

Supplementary materials

Metallacycles of cadmium, mercury dicarboxylates

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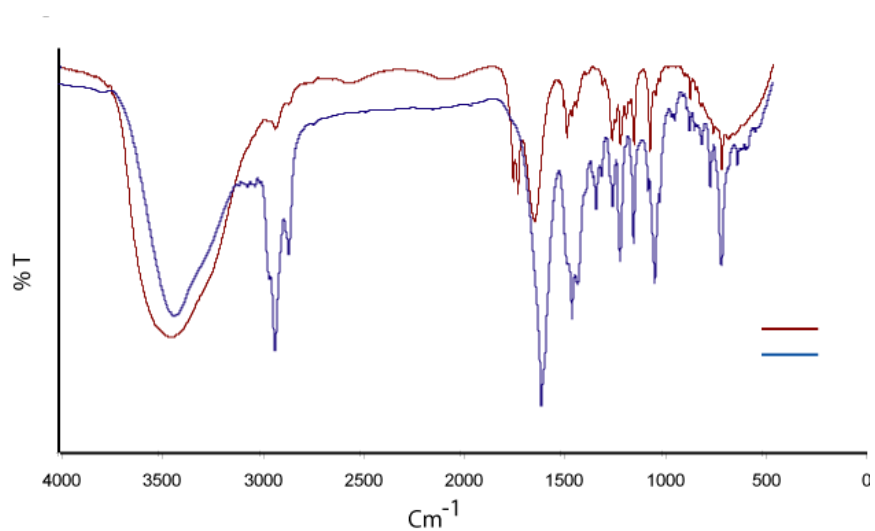


Figure S1: IR spectra of ligand **1** and complex **4** (top for ligand and bottom for the metal complex **4**)

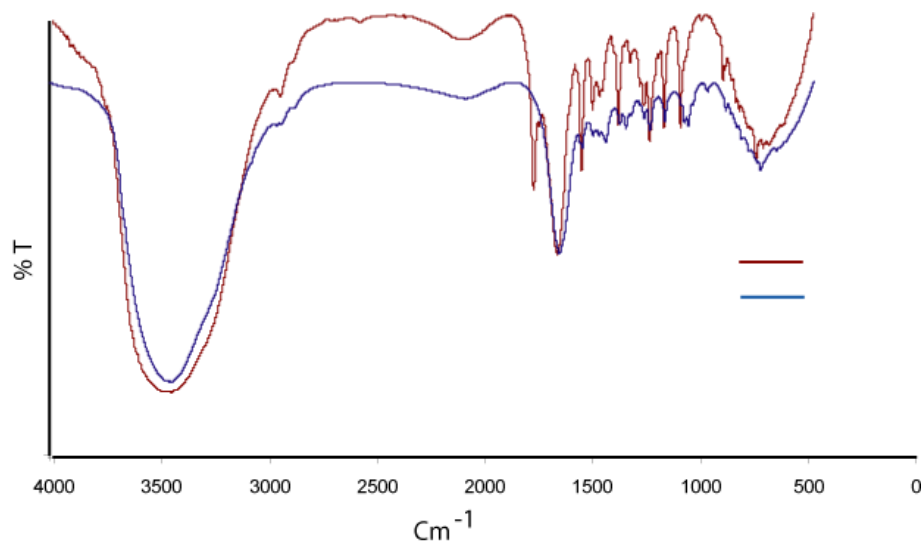


Figure S2: IR spectra of ligand **2** and complex **5** (upper one is for ligand and lower one for the metal complex)

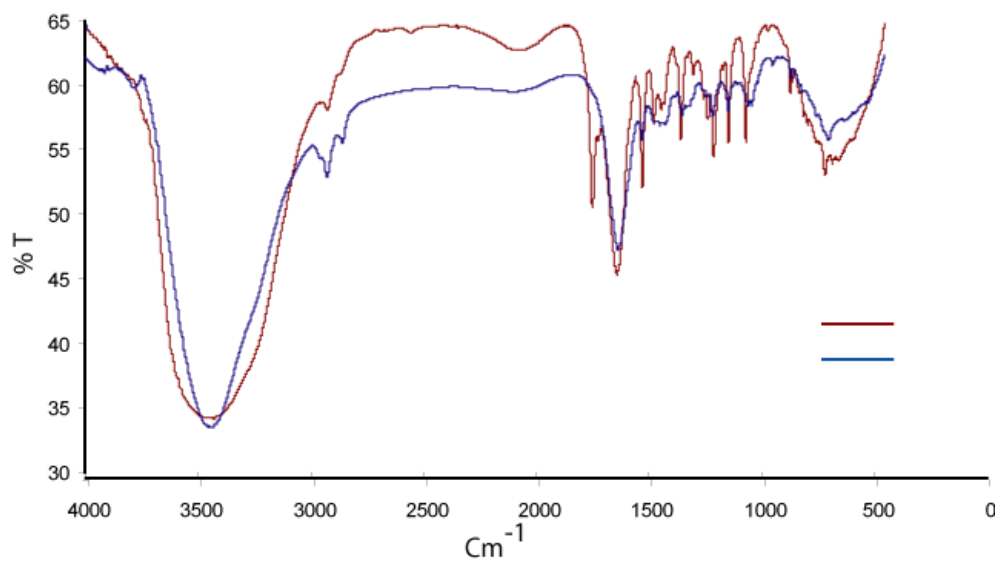


Figure S3: IR of ligand **3** and complex **7** (upper one is for ligand and lower one is for the metal complex)

