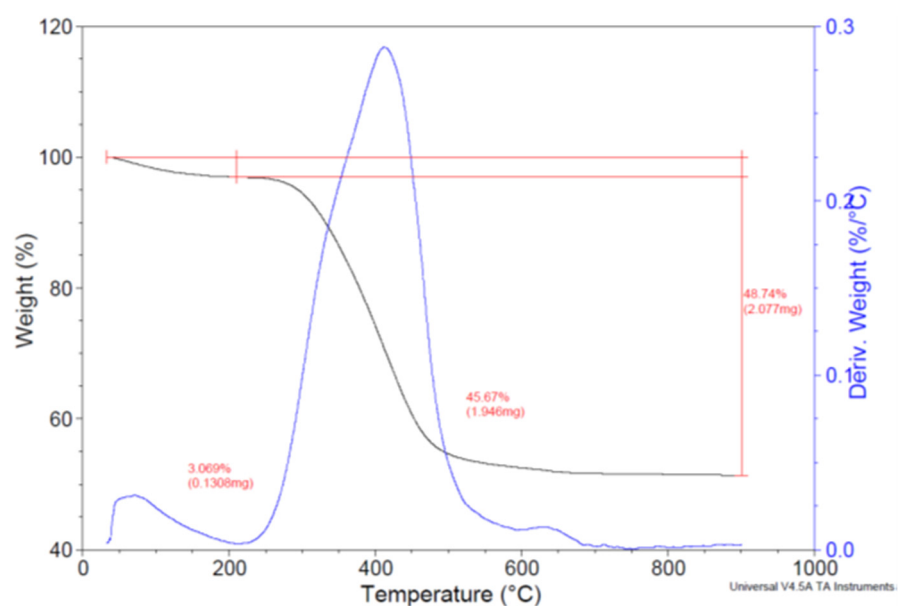


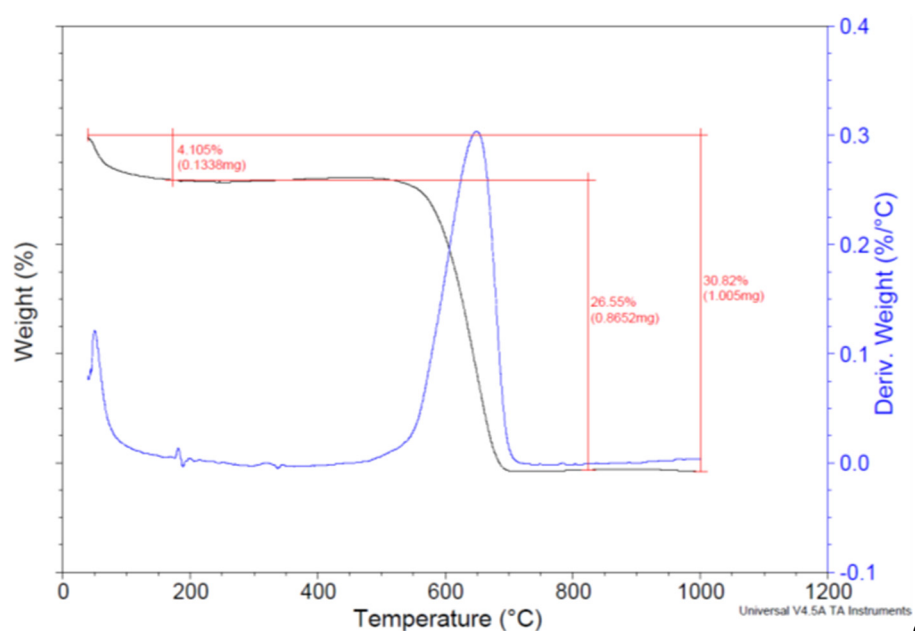
Survey on Lombardy Region Wastewater Effluents and Application of Biochar from Biological Sewage Sludge for Wastewater Treatment

Maria Cristina Collivignarelli ^{1,2}, Francesca Maria Caccamo ^{1,*}, Stefano Bellazzi ^{1,*}, Maria Medina Llamas ^{3,4}, Sabrina Sorlini ⁵ and Chiara Milanese ³

Supplementary Materials



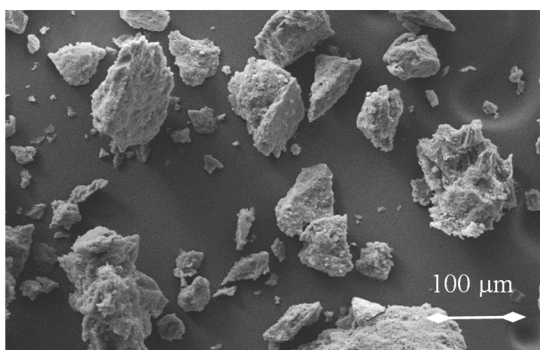
(a)



