

Supporting information for

Flexible linkers and dinuclear metallic nodes build up an original metal-organic framework

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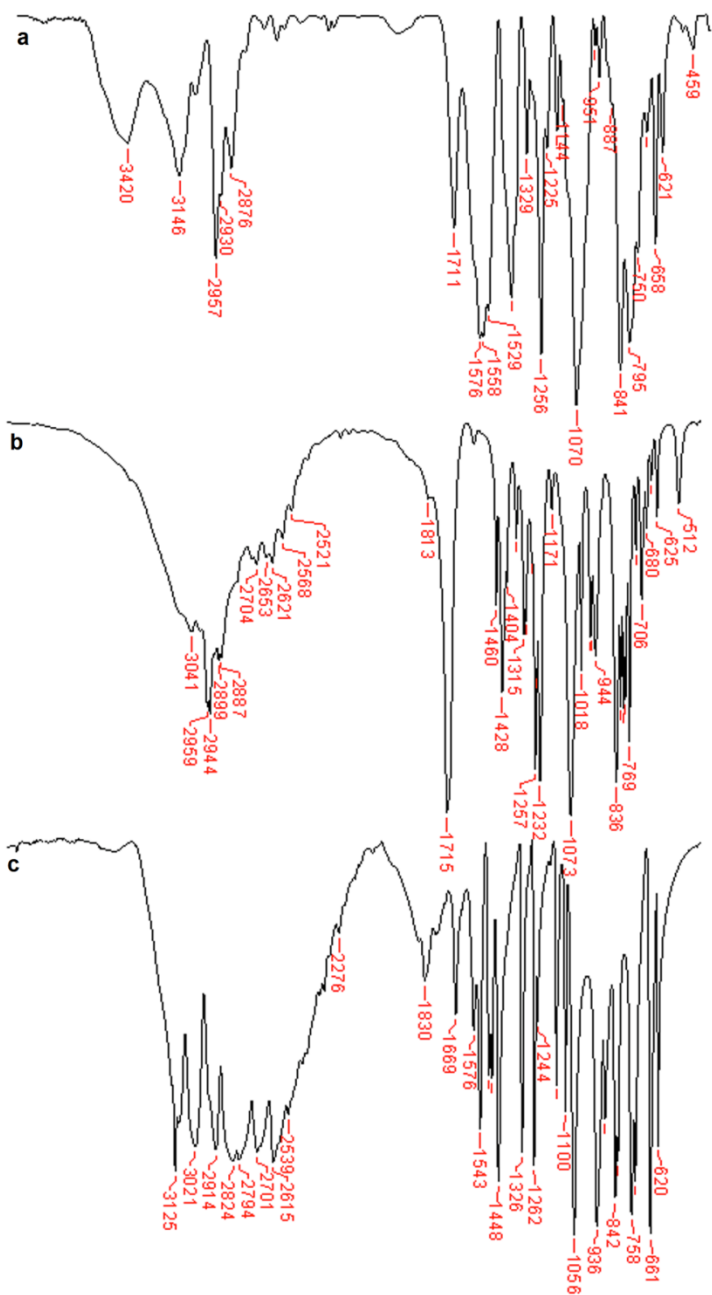


Figure ESI1. IR spectrum of copper complex **1** – a in comparison with that of 1,3-bis(carboxypropyl)tetramethyldisiloxane – b and imidazole - c.

