

Supplementary Materials

Structural Diversity of Mercury(II) Halide Complexes Containing Bis-pyridyl-bis-amide with Bulky and Angular Backbones: Ligand Effect and Metal Sensing

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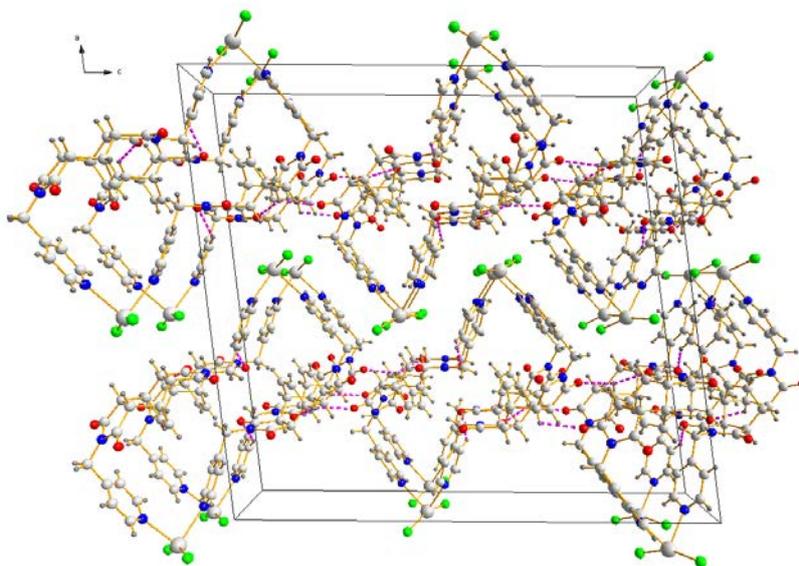


Figure S1. Packing diagram for **4**.

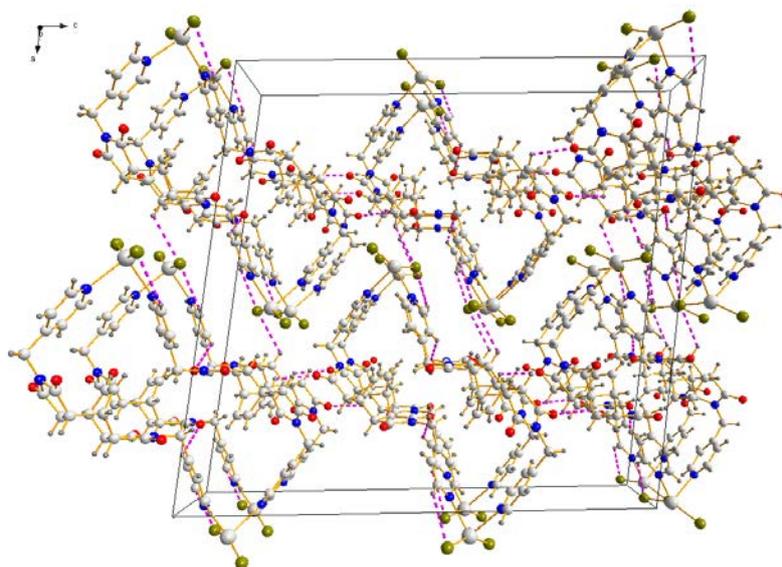


Figure S2. Packing diagram for **5**.

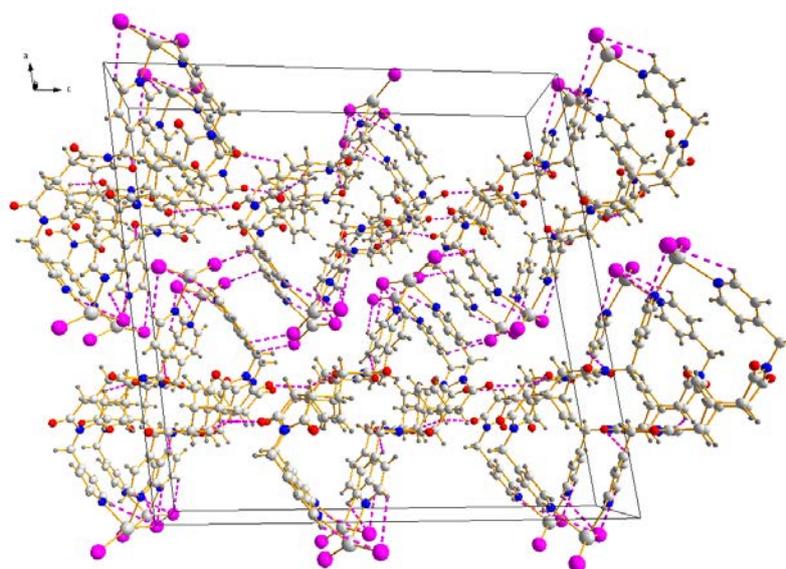


Figure S3. Packing diagram for **6**.

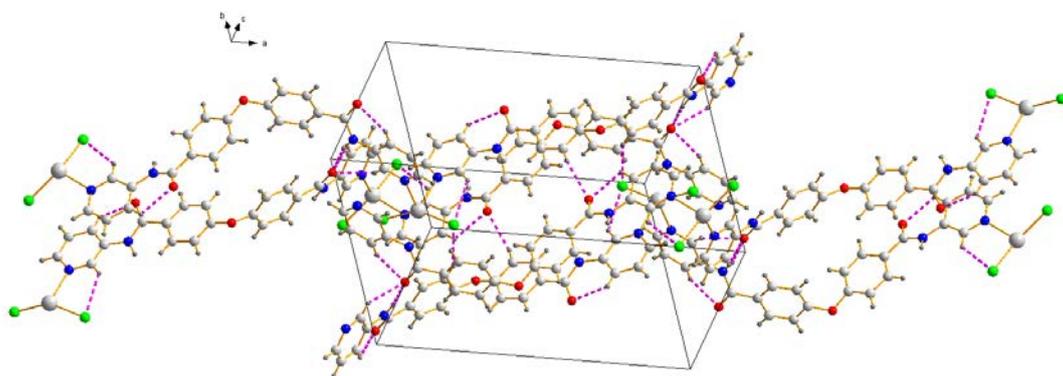


Figure S4. Packing diagram of **7**.

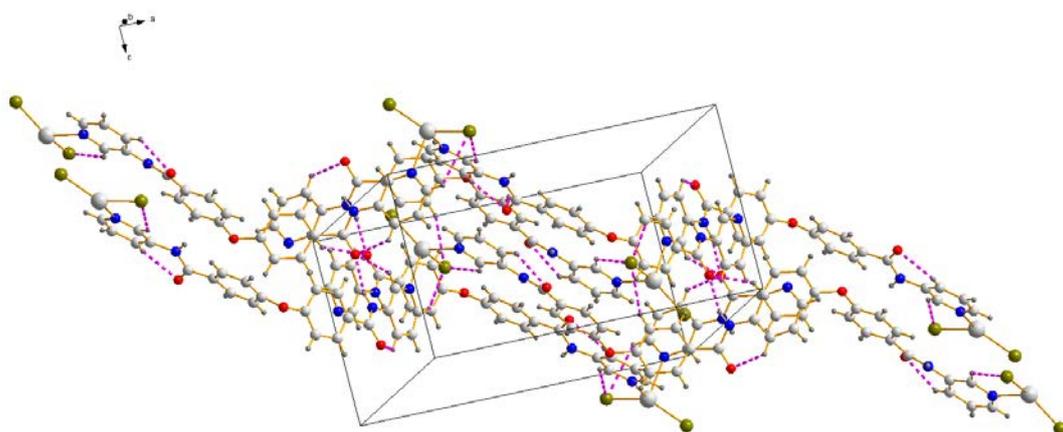


Figure S5. Packing diagram of **8**.