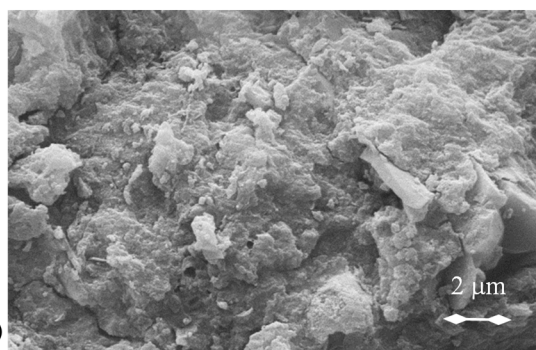
(b)

Figure S1. Thermogravimetric (black line) and weight derivative (blue line) curves obtained for the dried sludge pyrolysed at 350 °C (a) and 950 °C (b).

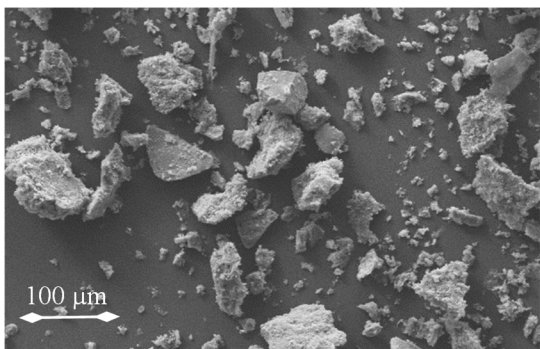
(a)



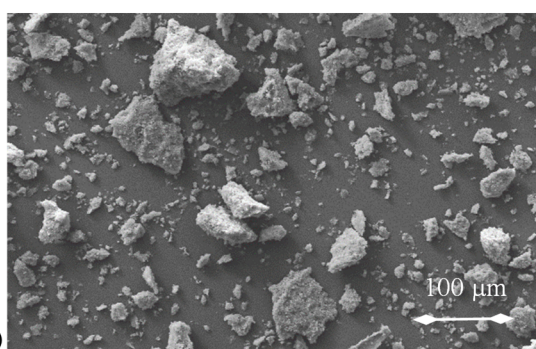
(b)



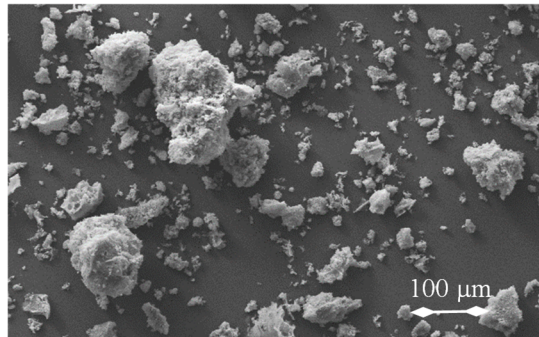
(c)



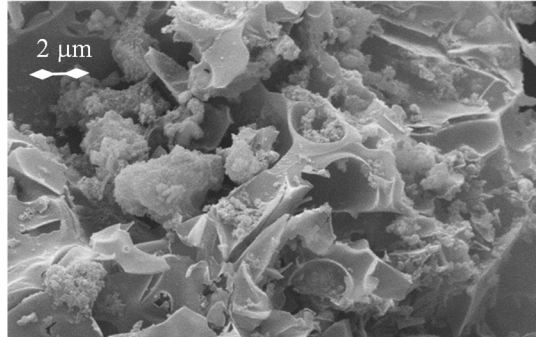
(d)



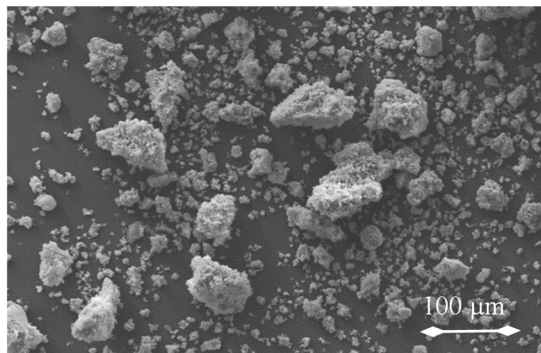
(e)



