

The thermal stabilization behavior and mechanism of metal organic framework with high thermal stability towards PVC

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Molecular Structure Characterization

The Fourier transform infrared (FT-IR) spectra were obtained on a Nicolet iS10 FT-IR (Nicolet Instrument Corp., USA) infrared spectrophotometer. The experiment was performed within 400-4000 cm^{-1} with KBr as a reference.

Scanning electron microscopy (SEM) images were tested by using a FEI-NOVA Nano SEM 450 scanning electron microscope operated at 5 and 10 kV. The particle size distribution of Zn-Atz crystals was determined by manual measurement of the crystals in SEM image with Photoshop software. About 100 particles in the FE-SEM image were measured to determine the average particle size.

X-ray diffraction (XRD) characterization was performed on Ultima IV X-ray diffractometer equipped with Cu K α radiation (40 KV, 200 mA). The scanning was performed within (2θ) 20-75° with a step function of 0.02 and a scanning rate of 20° min^{-1} .

The morphology of fracture surface and plane of PVC sample were studied with a Hitachi Regulus8100 instrument operated at 3 kV after the gold sputtering treat.

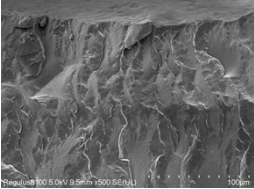
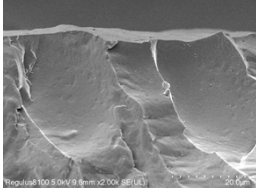
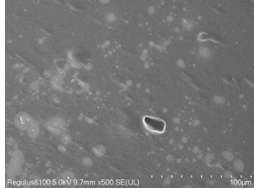
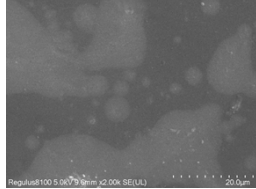
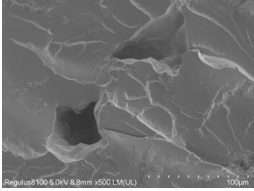
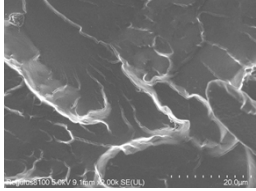
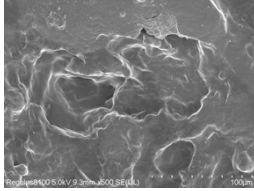
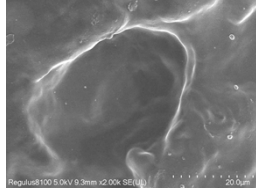
PVC samples	Fracture surface (100 um)	Fracture surface (20 um)	Plane (100 um)	Plane (20 um)
Z1				
Z13				

Fig.S1 The morphology of fracture surface and plane of PVC sample.