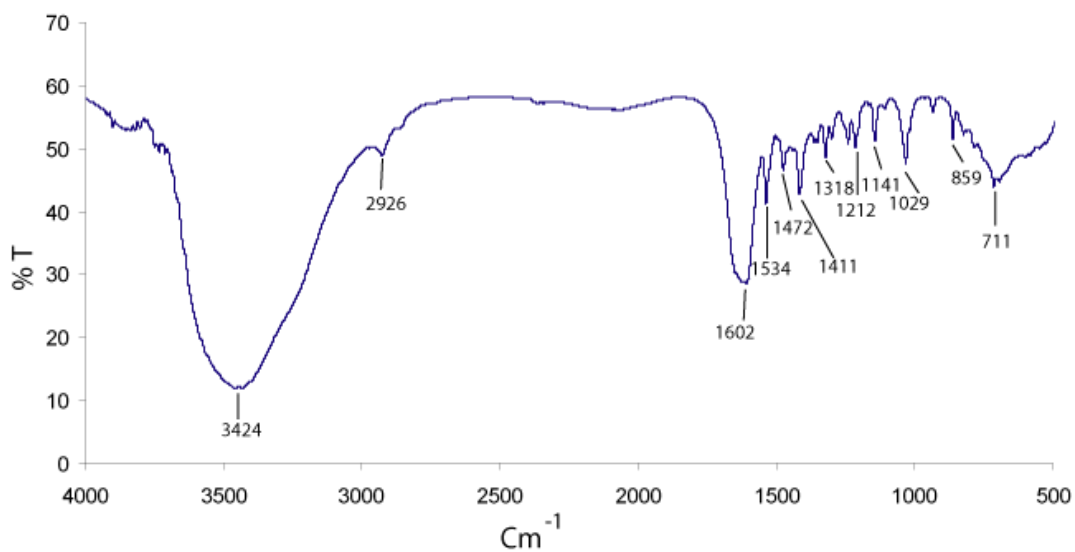


Figure S4: IR spectra (KBr, cm⁻¹) of the complex **8**

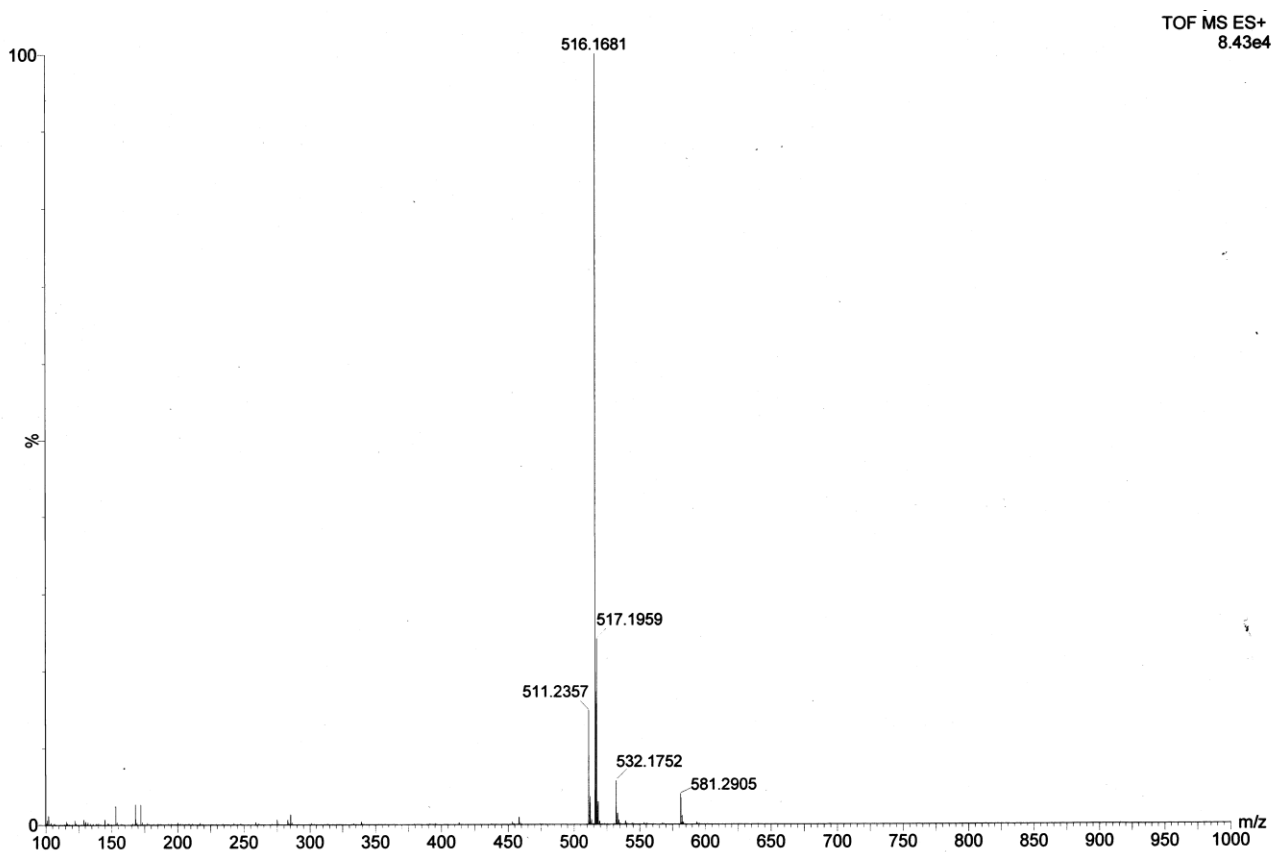


Figure S5 : Mass spectra (ESI) of the ligand **2** (M+ ²³Na)