(f)



(g)



(h)

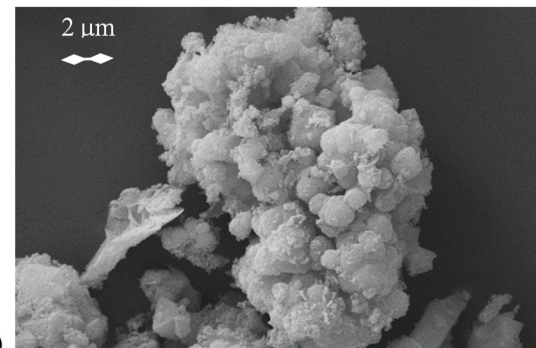


Figure S2: SEM images for (a, b) the dried sludge, the samples pyrolyzed at 350 °C (c) and 650 °C (d), and the samples activated after pyrolysis at 350 °C (e,f) and 650 °C (g,h). Higher magnification: 10000 X; lower magnification: 500 X.

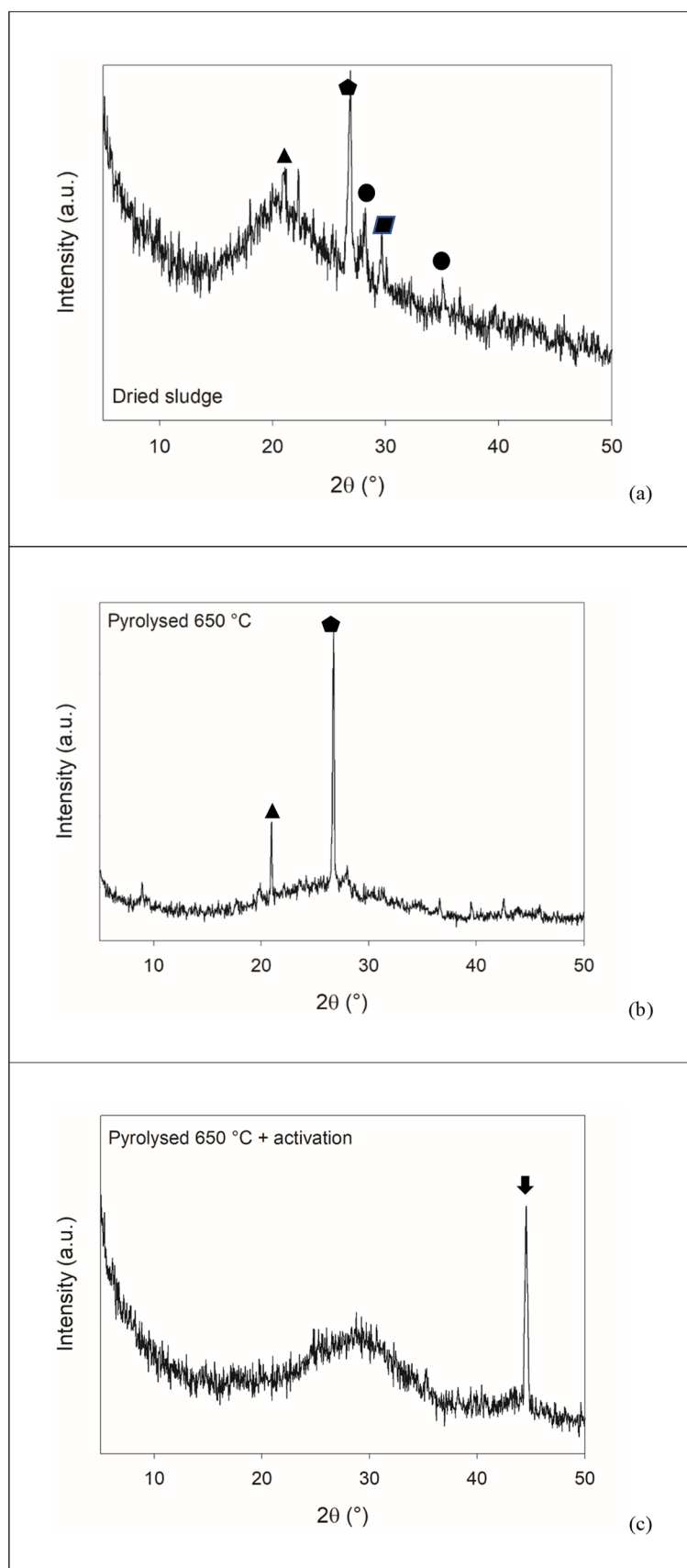


Figure S3. XRPD patterns for (a) the dried sludge, (b) the sample pyrolyzed at 650 °C, (c) the sample pyrolyzed at 650 °C and activated. = SiO₂, = graphitic C, = aluminium phosphate, = calcium carbonate, = Fe .

