

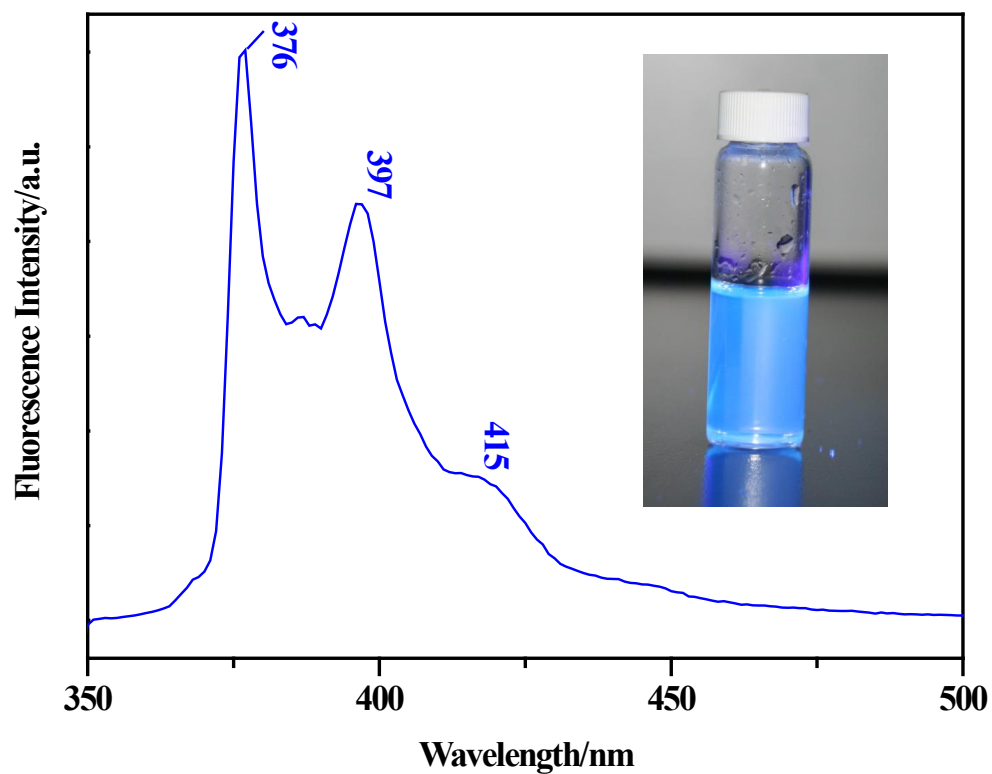
## ***Electronic Supplementary Information***

### **A novel poly[(*N*-vinylimidazole)-*co*-(1-pyrenylmethyl methacrylate)] ferric complex with fluorescence and superparamagnetism**