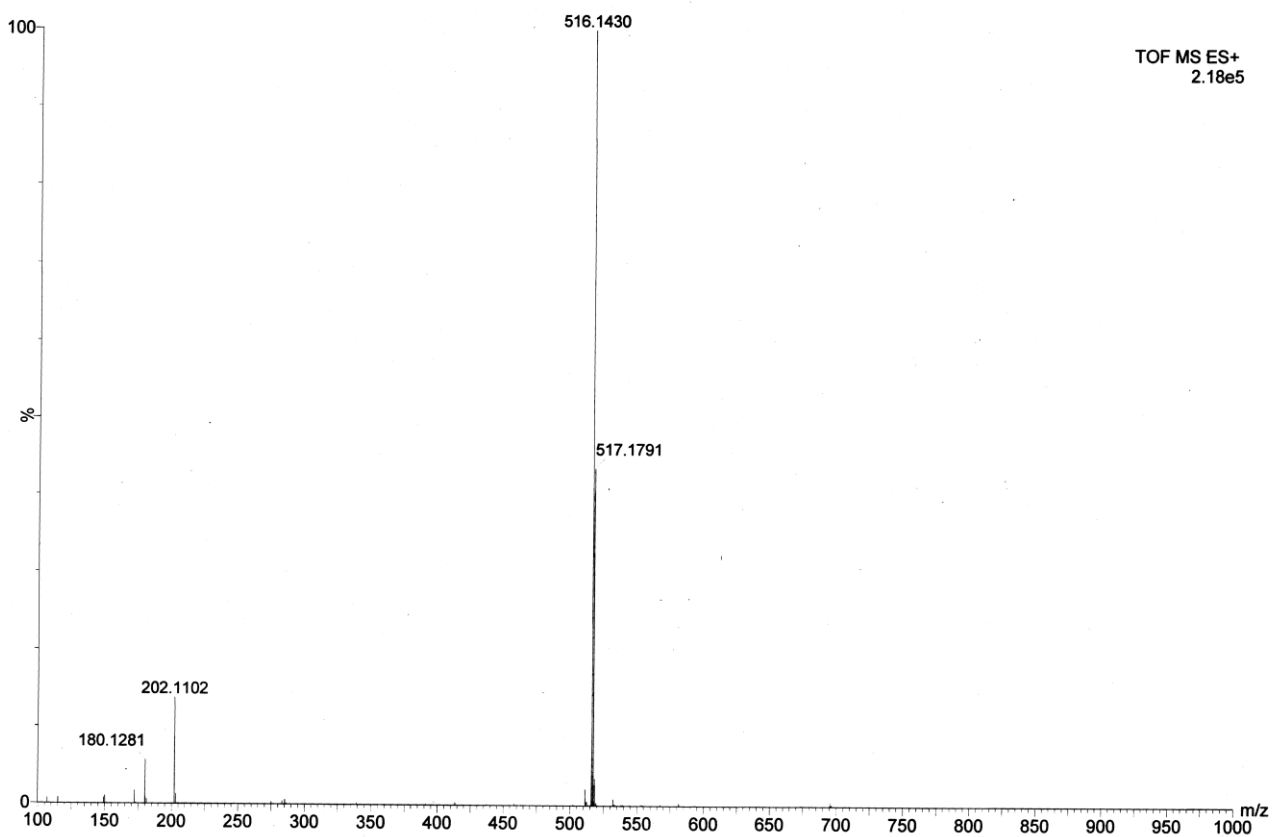


Figure S6: Mass spectra (ESI) of the ligand **3** ($M+^{23}\text{Na}$)