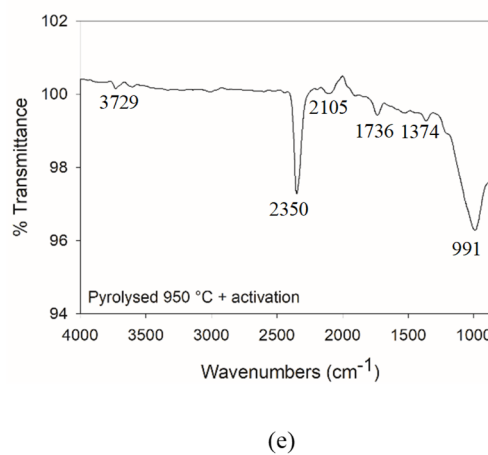
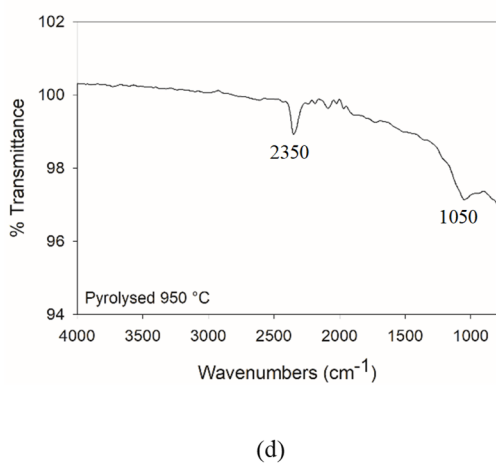
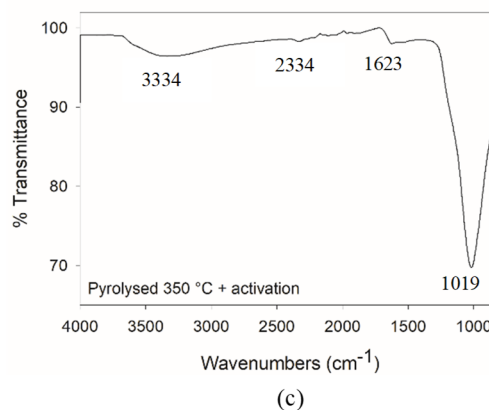
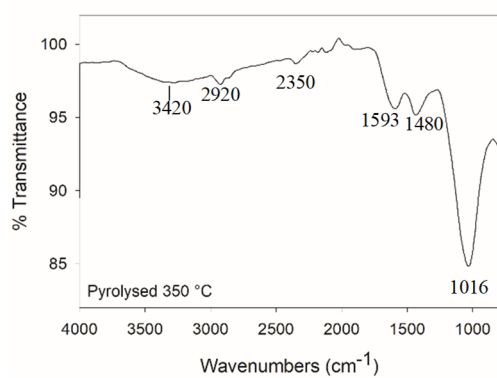
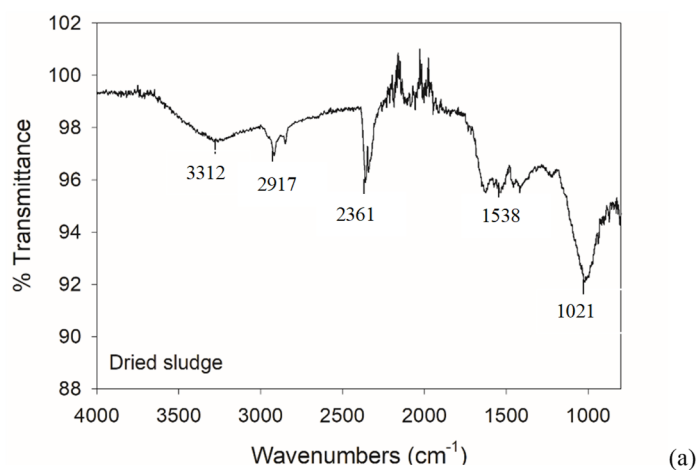


Figure S4. FT-IR spectra for (a) the dried sludge, (b) the sample pyrolysed at 350 °C, (c) the sample pyrolyzed at 350 °C and activated, (d) the sample pyrolyzed at 950 °C, (e) the sample pyrolysed at 950 °C and activated.