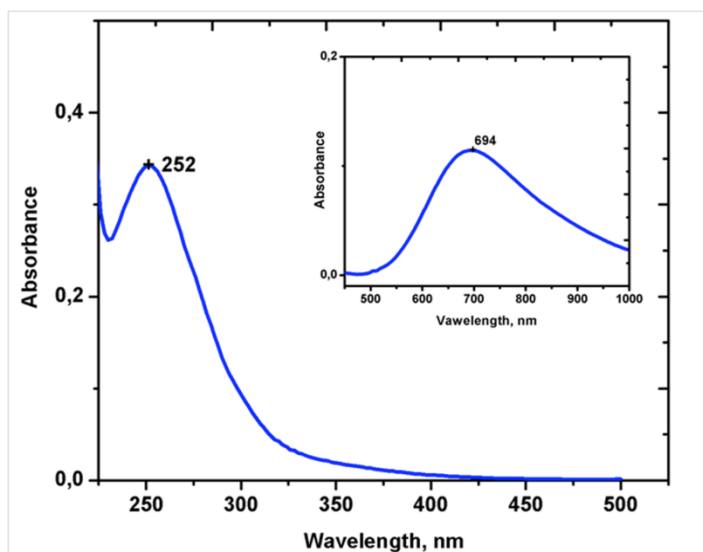


Figure ESI2. UV-Vis spectrum of the complex 1 dissolved in methanol.

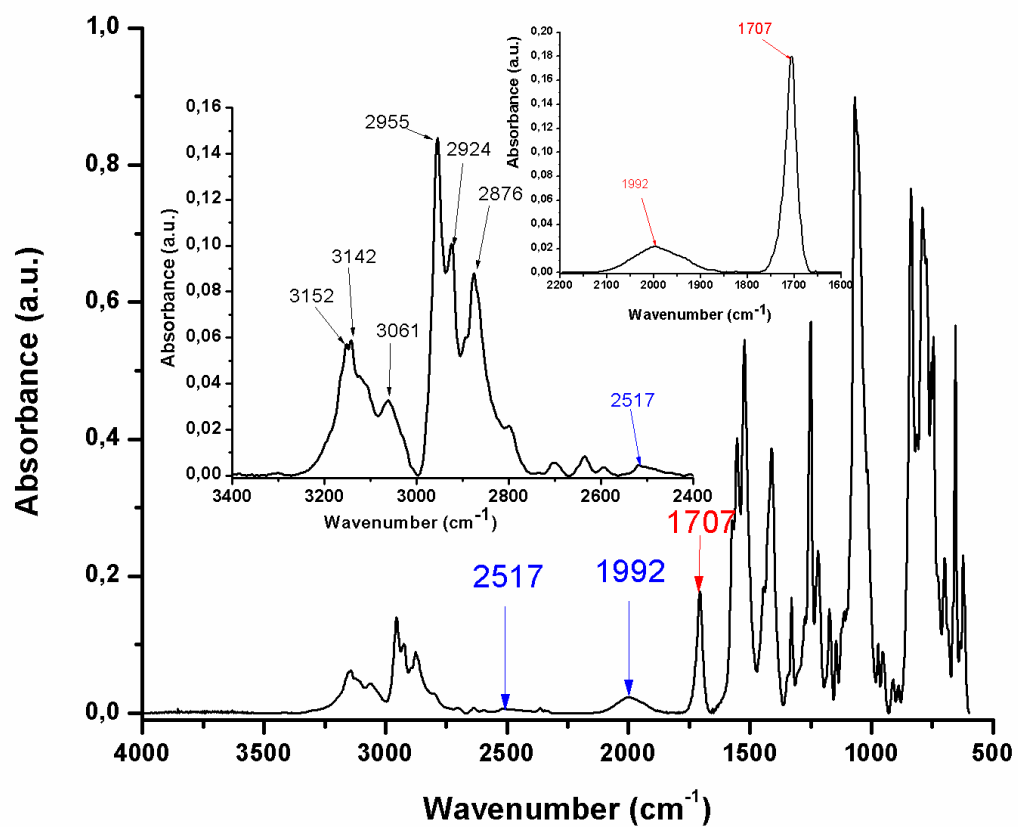


Figure ESI3. ATR-IR spectrum of the complex **1** dissolved in methanol.