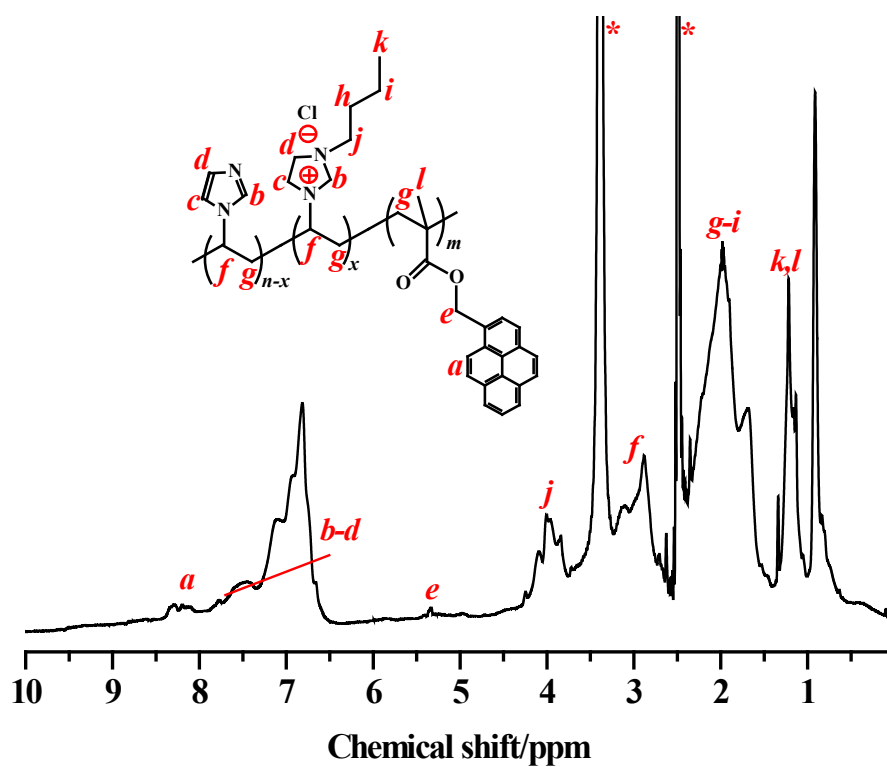
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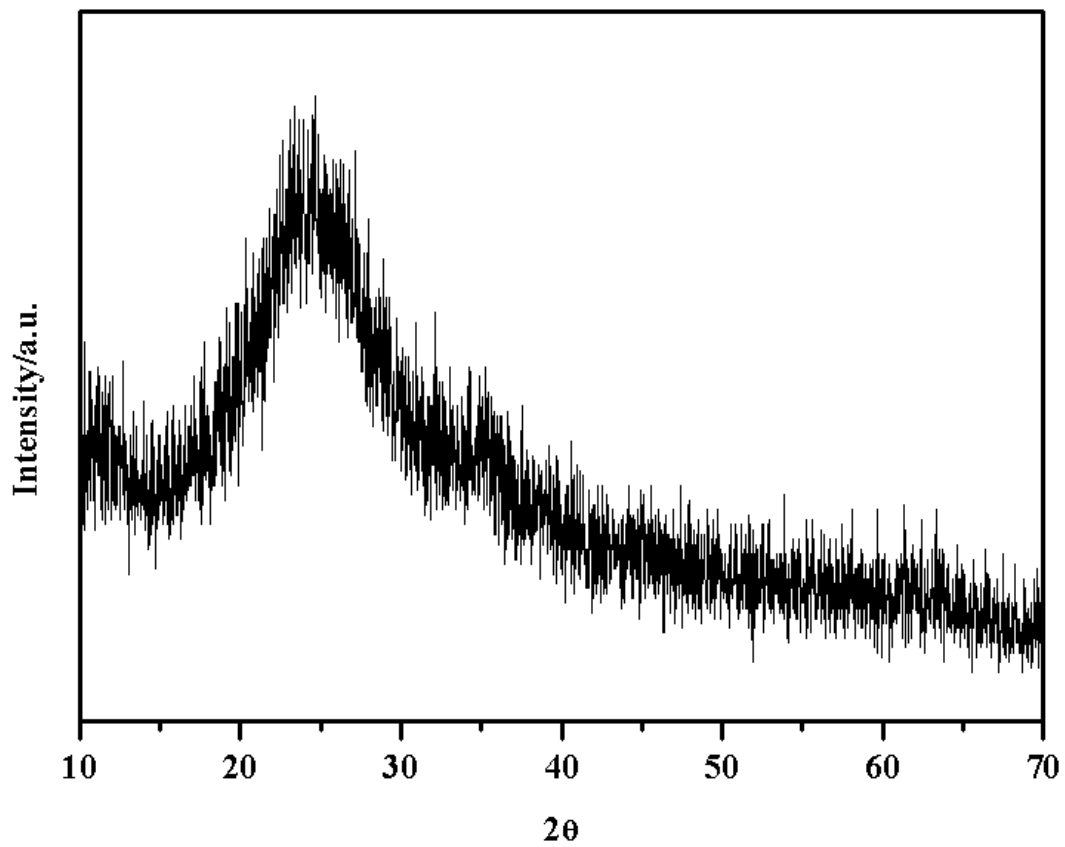
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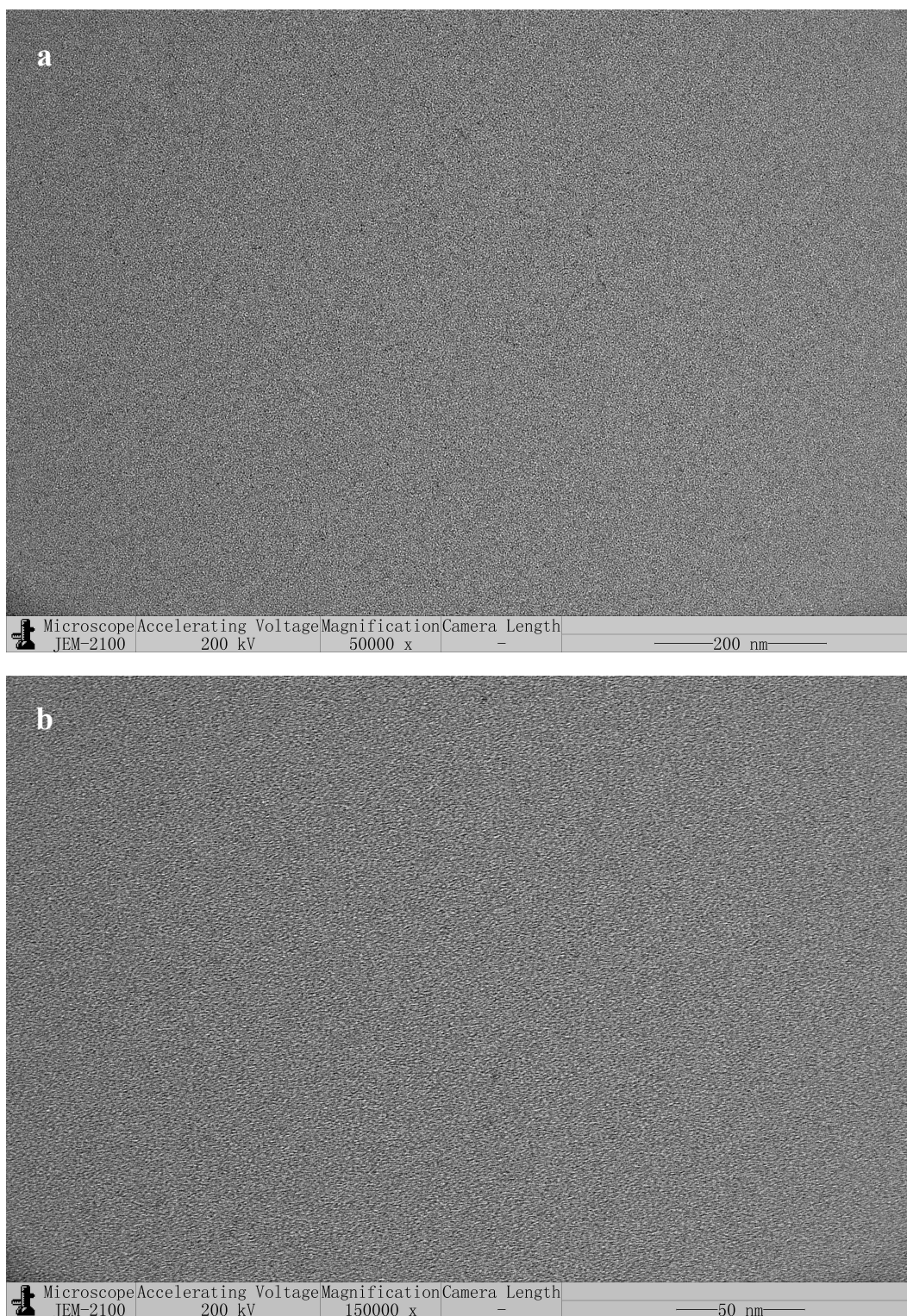
**Figure S1** Fluorescence spectrum of VI-co-PyMMA (5 μg.ml<sup>-1</sup> in ethanol) with an excitation wavelength of 347 nm. Inset is a digital photo of the same VI-co-PyMMA solution irradiated by 365 nm UV-light.



**Figure S2** <sup>1</sup>H-NMR spectrum of **S**<sub>0</sub> dissolved in DMSO-d<sub>6</sub>.



**Figure S3** XRD pattern of S<sub>4</sub> powders.



**Figure S4** TEM images of S<sub>4</sub> thin film coated on a carbon-covered copper grid: a) ×50k magnification, b) ×150k magnification.

The fluorescence quantum yields ( $\phi$ ) of  $S_0$  and  $S_N$  ( $N=1\sim6$ ) were measured by using the method described in the reference: Q. He, J. Shi, X. Cui, J. Zhao, Y. Chen and J. Zhou, *J. Mater. Chem.*, 2009, **19**, 3395-3403. The quinine solution in 0.1 M of  $H_2SO_4$  ( $\phi = 0.55$ ) was taken as the reference. Table S1 summarizes the values of  $\phi$  of  $S_0$  and  $S_N$  ( $N=1\sim6$ ).

**Table S1** Quantum yields of  $S_0$  and  $S_N$  ( $N=1\sim6$ ).

Sample No.	$S_0$	$S_1$	$S_2$	$S_3$	$S_4$	$S_5$	$S_6$
$\phi$	0.488	0.392	0.235	0.186	0.133	0.073	0.029