

Supporting Information For

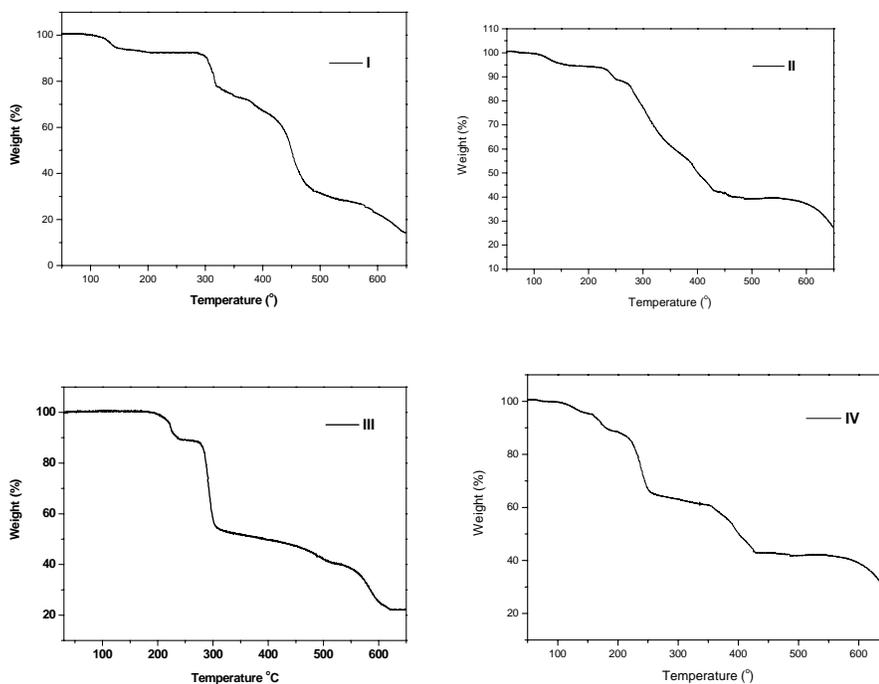
Organically Directed Iron Sulfate Chains: Structural Diversity Basis on the Hydrogen
Bonding Interactions

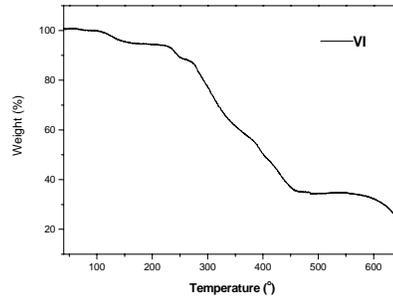
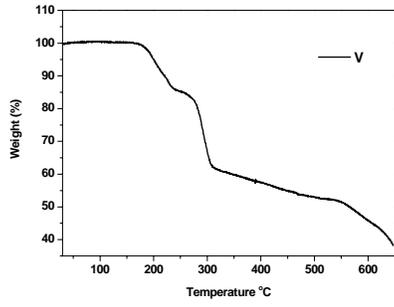
*Yunlong Fu**, *Zhiwei Xu*, *Jialin Ren*, *Haishun Wu*, *Rong Yuan*

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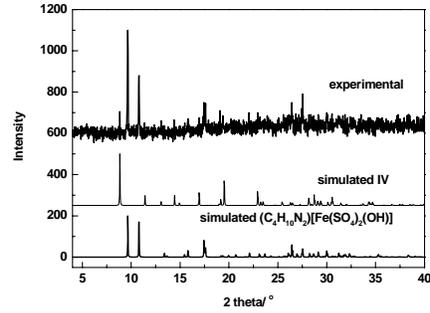
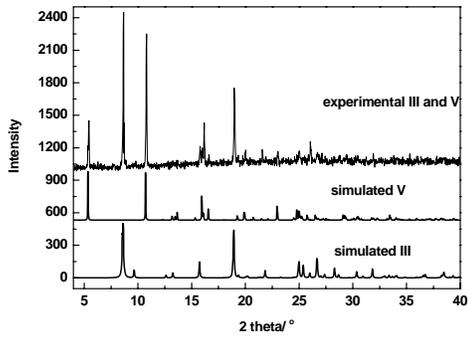
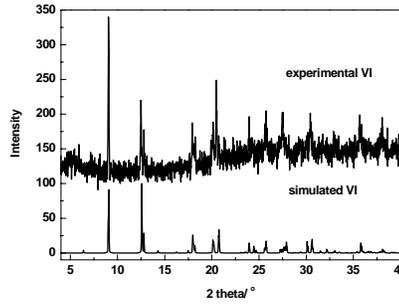
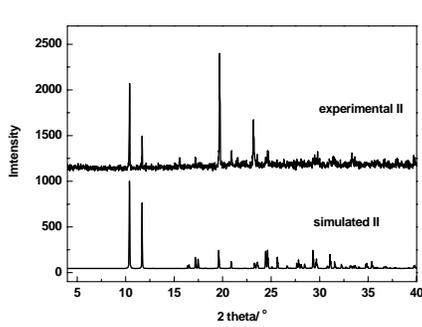
TGA-results

The thermal gravimetric analysis (TGA) was performed on a ZRP-2P thermal analyzer. Compounds **III**, **IV** and **V** are separated manually for TGA. Samples were loaded into a platinum crucible and heated in nitrogen atmosphere with a heating rate of 10°/min. In the TGA curve of **I**, there is a two-step weight loss corresponding to the loss of the water in the range 100 to 200 °C [obs. = 7.44%; calc. = 7.61%] and to the loss of amine and SO₃ in the range 200 to 530°C [obs. = 63.86%; calc. = 63.65%]. **II** shows a gradual weight loss corresponding to the loss of the water in the range 100 to 200 °C [obs. = 5.40%; calc. = 5.23%] and to the loss of amine and SO₃ in the range 200 to 500°C [obs. = 55.13%; calc. = 55.07%]. TG curve of **III** reveals the loss of bonded water molecules [obs. = 11.4%, calc. = 11.4%] in the range 100-256°C, and a gradual weight loss in the 256-650 °C range corresponding to the loss of the amine and SO₃ [obs. = 67.72%, calc = 67.66%]. There is a two-step weight loss in **IV** corresponding to the loss of the coordinated and uncoordinated water in the range 100 to 230 °C [obs. = 12.46%; calc. = 12.48 %] and to the loss of amine and SO₃ in the range 200 to 500°C [obs. = 45.76%; calc. = 45.75%]. In **V**, there is a loss of adsorbed water and bonded water molecules in 100-257°C [obs. = 15.7%, calc. = 15.9%], and major loss in the 259-625°C range corresponds to the loss of the amine and SO₃ [obs. = 41.59%, calc. = 41.71%]. In the TGA curve of **VI**, there was a gradual weight loss corresponding to the loss of the water in the range 100 to 200 °C [obs. = 5.40%; calc. = 5.23%] and to the loss of amine and SO₃ in the range 200 to 500°C [obs. = 60.15%; calc, 60.05%]. The product after calcinations at 660°C is α -Fe₂O₃ as proved by powder X-ray diffraction.





Figures for Powder-XRD results:



Figures for IR-spectra