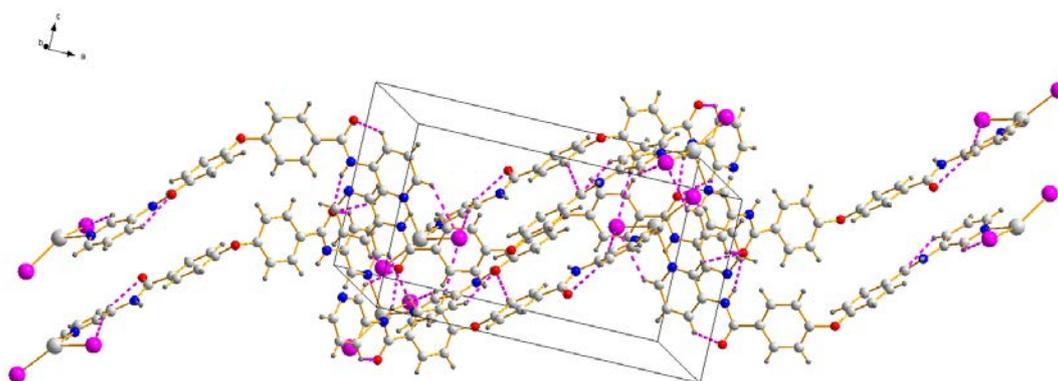


Figure S6. Packing diagram of **9**.

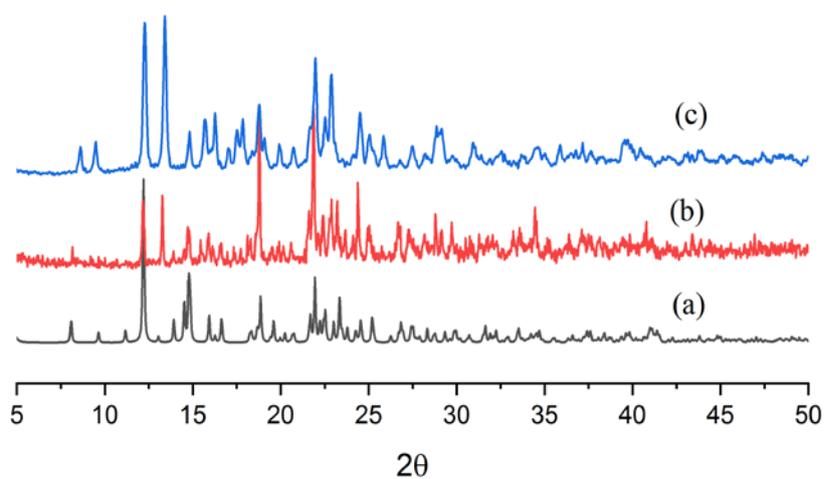


Figure S7. PXRD patterns of **7**. (a) simulated, (b) as synthesized by hydrothermal reaction and (c) as-synthesized by mechanochemical grinding.

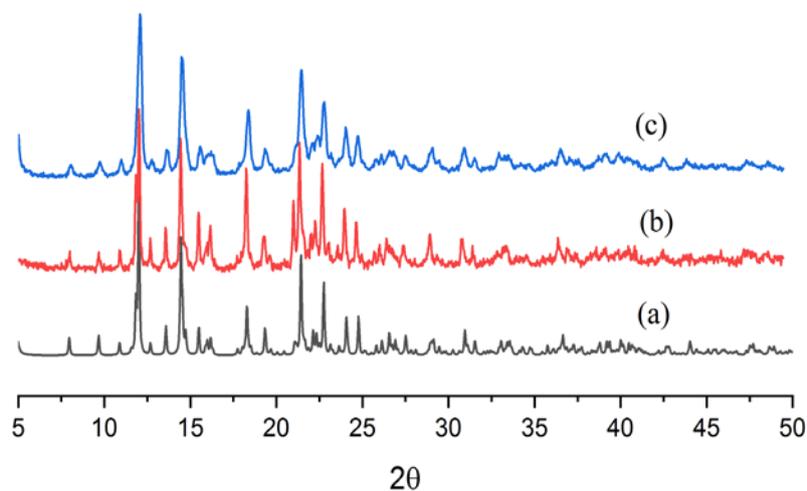


Figure S8. PXR D patterns of **8**. (a) simulated, (b) as synthesized by hydrothermal reaction and (c) as-synthesized by mechanochemical grinding.

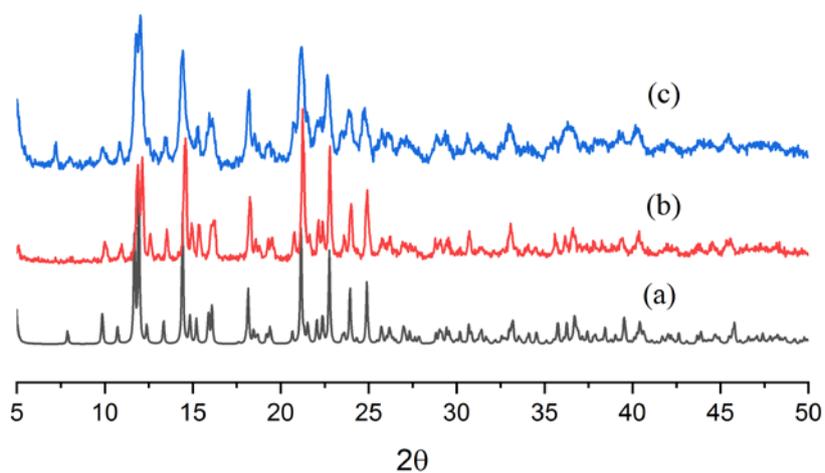


Figure S9. PXR D patterns of **9**. (a) simulated, (b) as synthesized by hydrothermal reaction and (c) as-synthesized by mechanochemical grinding.

