

## **Supplementary Materials**

# **Unravelling the Role of Biochemical Compounds within the Hydrothermal Liquefaction Process of Real Sludge Mixtures**

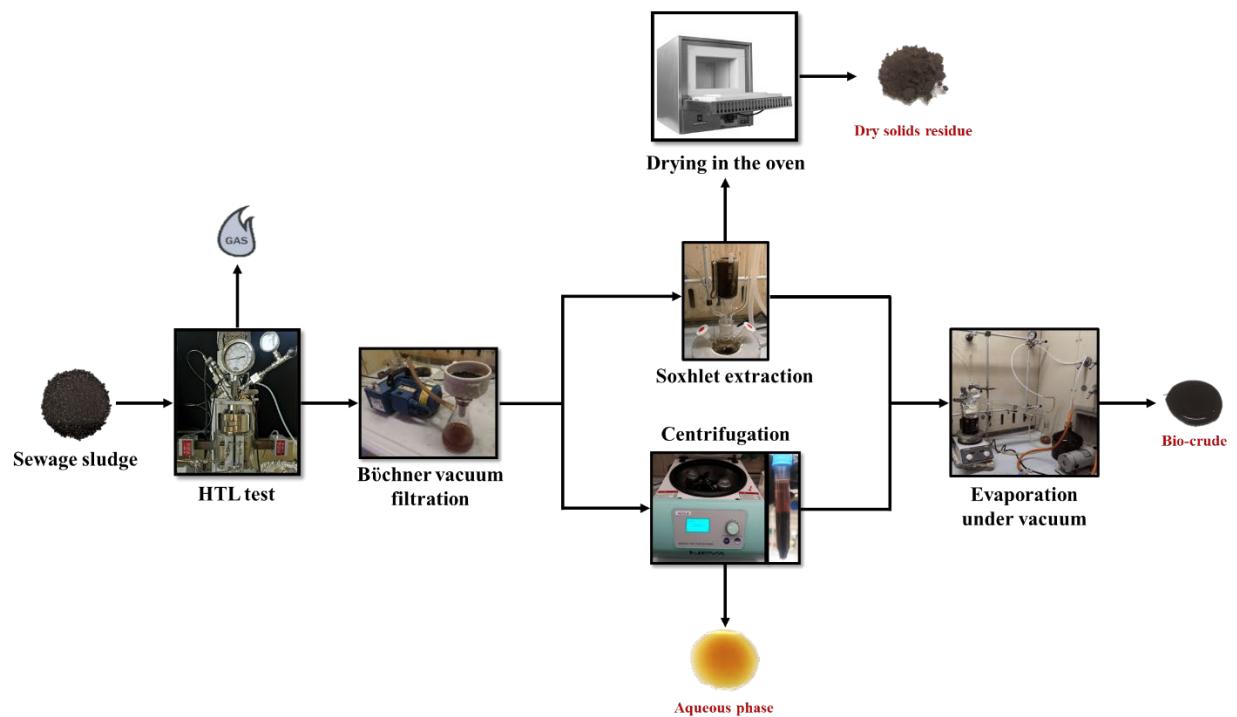