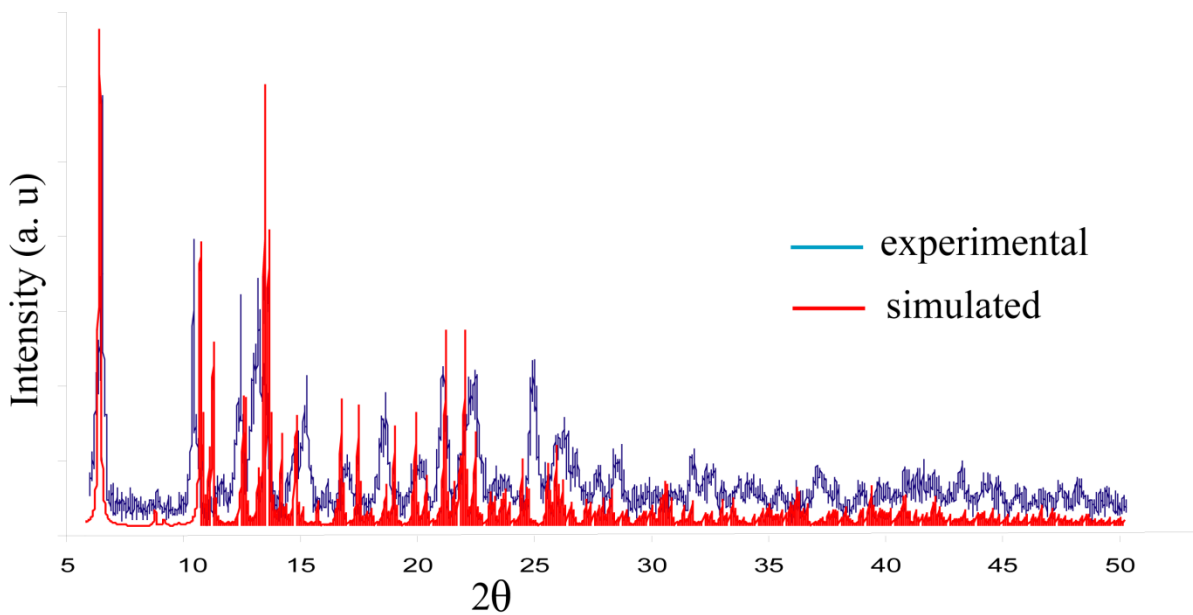


Figure S7 : PXRD of complex 4

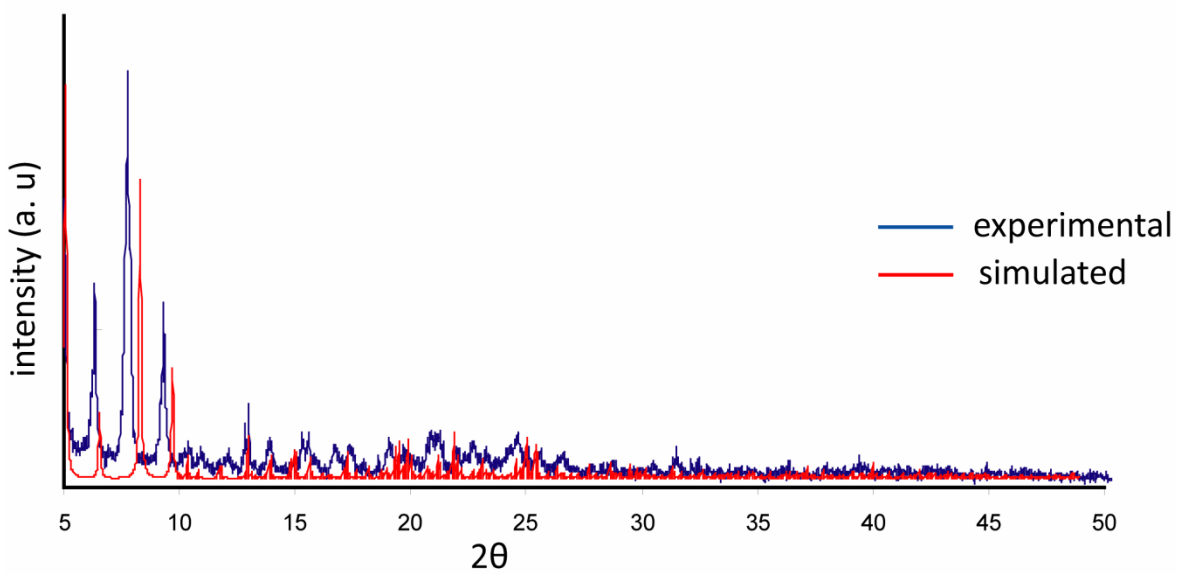


Figure S8 : PXRD of complex 5

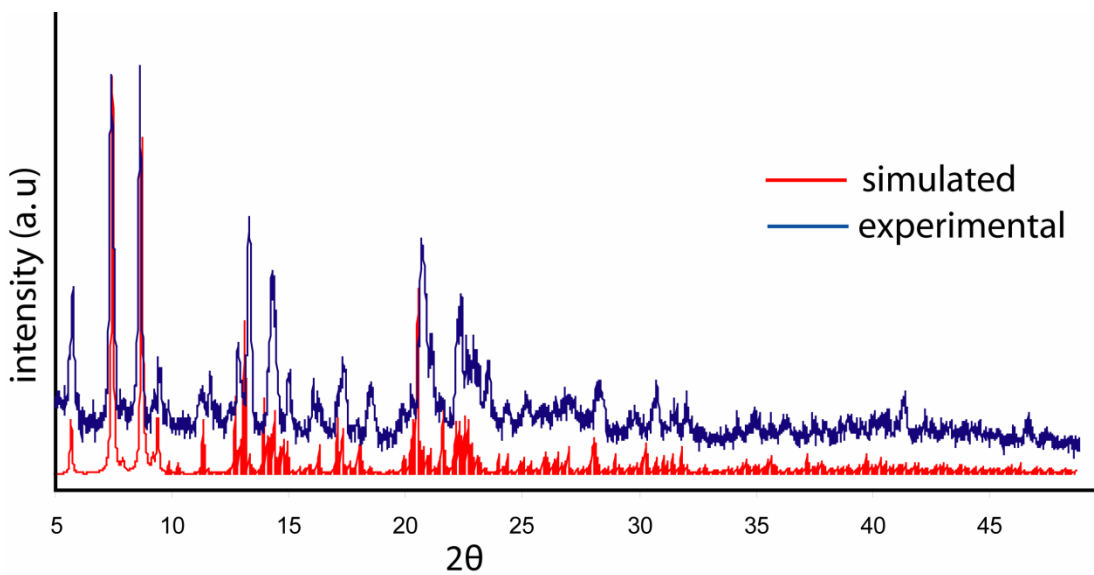


Figure S9: PXRD of complex 7

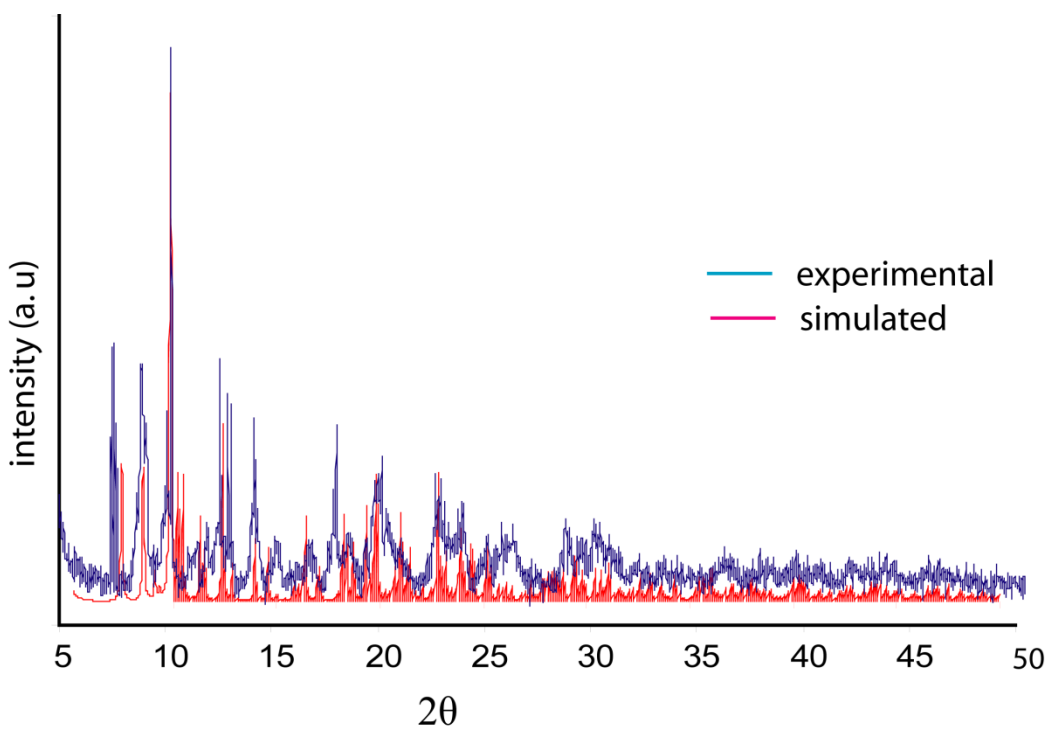


Figure S10 : PXRD of complex 8

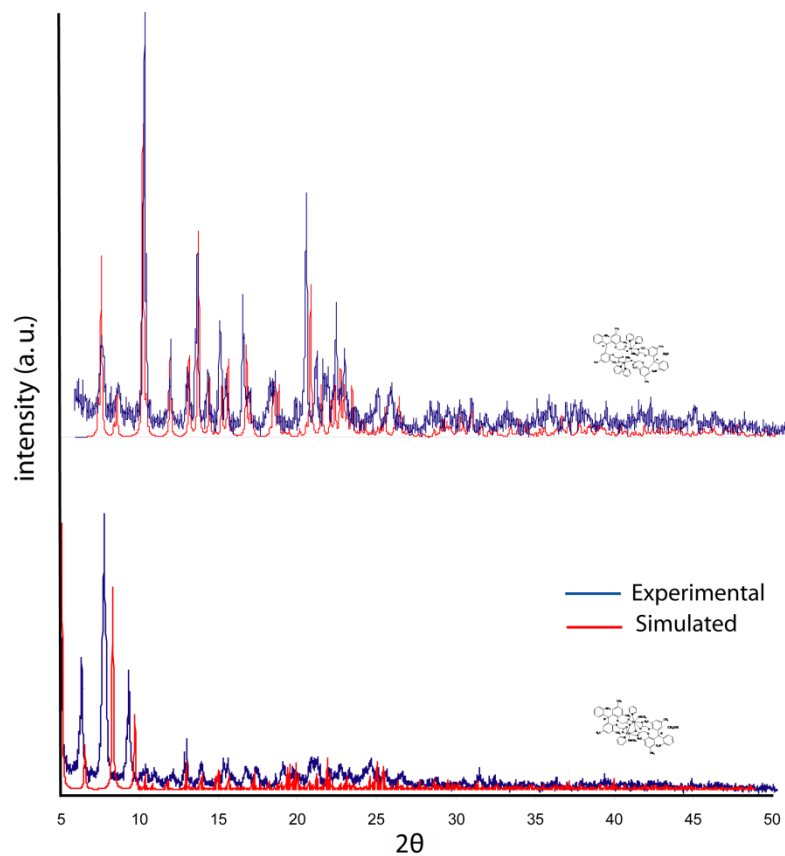