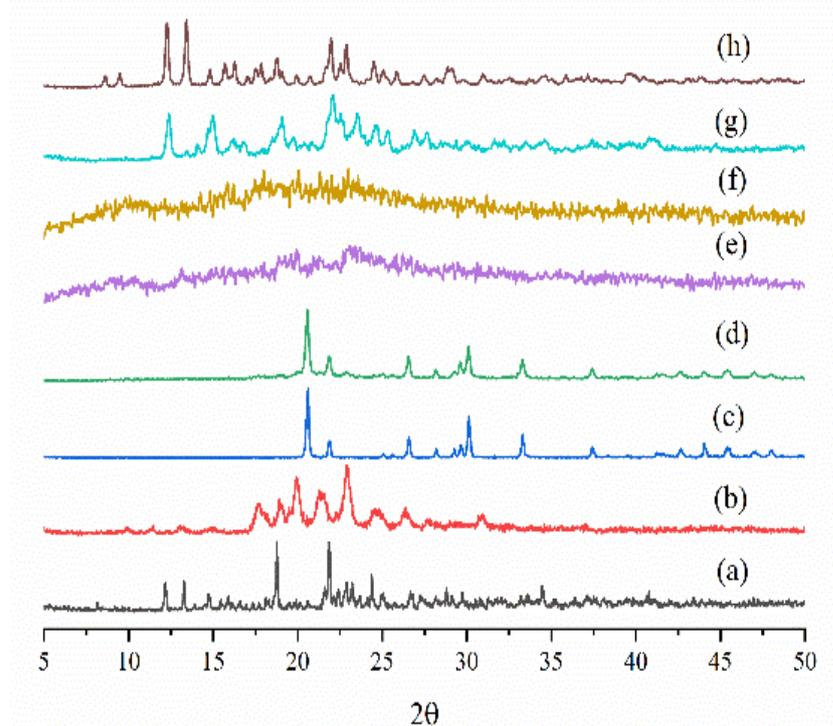


Figure S10. PXRD patterns of (a) as-synthesized of **7**, (b) ligand L^3 , (c) $HgCl_2$ and (d) grinding without solvent and grinding with (e) H_2O , (f) DCM, (g) MeOH/ H_2O and (h) EtOH/ H_2O .

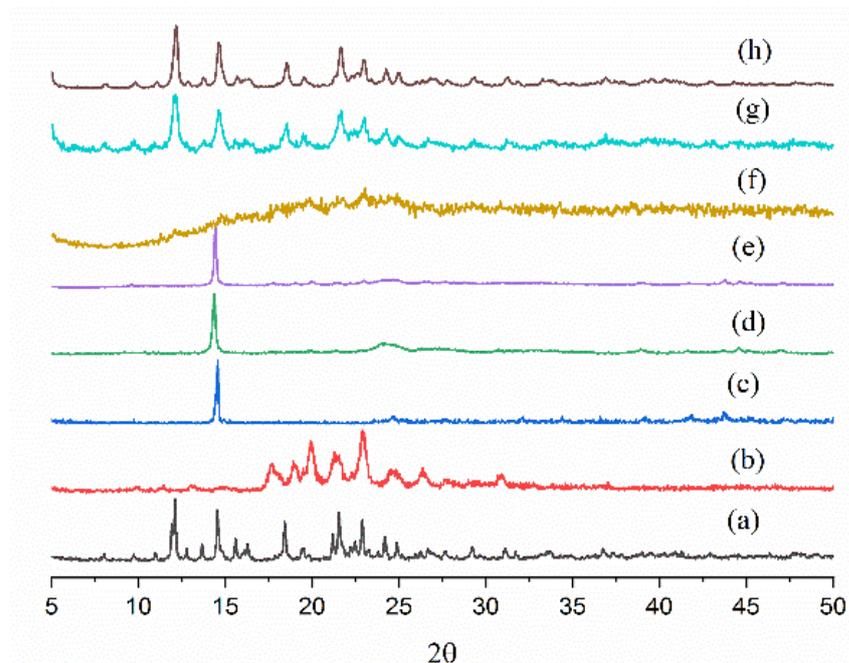


Figure S11. PXRD patterns of (a) as-synthesized of **8**, (b) ligand L^3 , (c) $HgBr_2$ and (d) grinding without solvent and grinding with (e) H_2O , (f) DCM, (g) MeOH/ H_2O and (h) EtOH/ H_2O .

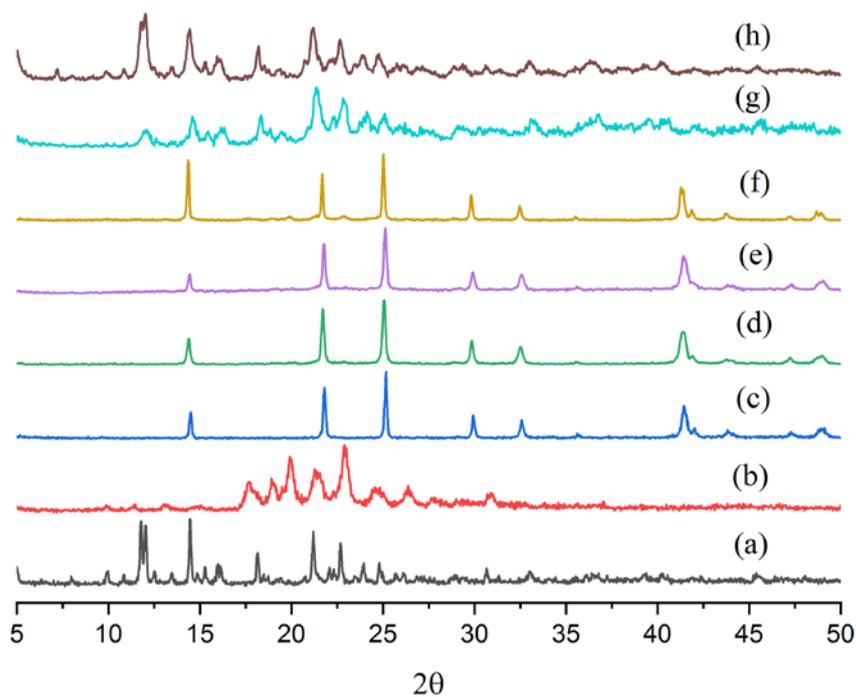


Figure S12. PXRD patterns of (a) as-synthesized of **9**, (b) ligand **L³**, (c) HgI_2 and (d) grinding without solvent and grinding with (e) H_2O , (f) DCM , (g) $\text{MeOH}/\text{H}_2\text{O}$ and (h) $\text{EtOH}/\text{H}_2\text{O}$.

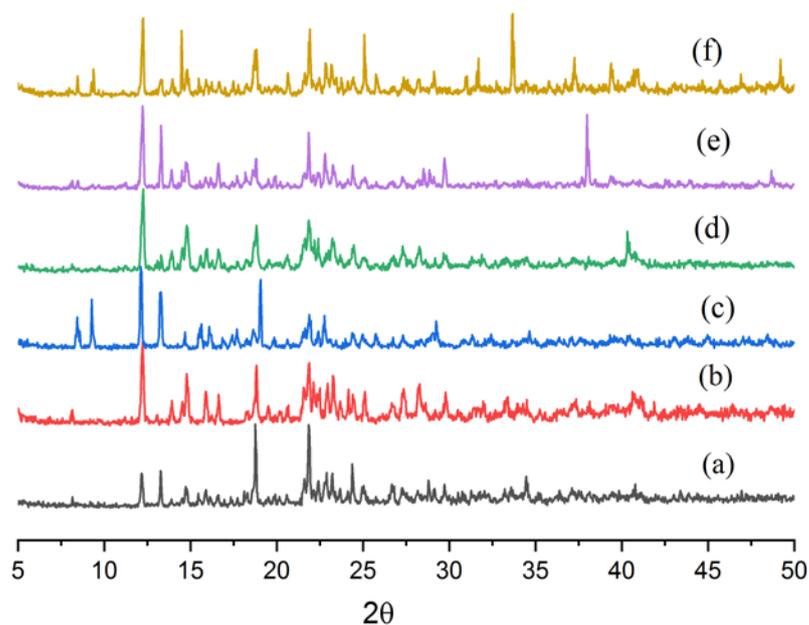


Figure S13. PXRD patterns of **7** in different solvents up to 7 days: (a) as-synthesized, (b) H_2O , (c) EtOH , (d) MeOH , (e) DCM and (f) MeCN .