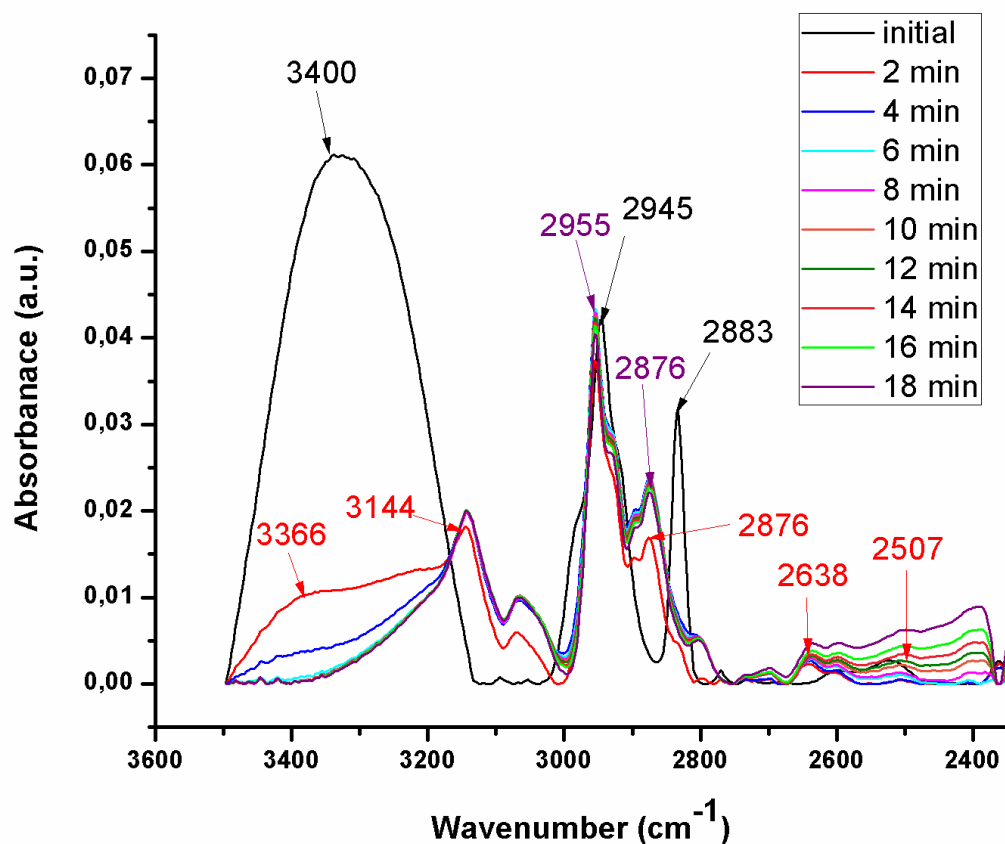


Figure ESI4. Details of ATR-IR spectra (2400-3500 cm⁻¹) of the complex **1** dissolved in methanol (initial) and during the evaporation of methanol recorded at two minutes difference between them. Initially only the characteristic bands of methanol at 3400 (νOH), 2945 (νCH₃) and 2883(νCH₃) cm⁻¹ appear. By increase the sample concentration, as a result of the solvent evaporation, the bands characteristic for the complex **1** become visible and also the specific bands of hydrogen bonds at 2600-2500 cm⁻¹ appear.