Figure S11: The powder X-ray of the dinuclear complex **5** (lower one) and metallacycle **6** (upper one). Red lines are the simulated; whereas blue are experimental PXRD patterns.

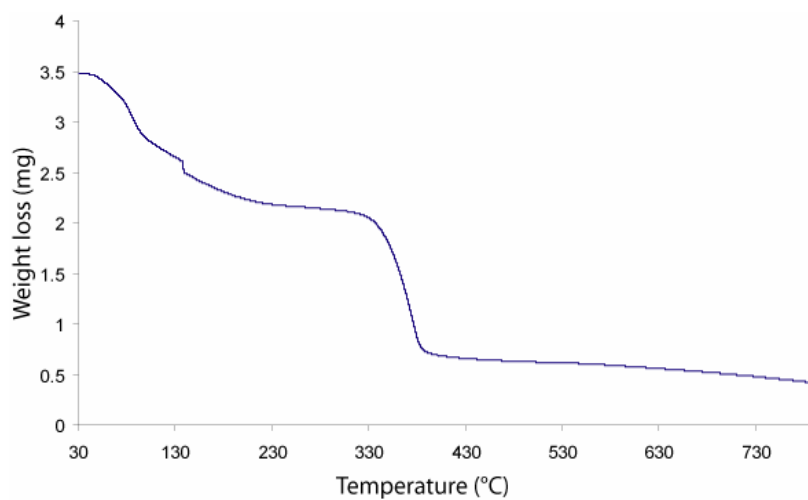


Figure S12: Thermogravimetry of complex **4** (heating rate 3 $^{\circ}\text{C}$ per min)