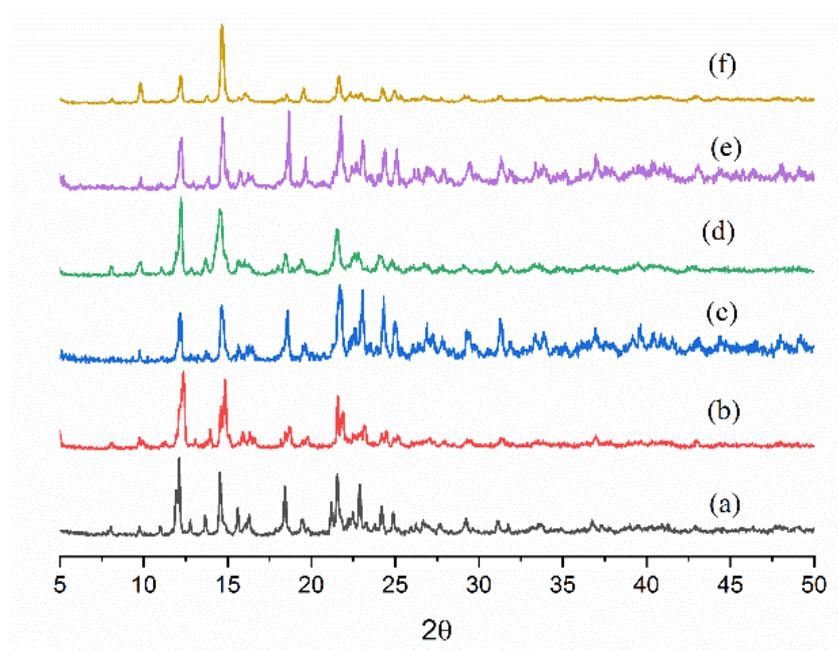


Figure S14. PXR D patterns of **8** in different solvents up to 7 days: (a) as-synthesized, (b) H₂O, (c) EtOH, (d) MeOH, (e) DCM and (f) MeCN.

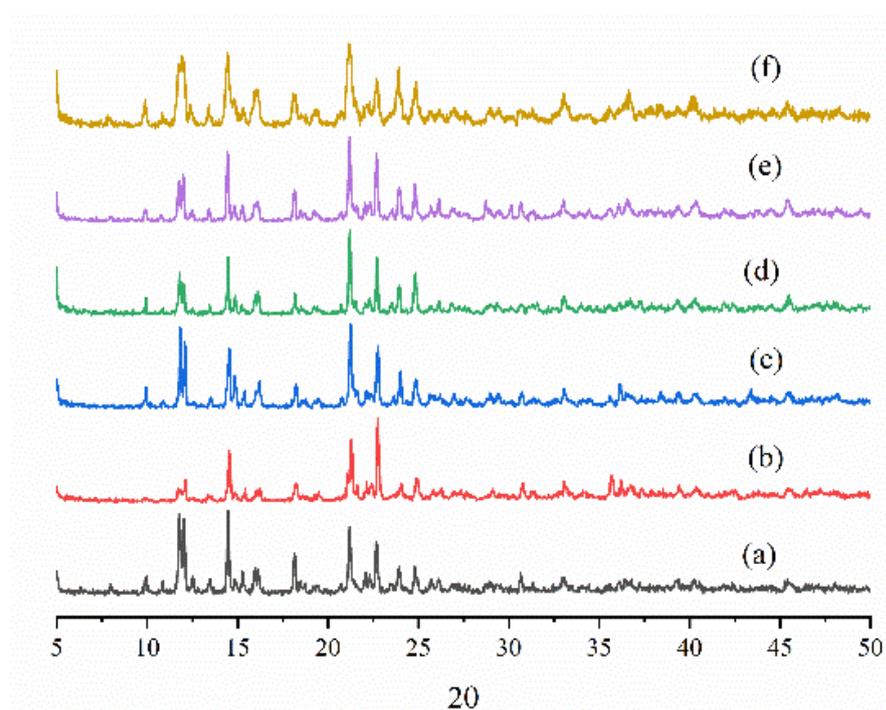


Figure S15. PXR D patterns of **9** in different solvents up to 7 days: (a) as-synthesized, (b) H₂O, (c) EtOH, (d) MeOH, (e) DCM and (f) MeCN.

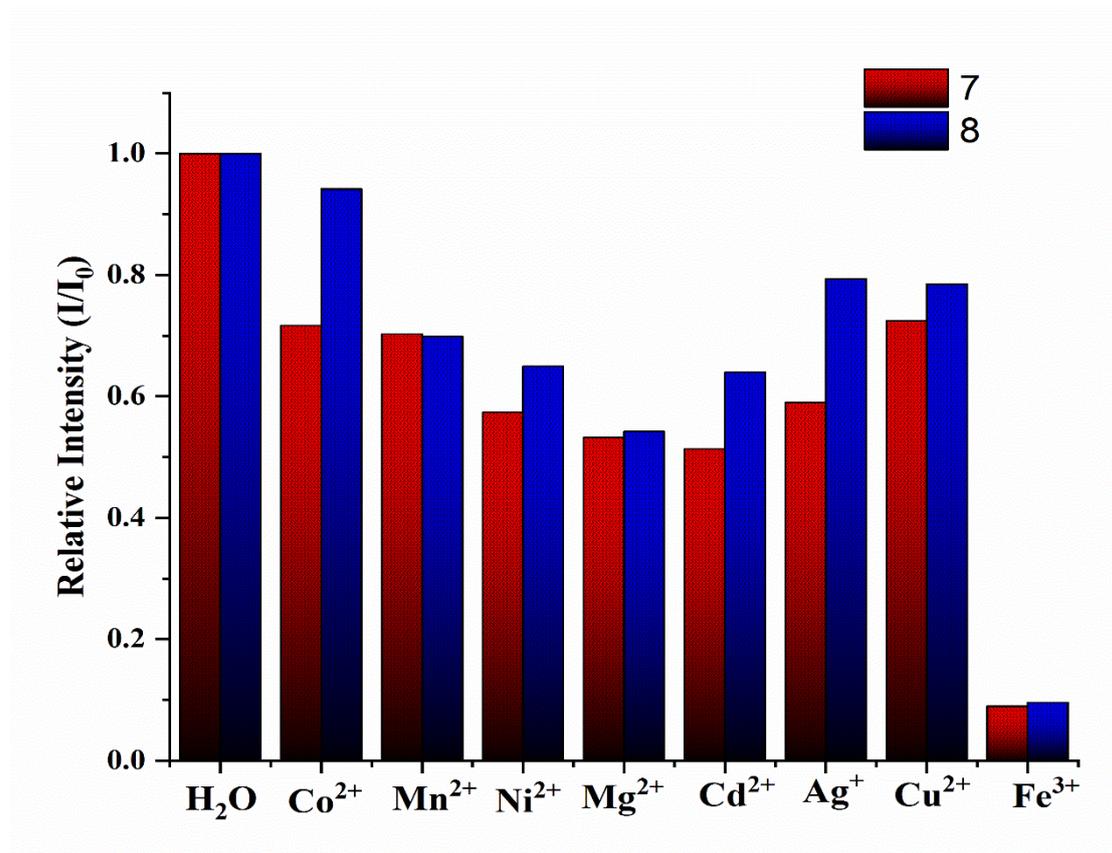


Figure S16. A diagram showing the dependence of the emission intensities of complexes **7** and **8** in various metal ions.