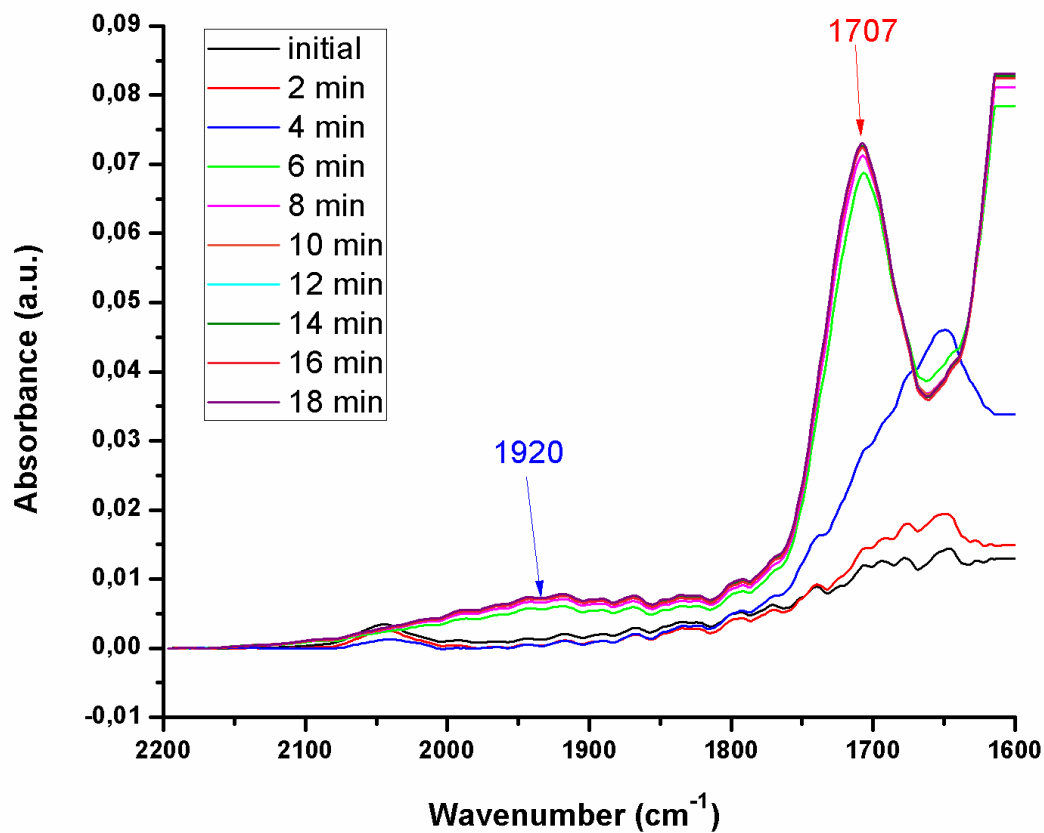


Figure ESI5. Details of ATR-IR spectra (1600-2200 cm⁻¹) of the complex **1** dissolved in methanol (initial) and during the evaporation of methanol recorded at two minutes difference between them. Initially only a broad band attributed to hydroxyl groups appears at 1660 cm⁻¹ (νOH). By increase the sample concentration, by evaporation of the solvent, the carboxylic and hydrogen bonds specific bands at 1707 and 1920 cm⁻¹, respectively develop.