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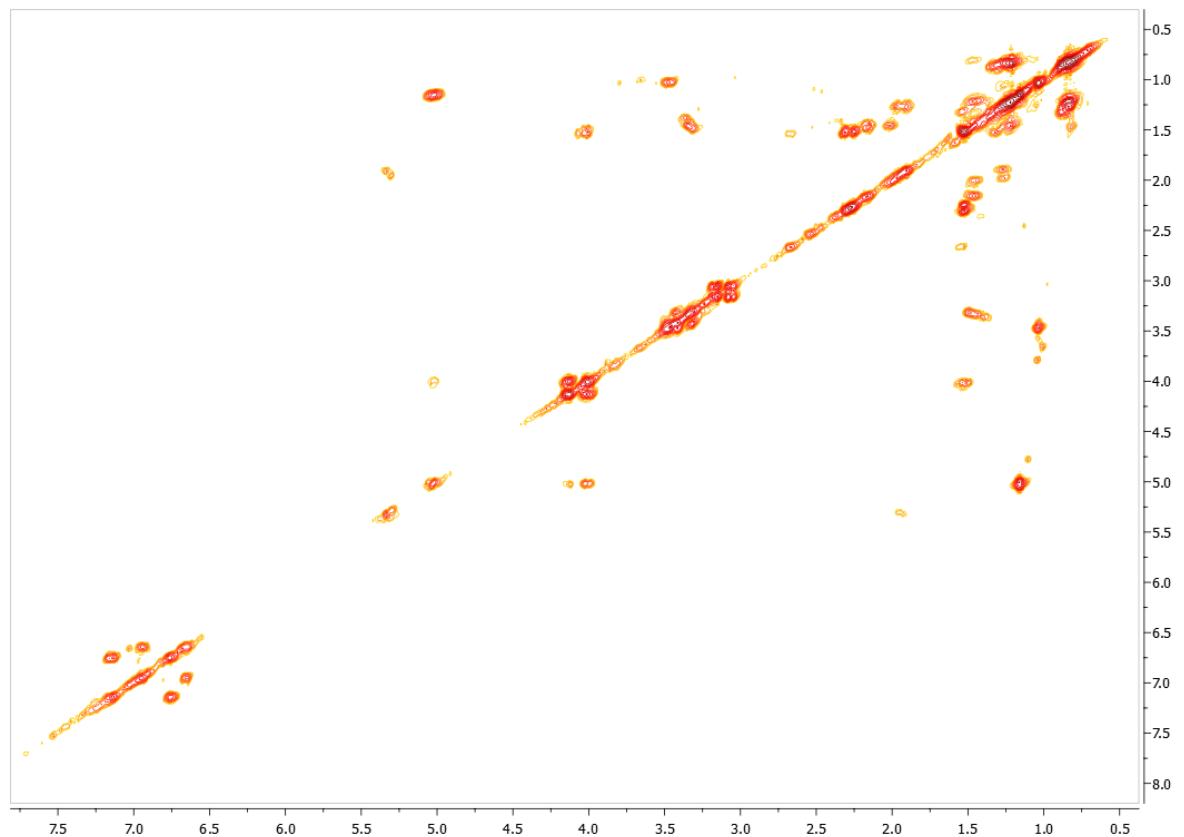
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