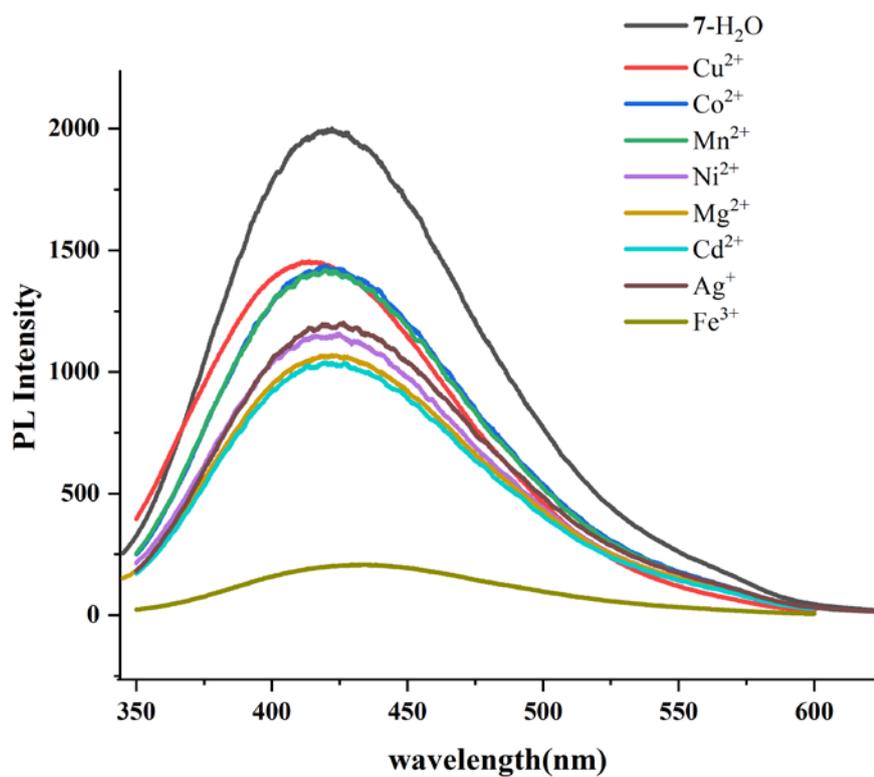


Figure S17. Solid-state emission spectra of **7** after immersion into different metal ions.

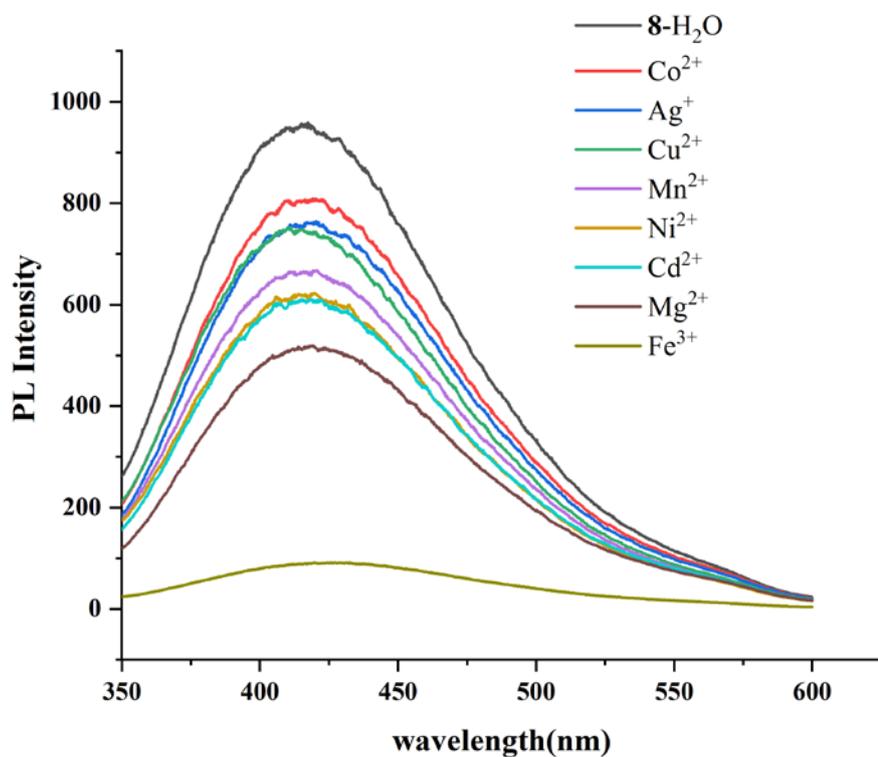


Figure S18. Solid-state emission spectra of **8** after immersion into different metal ions.

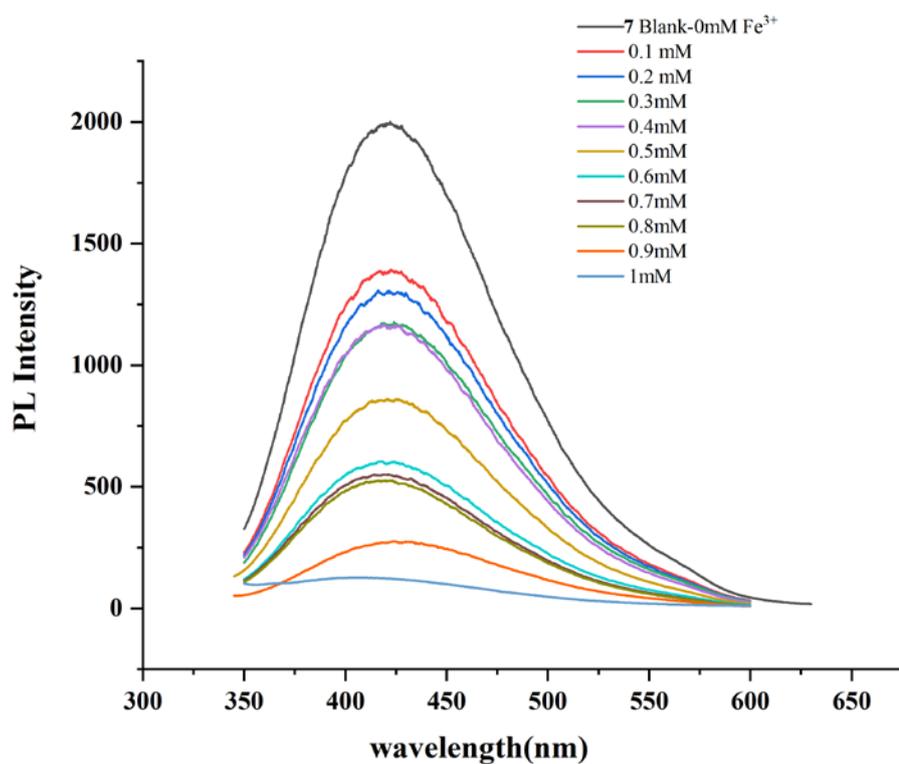


Figure S19. Dependence of the emission intensities of **7** in Fe^{3+} with various concentrations.