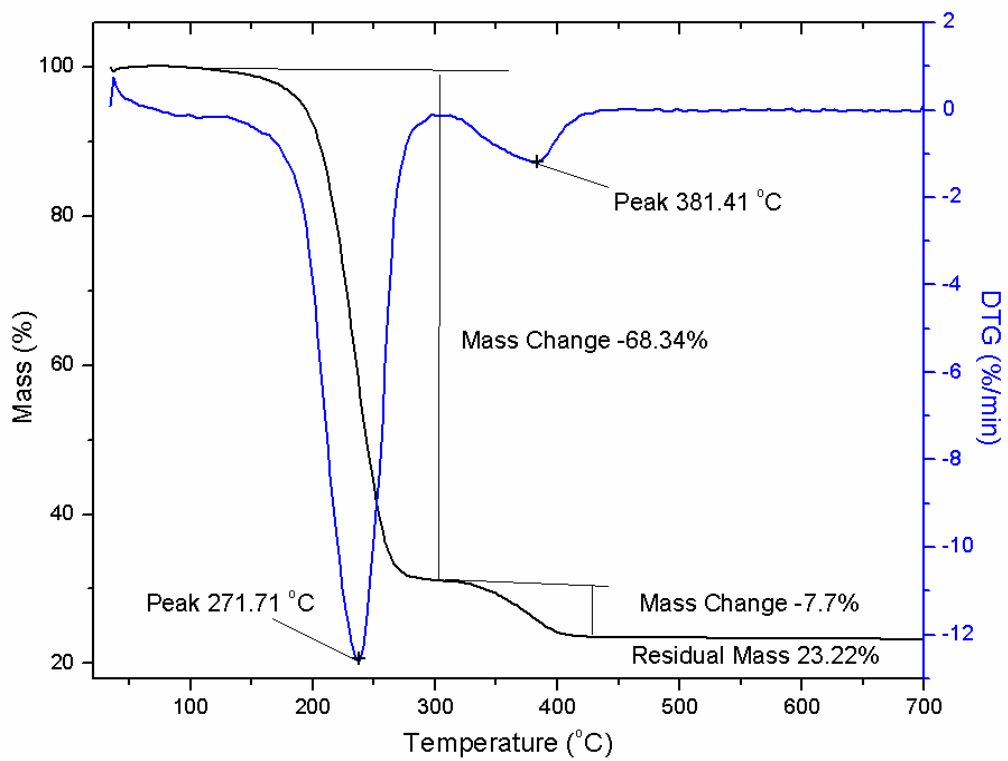


Figure ESI6. TG and DTG curves for complex 1

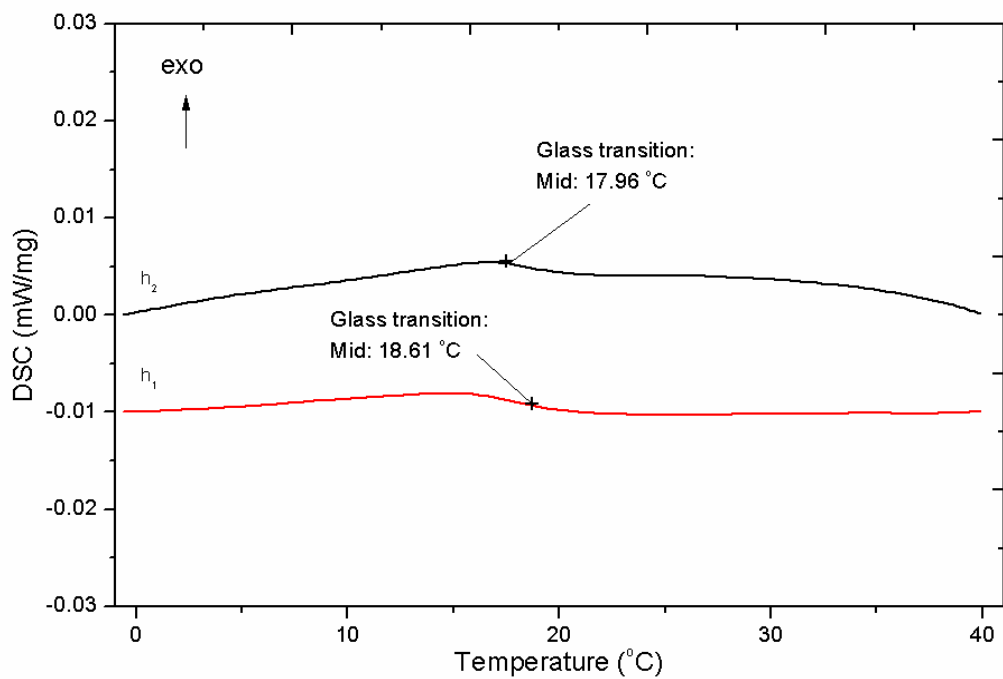


Figure ESI7. DSC curves for the complex (h1-first heating; h2-second heating).

