Supporting Information

Zn(II) complex of terpyridine for the highly selective fluorescent recognition of pyrophosphate

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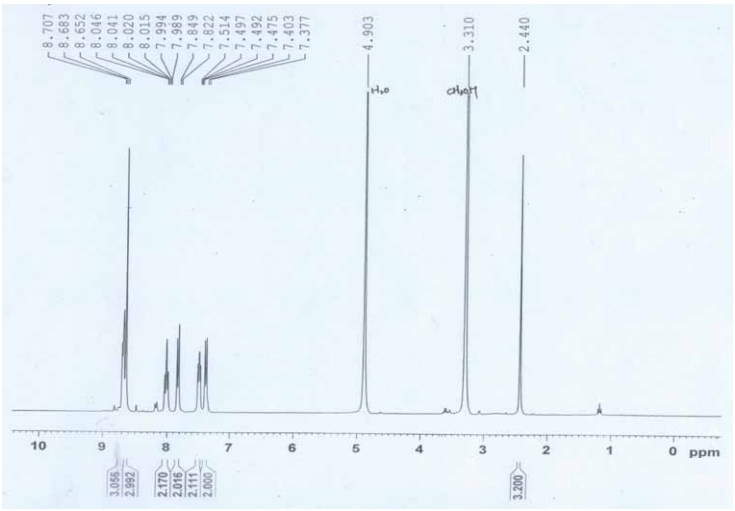

Figure S1 The ^{1}H NMR spectrum of mptpy.

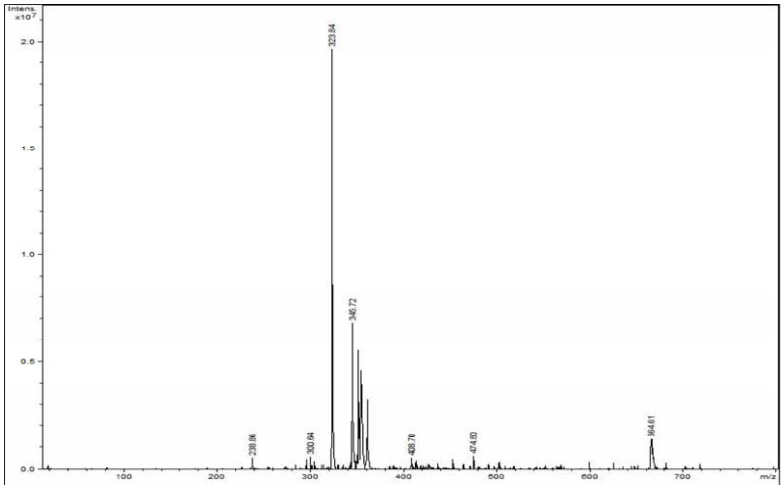

Figure S2 The ESI-MS spectrum of mptpy.

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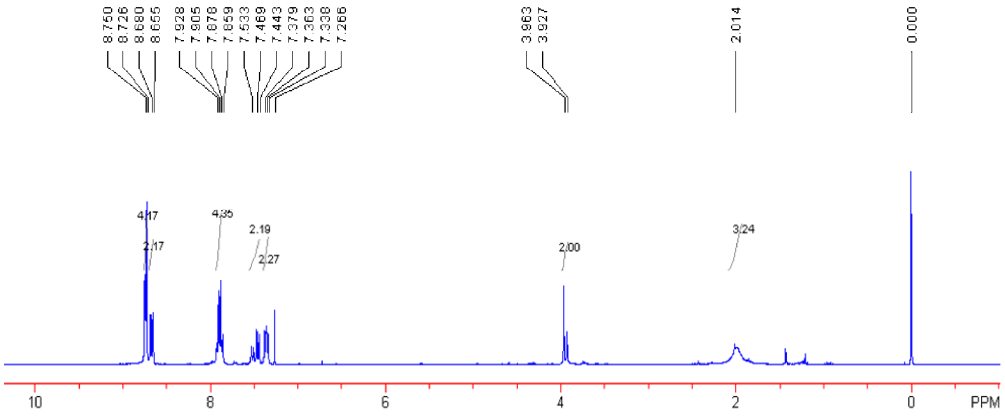

Figure S3 The ^{1}H NMR spectrum of aptpy.