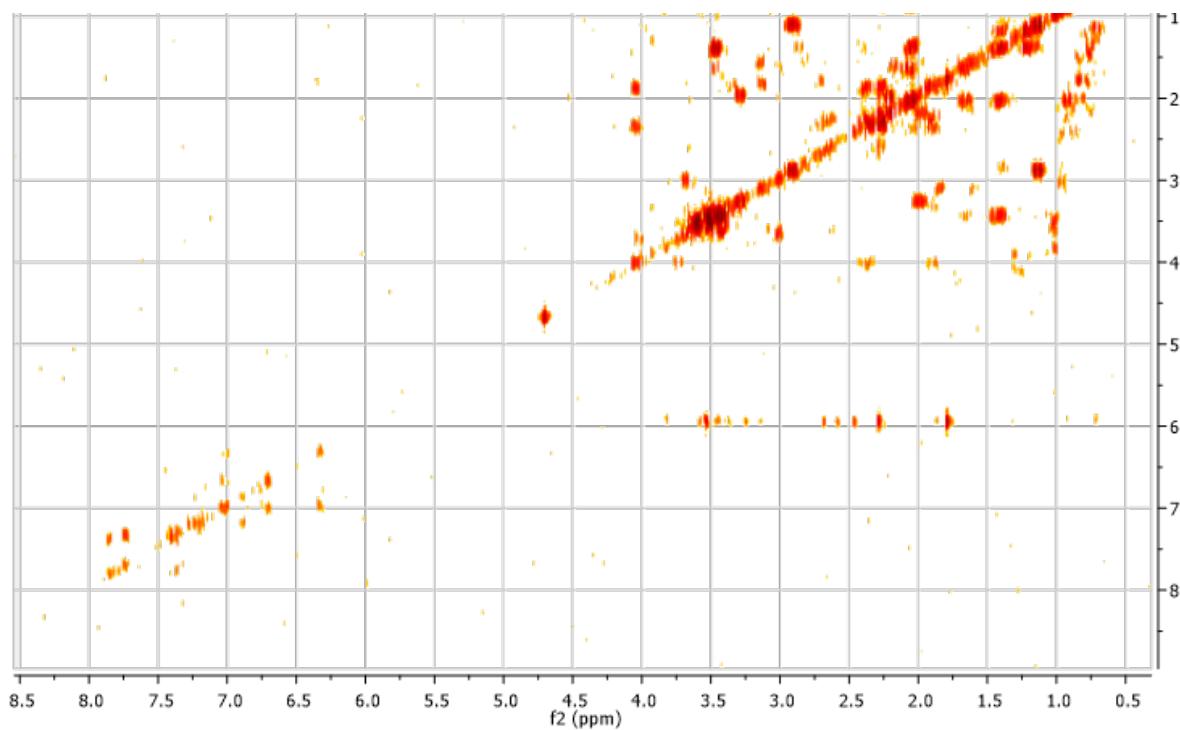
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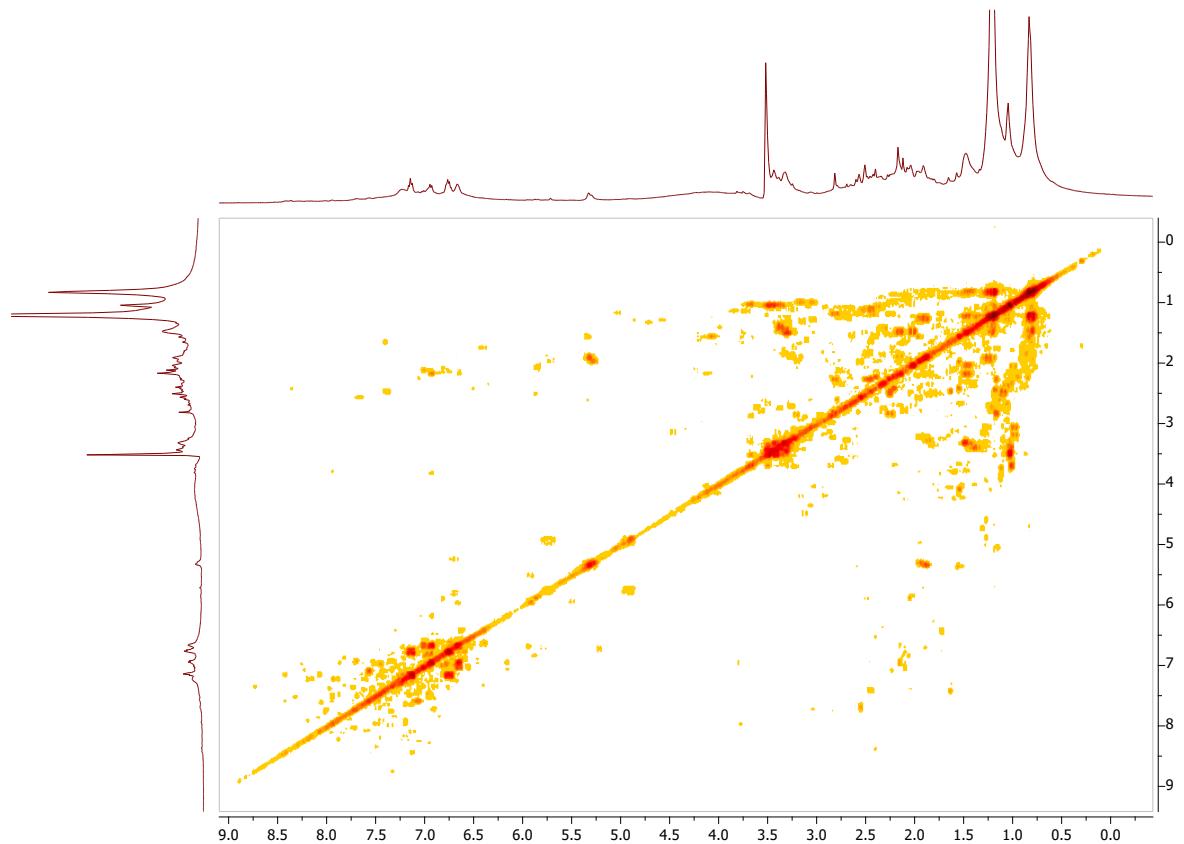
**Figure S1.** HTL products separation steps.