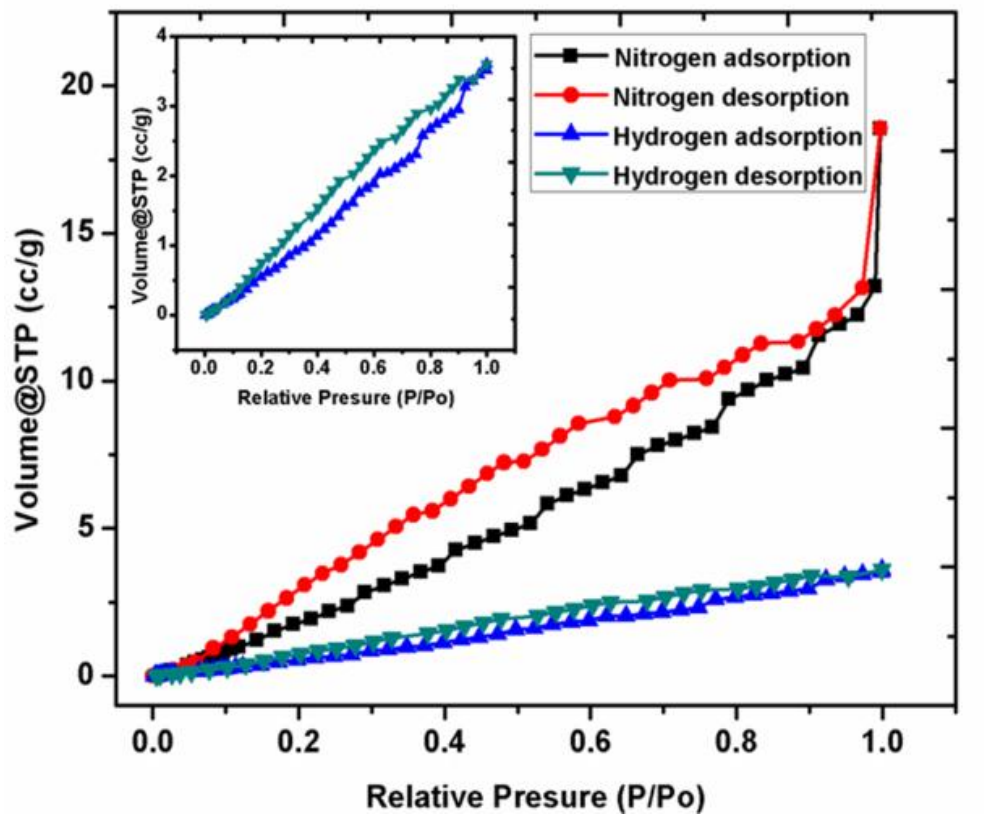


Figure ESI8. H_2 and N_2 sorption-desorption isotherms of **1** at 77 K, P being the relative pressure of the gas and P_0 its saturated vapor pressure.