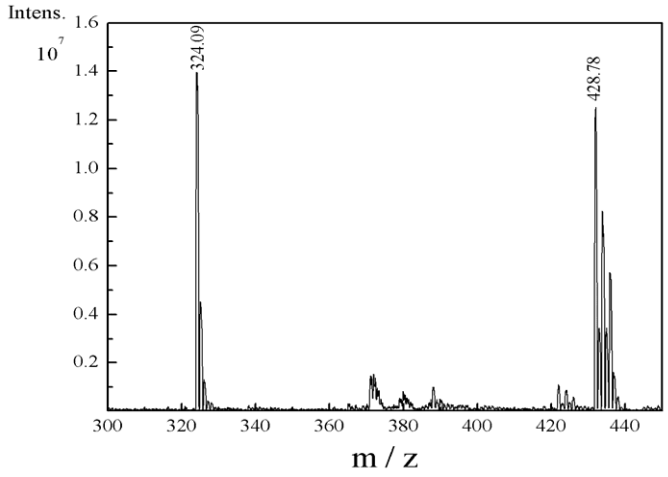

Figure S4 The ESI-MS spectrum of mptpy-Zn(II).

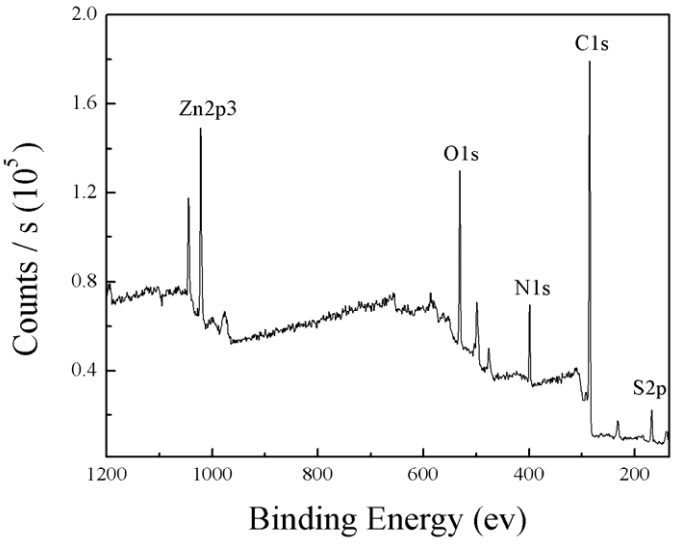

Figure S5 The XPS spectra of mptpy-Zn(II).