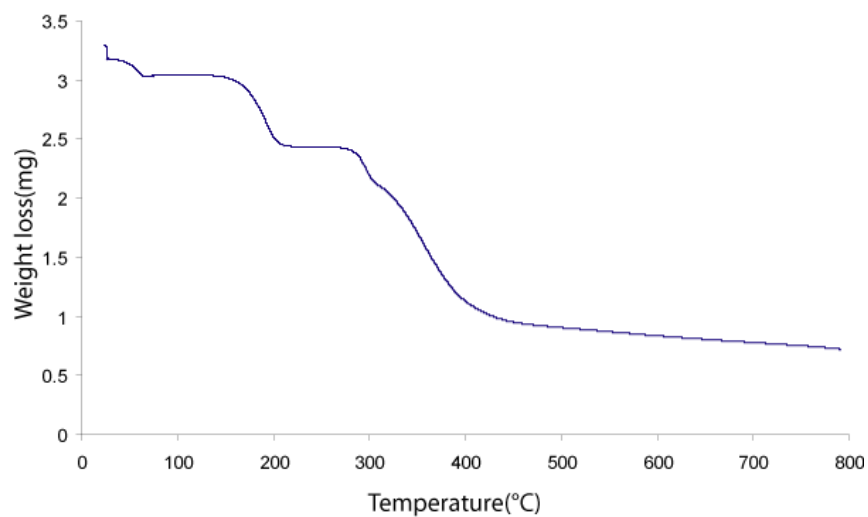


Figure S13: Thermogravimetry of complex **5** (heating rate 3°C per min)

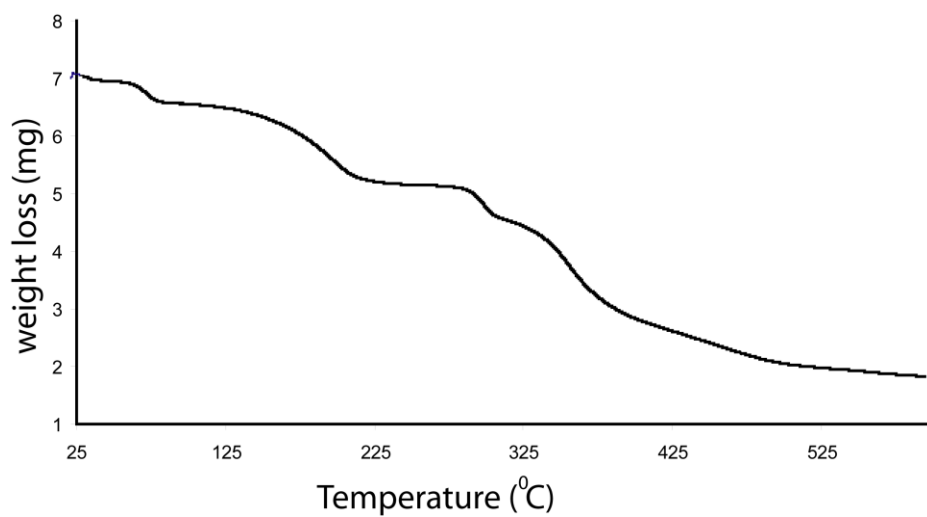


Figure S14: Thermogravimetry of complex **6** (heating rate 3°C per min)

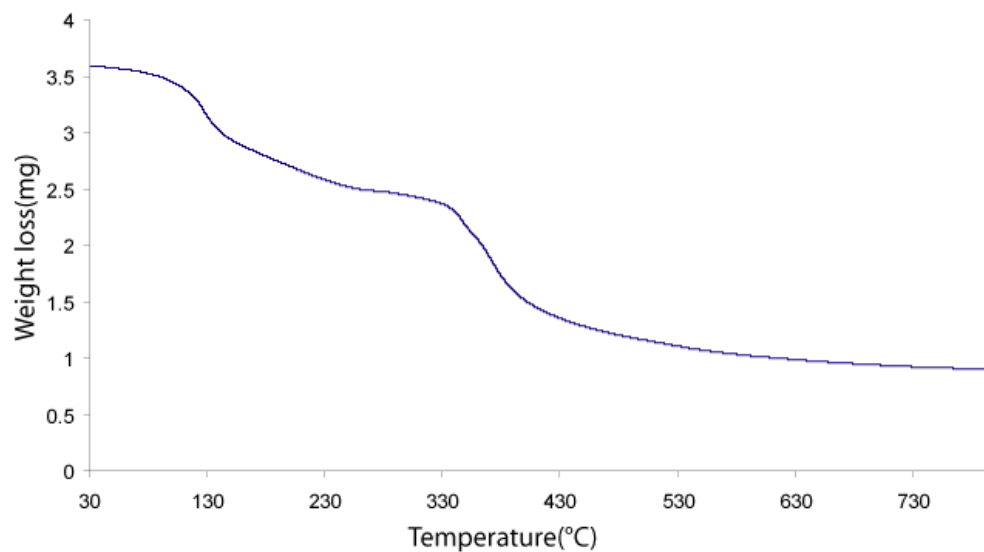


Figure S15: Thermogravimetry of complex **7** (heating rate 3°C per min)