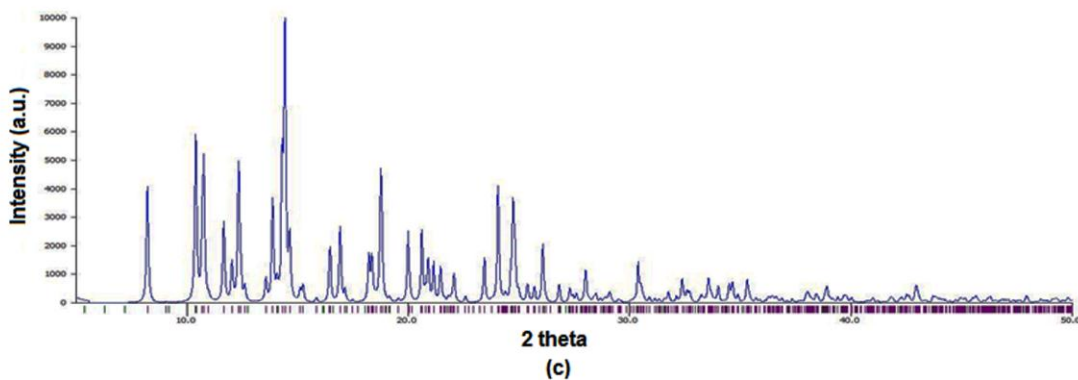
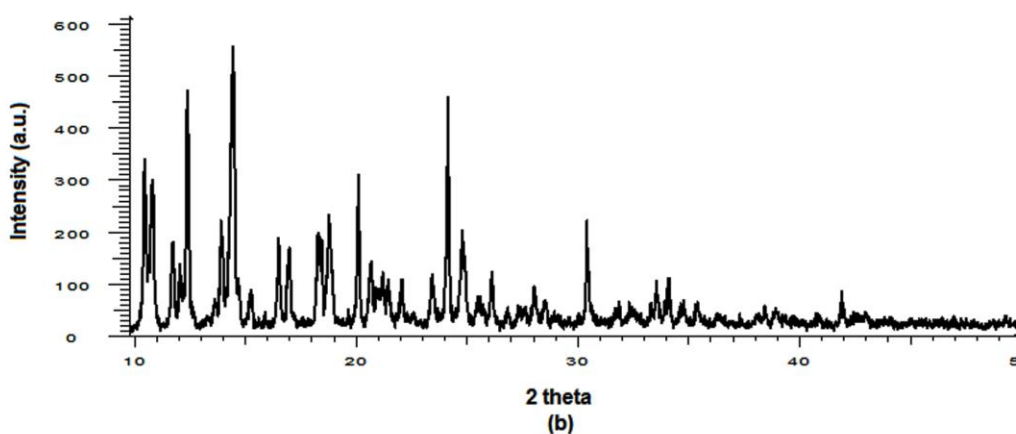
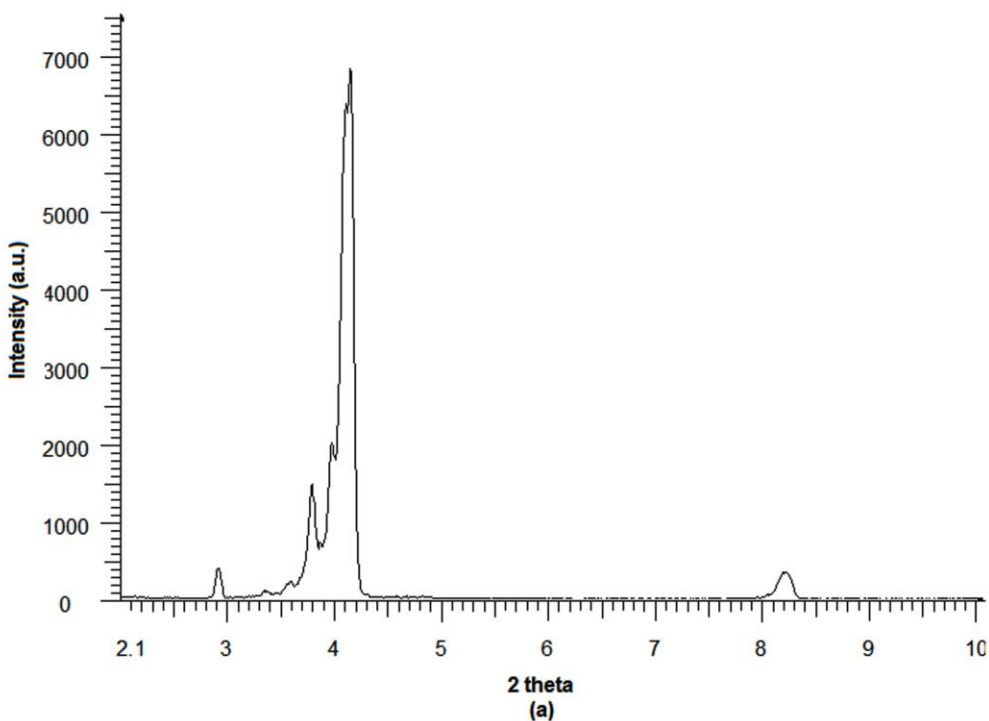


Figure ESI9. The experimental XRPD pattern of the polycrystalline sample in 2-10 2θ range (a); experimental XRPD pattern of the polycrystalline sample in 10-50 2θ range (b); the simulated XRPD on the base of cif.file obtained as the result of single-crystal X-ray study (c).