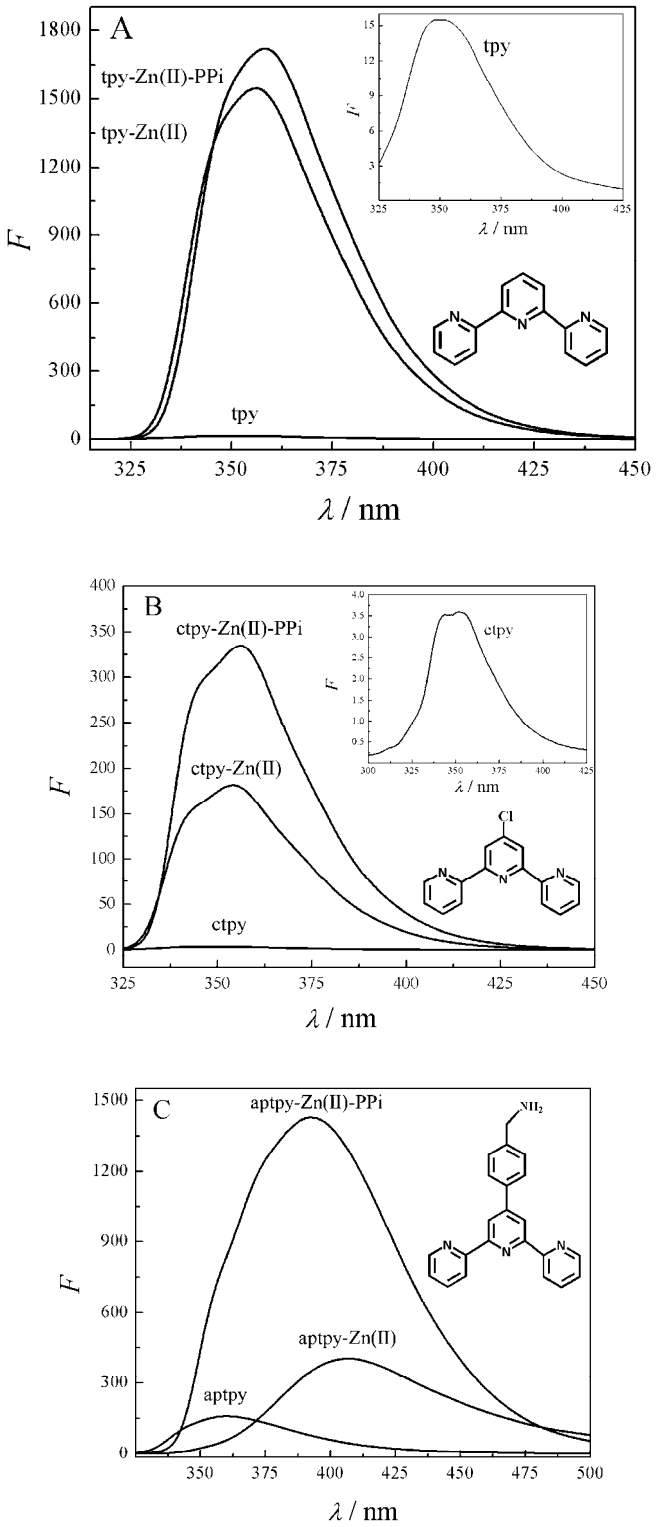

Fig. S6 Fluorescence spectra of tpy (A), ctpy (B) and aptpy (C) in the absence and presence of Zn(II), and the further binding with PPi. Inset of (A) is the fluorescence emission of tpy without zinc ion and the geometry structure of tpy. Inset of (B) is the fluorescence emission of ctpy without zinc ion and the geometry structure of ctpy. Inset of (C) is the geometry structure of aptpy. Concentrations: tpy, 30□μM; ctpy,

30□μM; aptpy, 30□μM; Zn(II) 30 μM; PPi, 60 μM; 50 mM Tris-HCl buffer, pH 9.15; λ_{ex}, 280 nm.

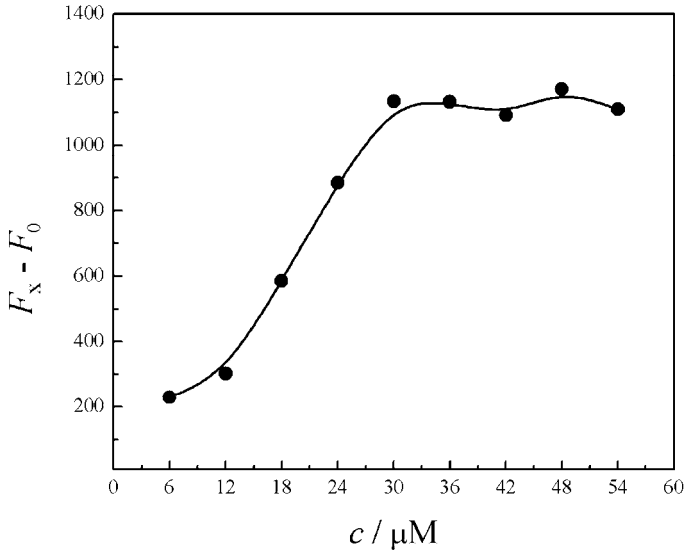

Figure S7 A plot of change in emission intensity of mptpy-Zn(II) at 388 nm (F_x-F_0) as a function of PPi. Concentrations: mptpy, 30□ μM; Zn(II) 30 μM; 50 mM pH 9.15 Tris-HCl buffer; λ_{em}, 388 nm.