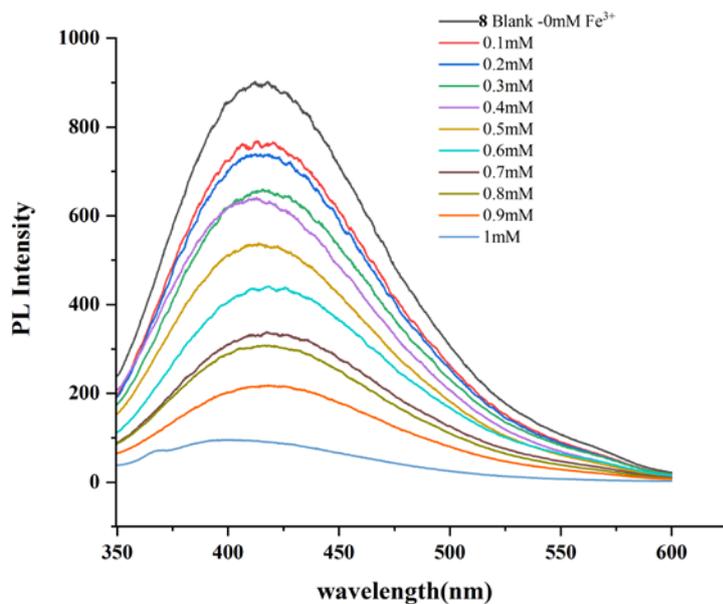


Figure S20. Dependence of the emission intensities of **8** in Fe^{3+} with various concentrations.

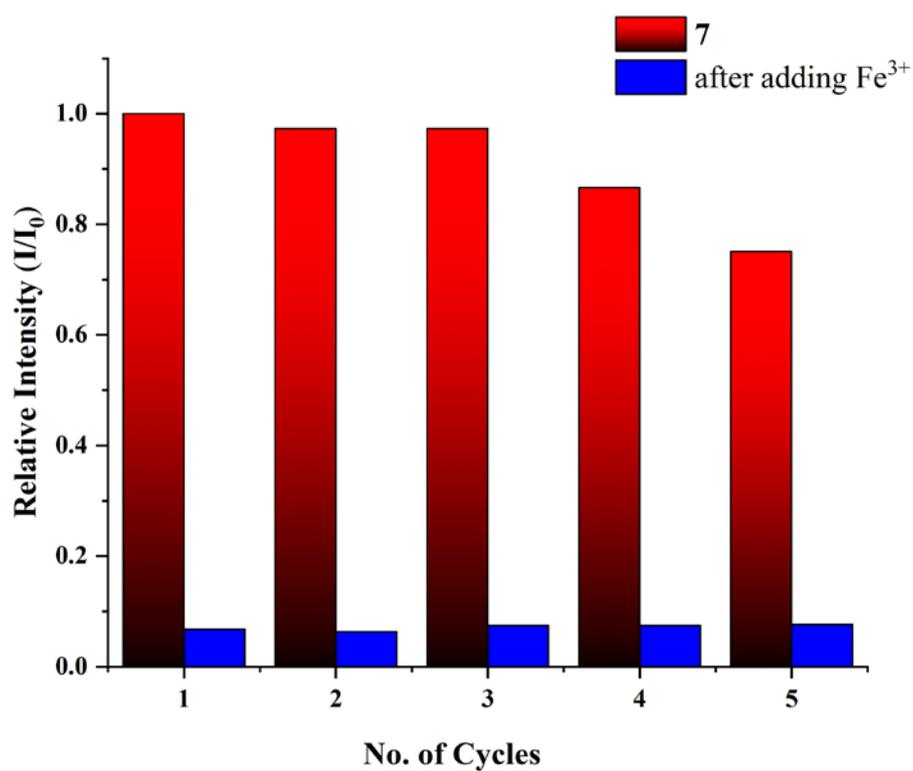


Figure S21. Bar diagrams showing the emission intensities ($\lambda_{ex} = 325$ nm) of 7 treated with Fe^{3+} for five repeated cycles.

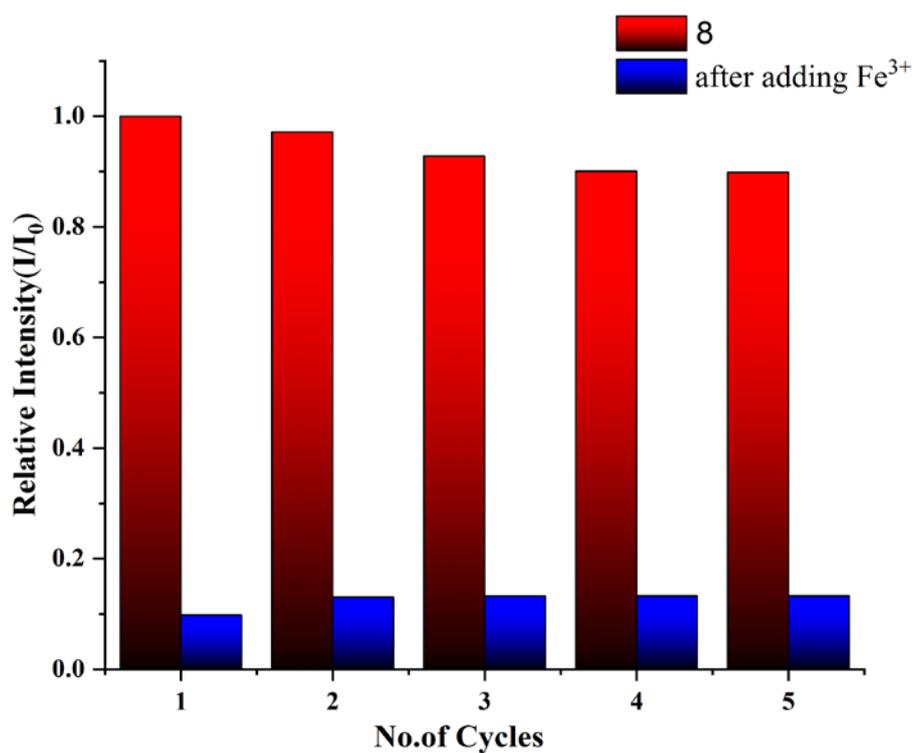


Figure S22. Bar diagrams showing the emission intensities ($\lambda_{\text{ex}} = 326$ nm) of **8** treated with Fe^{3+} for five repeated cycles.

