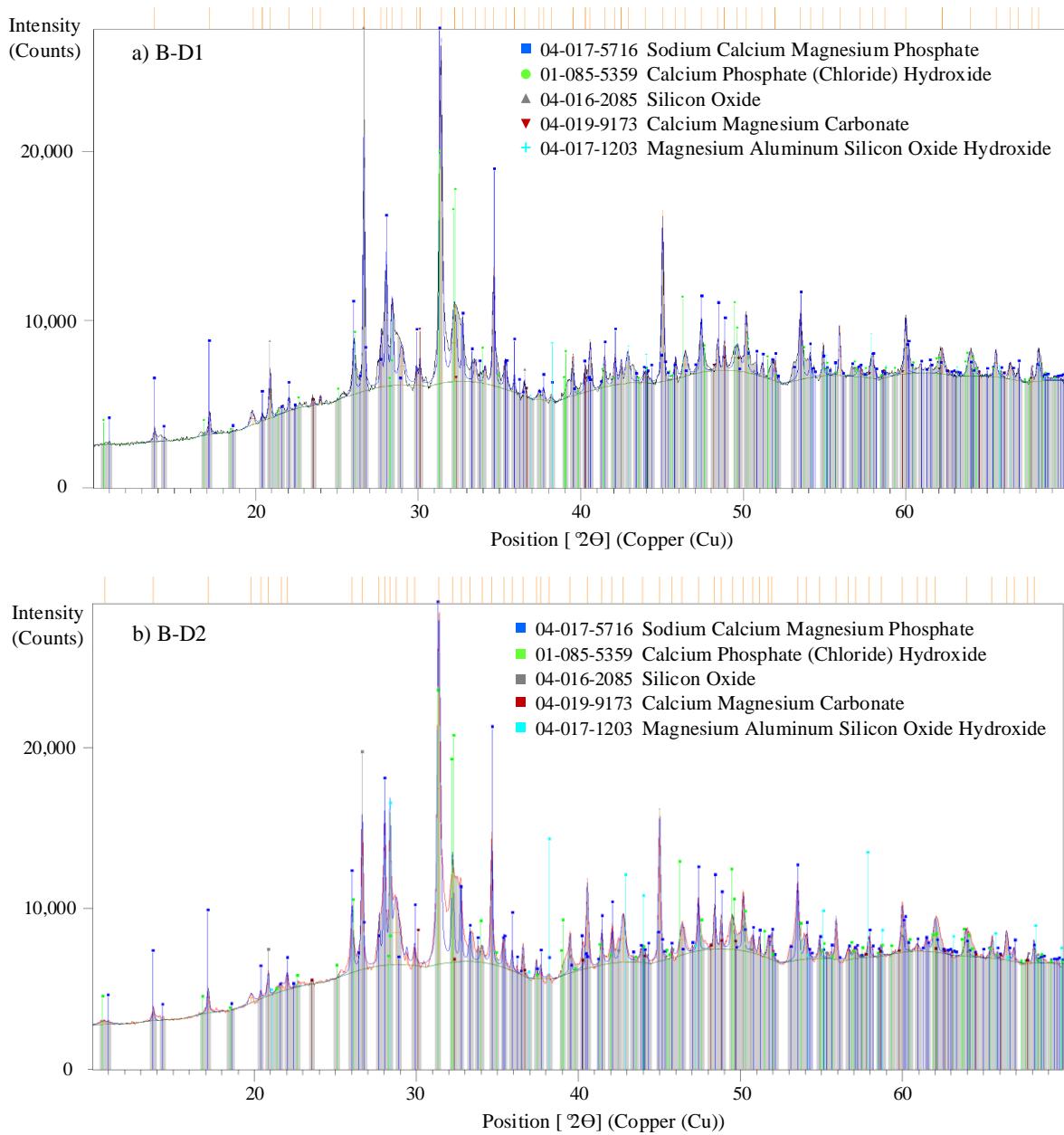
**Figure S1.** Linear fit plots for FWO (a-d) and KAS method (e-h) to determine activation energy values for digestate D1 (a, e), digestate D2 (b, f), sewage sludge (c, g), and *T. latifolia* (d, h).



**Figure S2.** Linear fit plots for the compensation effects between the pre-exponential factors  $\ln(A/f(\alpha))$  and the activation energy  $E_\alpha$  for: a) digestate D1 b) digestate D2 c) sewage sludge and d) *T. Latifolia*



**Figure S3.** SEM images of biochars B-D1 (a) and B-D2 (b), and EDS spectra of biochars B-D1 (c) and B-D2 (d).



**Figure S4.** The XRD diffractograms of biochars B-D1 (a) and B-D2 (b).