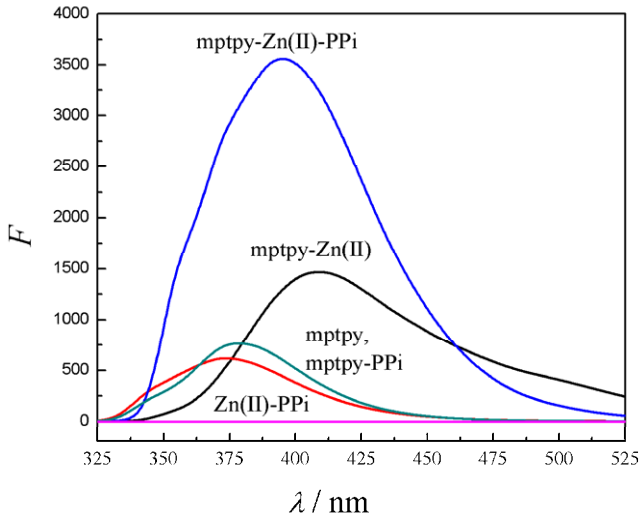

Figure S8 The fluorescence spectra of various solutions including mptpy, mptpy-Zn(II) and mptpy-Zn(II)-PPi *et al*. Concentrations: c_{mptpy}, 45 μM, $c_{Zn(II)}$, 45 μM, c_{PPi}, 90 μM, 50 mM Tris-HCl buffer, pH 9.15; λ_{ex}, 280 nm.

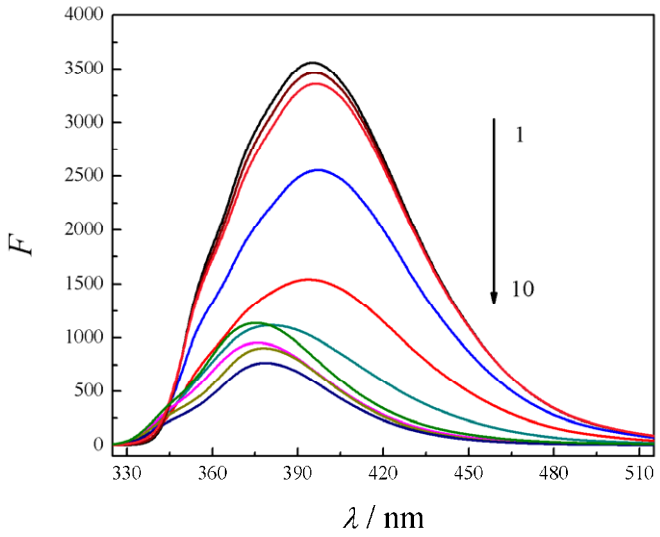

Figure S9 Changes of the fluorescence emission of mptpy-Zn(II) in the presence of PPi when added with different concentrations of EDTA. Concentrations: c_{mptpy}, 45 μM, $c_{Zn(II)}$, 45 μM, c_{PPi}, 90 μM, c_{EDTA}, 0, 9, 13.5, 18, 27, 39, 54, 72 and 90 μM (from 1 to 9), the number 10 represents the fluorescence of mptpy; 50 mM Tris-HCl, pH 9.15. λ_{ex}, 280 nm.

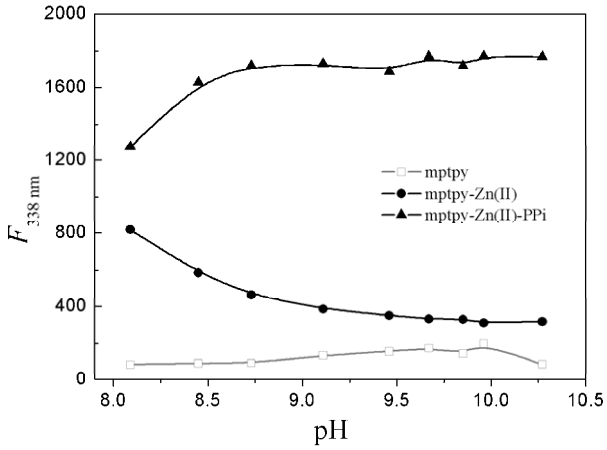

Figure S10 pH dependence of the recognition of mptpy-Zn(II) with PPi. The fluorescence emission of mptpy was displayed in order to give a comparison. Concentrations: mptpy, 30□ μM; Zn(II) 30 μM; PPi, 60 μM; 50 mM Tris-HCl buffer; λ_{em}, 388 nm.