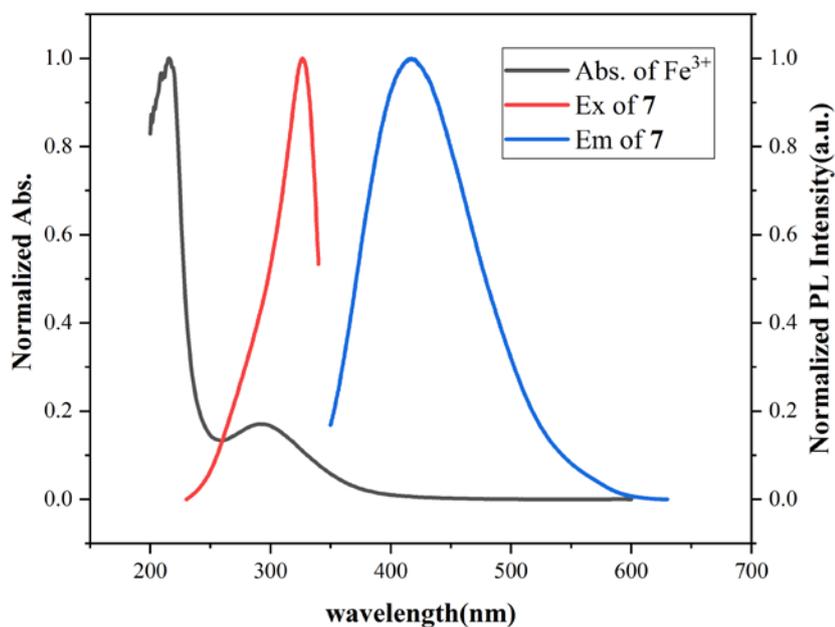


Figure S23. UV-vis absorption spectrum of Fe^{3+} ions in aqueous solution and the excitation and emission spectra of **7**.

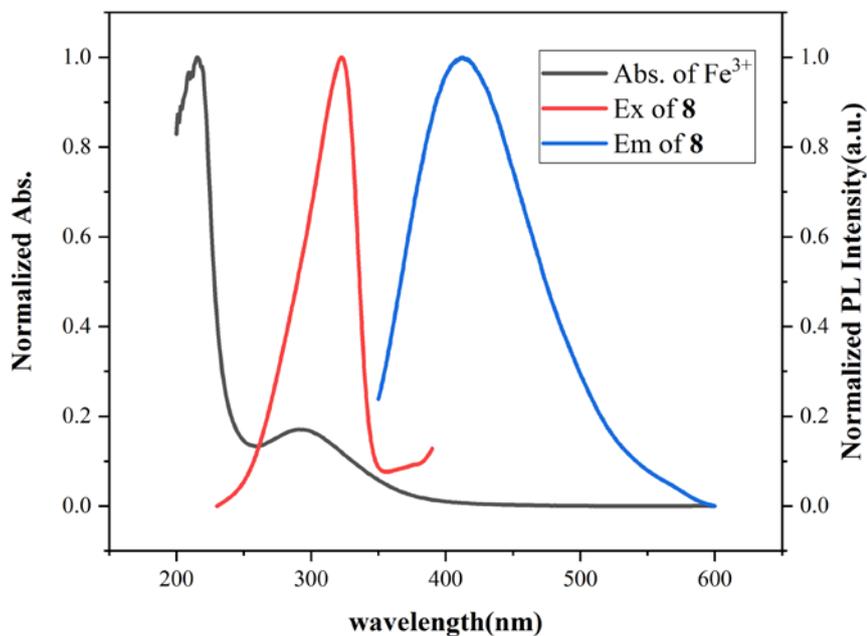


Figure S24. UV-vis absorption spectrum of Fe^{3+} ions in aqueous solution and the excitation and emission spectra of **8**.

Element	Weight%	Atomic%
C K	45.08	63.20
N K	10.18	12.24
O K	17.49	18.41
Cl K	8.62	4.09
Fe L	2.26	0.68
Hg M	16.37	1.37
Totals	100.00	

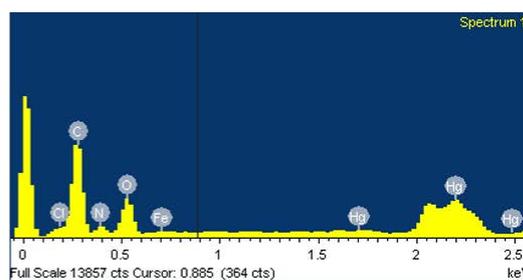
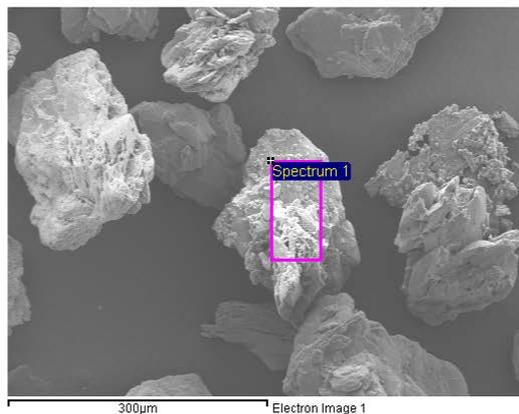


Figure S25. EDX data for Fe³⁺-uptaked complex 7.

Element	Weight%	Atomic%
C K	39.57	66.52
N K	7.06	10.17
O K	10.93	13.79
Fe L	4.57	1.65
Br L	26.64	6.73
Hg M	11.25	1.13
Totals	100.00	

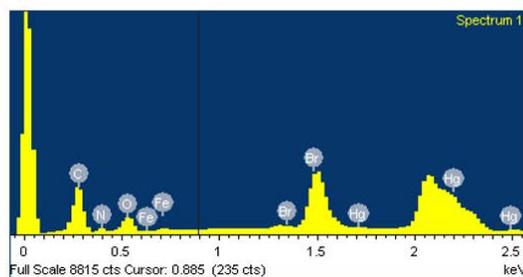
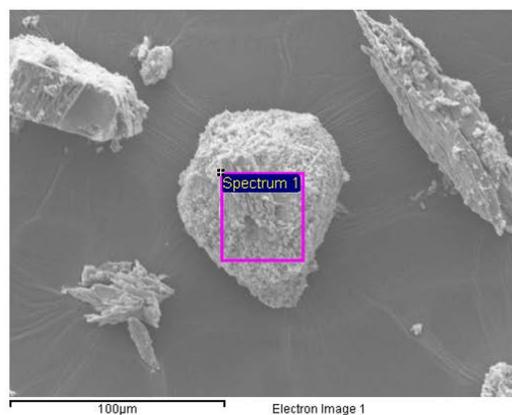


Figure S26. EDX data for Fe³⁺-uptaked complex 8.

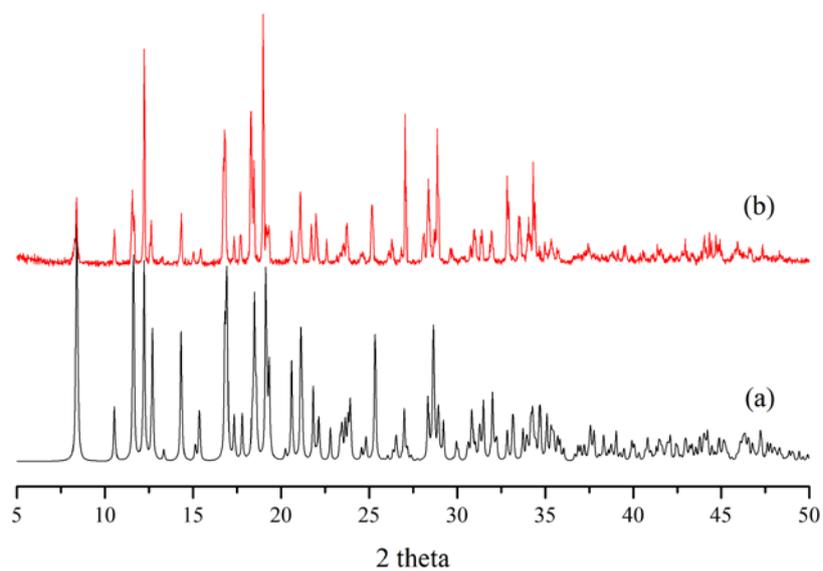


Figure S27. PXRD patterns of complex **1**. (a) simulated, (b) as synthesized by hydrothermal reaction.