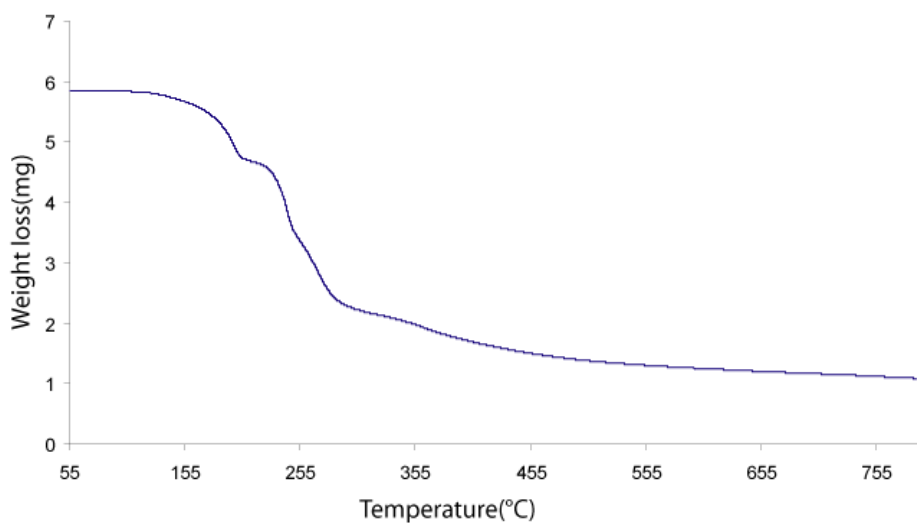


Figure S16: Thermogravimetry of complex **8** (heating rate 3°C per min)

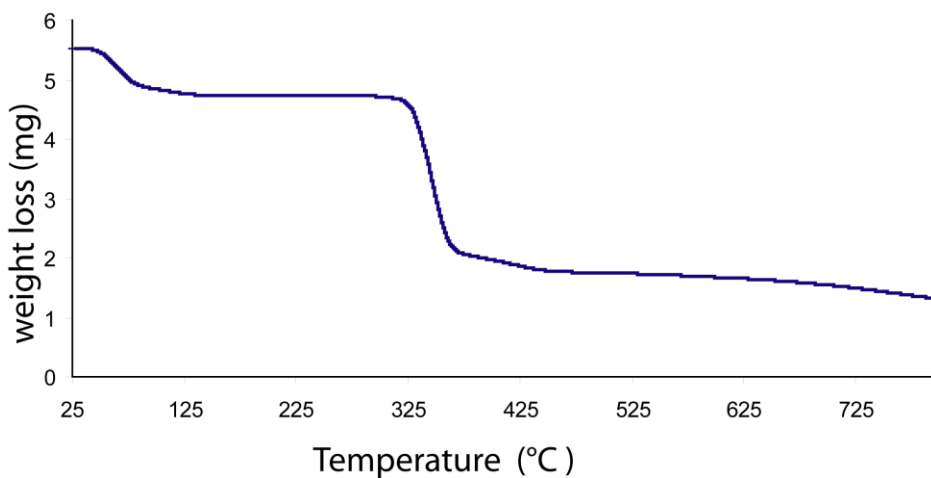


Figure S17: Thermogravimetry of complex **12** (heating rate 3°C per min.)

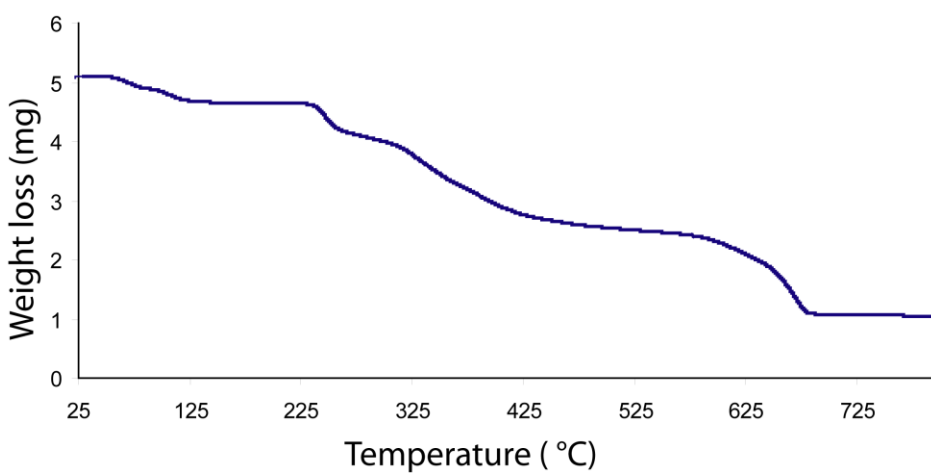


Figure S18: Thermogravimetry of complex **13** (heating rate 3°C per min.)