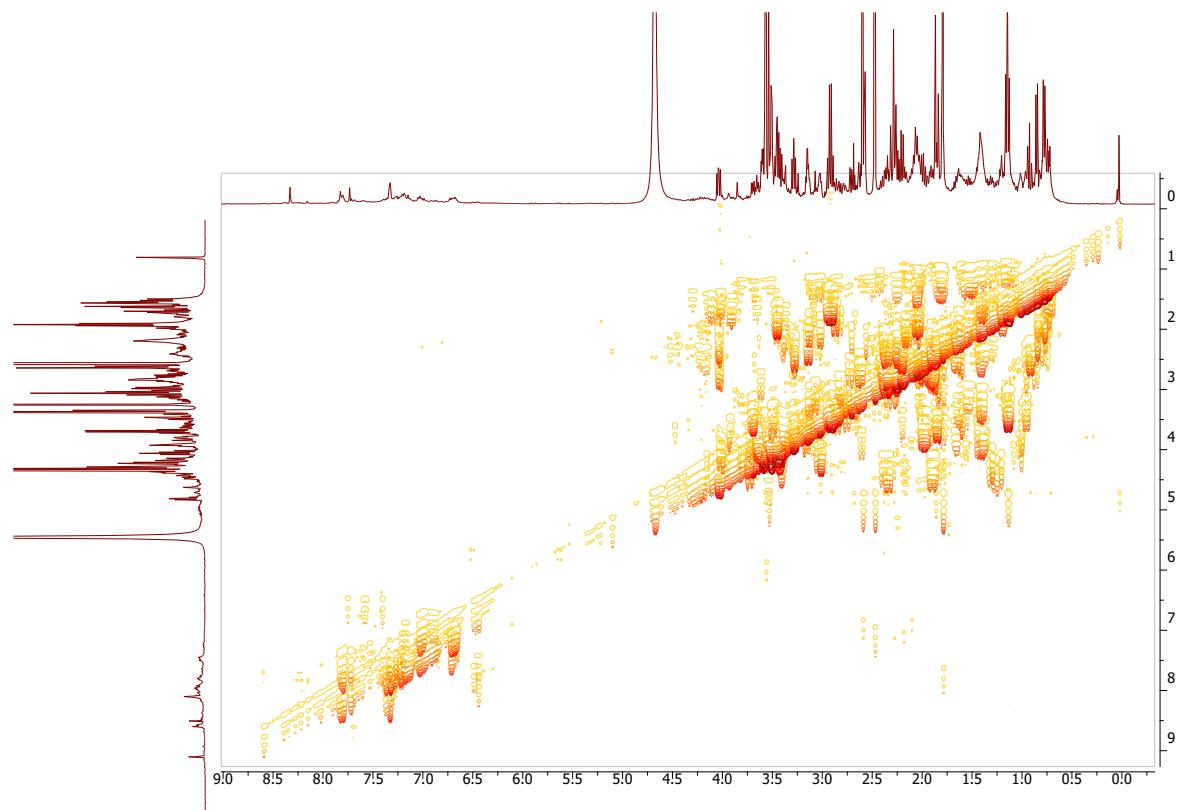
**Figure S2.**  $^1\text{H}, ^1\text{H}$ -COSY spectrum (DMSO- $d_6$ ) of the bio-crude fraction obtained at 350 °C and 10 min from pure TS.



**Figure S3.**  $^1\text{H}, ^1\text{H}$ -COSY spectrum ( $\text{D}_2\text{O}$ ) of the aqueous fraction obtained at  $350\text{ }^\circ\text{C}$  and 10 min from pure TS.



**Figure S4.**  $^1\text{H},^1\text{H}$ -COSY spectrum (DMSO- $d_6$ ) of the bio-crude fraction obtained at 350 °C and 10 min from a mixed sludge composed by MS:TS 75:25.



**Figure S5.** <sup>1</sup>H, <sup>1</sup>H-COSY spectrum ( $D_2O$ ) of the aqueous fraction obtained at 350 °C and 10 min from a mixed sludge composed by MS:TS 75:25.