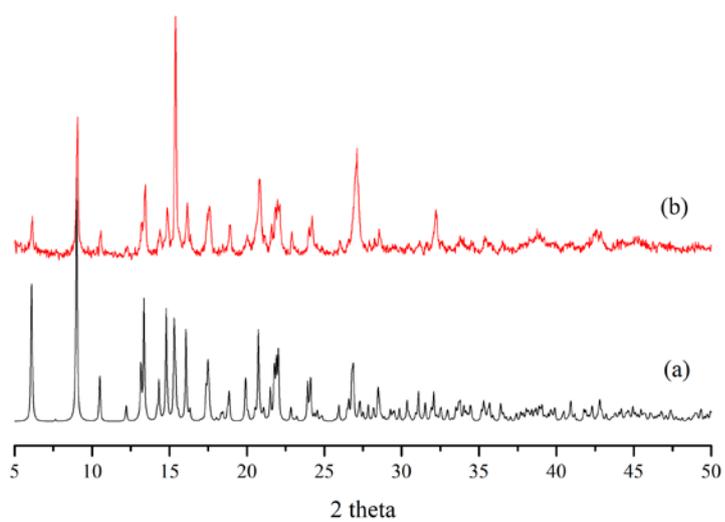


Figure S28. PXRD patterns of complex **2**. (a) simulated, (b) as synthesized by hydrothermal reaction.

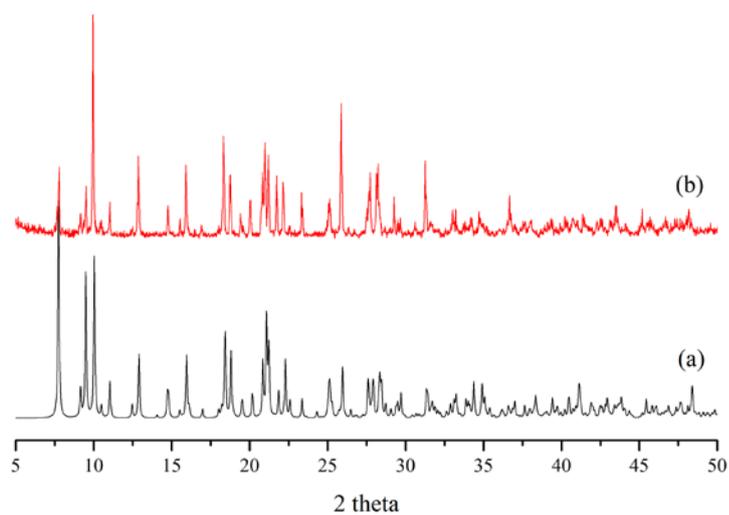


Figure S29. PXRD patterns of complex **3**. (a) simulated, (b) as synthesized by hydrothermal reaction.

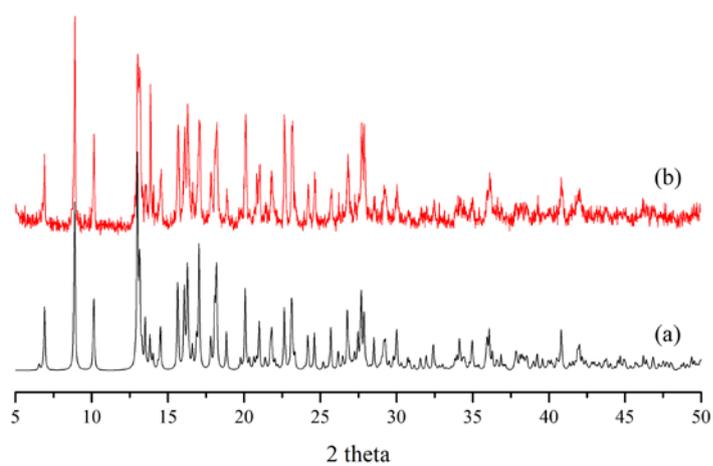


Figure S30. PXRD patterns of complex **4**. (a) simulated, (b) as synthesized by hydrothermal reaction.

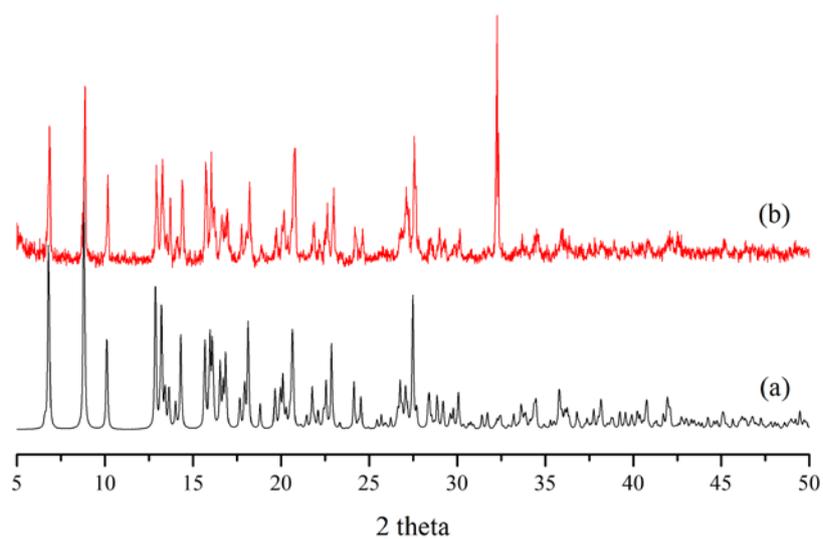


Figure S31. PXRD patterns of complex **5**. (a) simulated, (b) as synthesized by hydrothermal reaction.

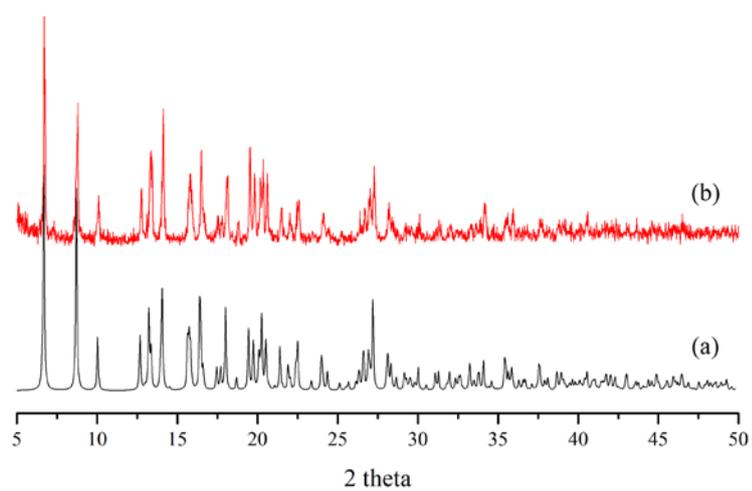


Figure S32. PXRD patterns of complex **6**. (a) simulated, (b) as synthesized by hydrothermal reaction.