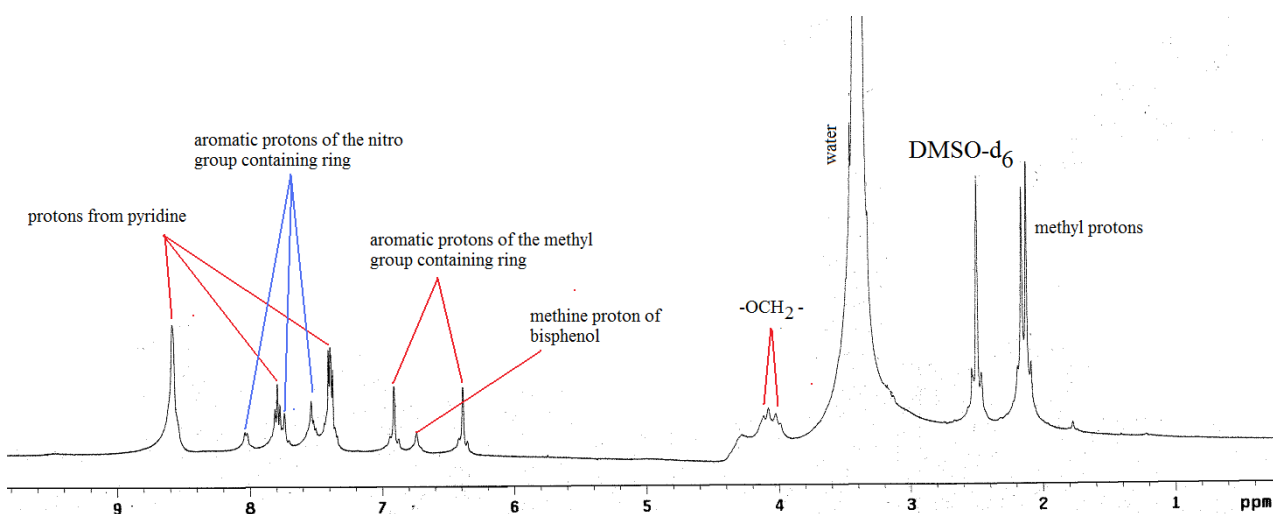


Figure S119: $^1\text{H-NMR}$ spectra of metallacycle **7**

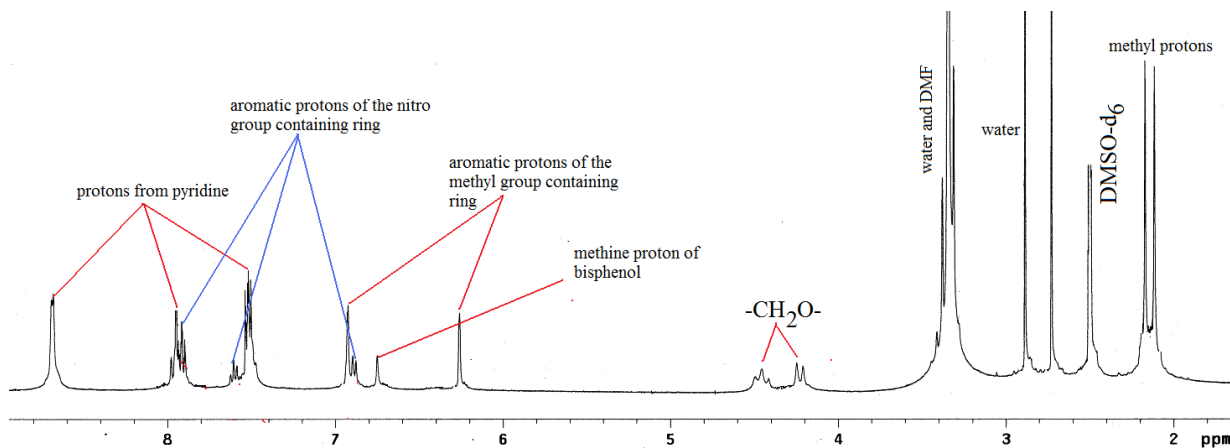
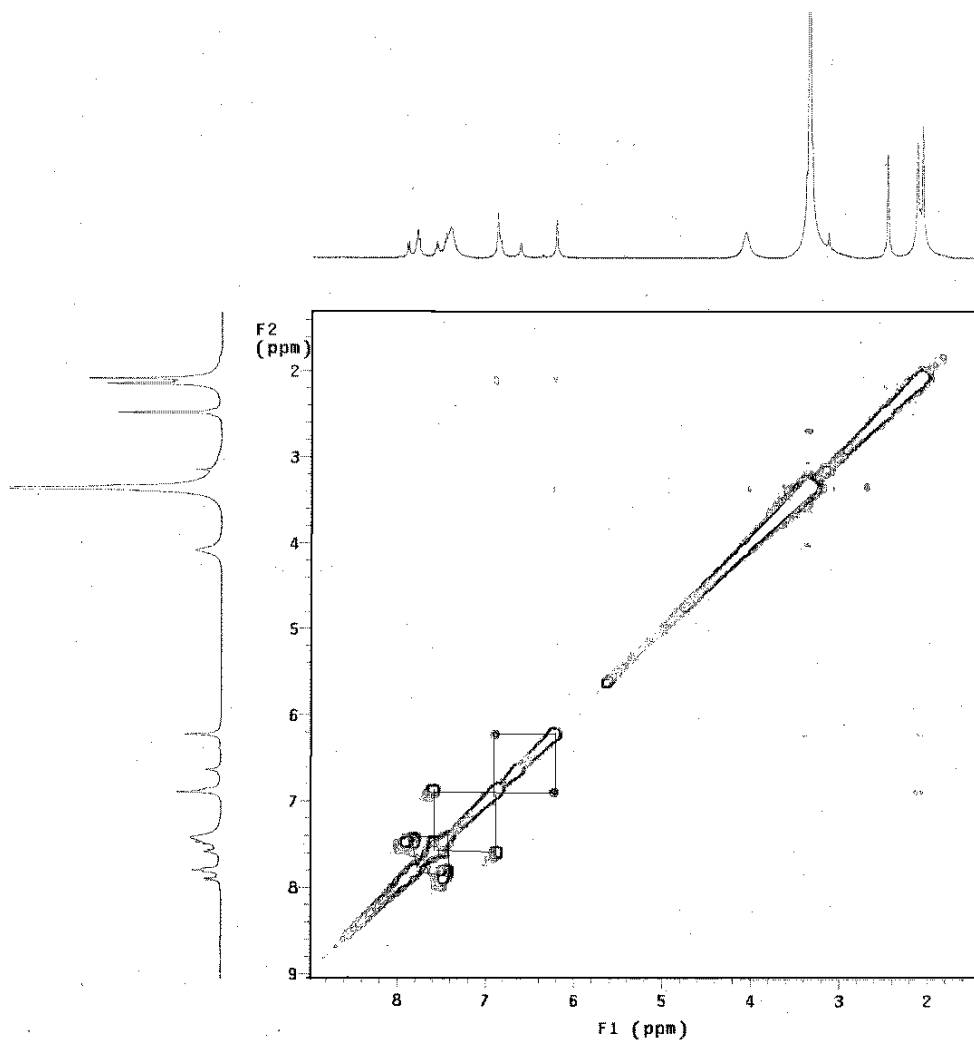
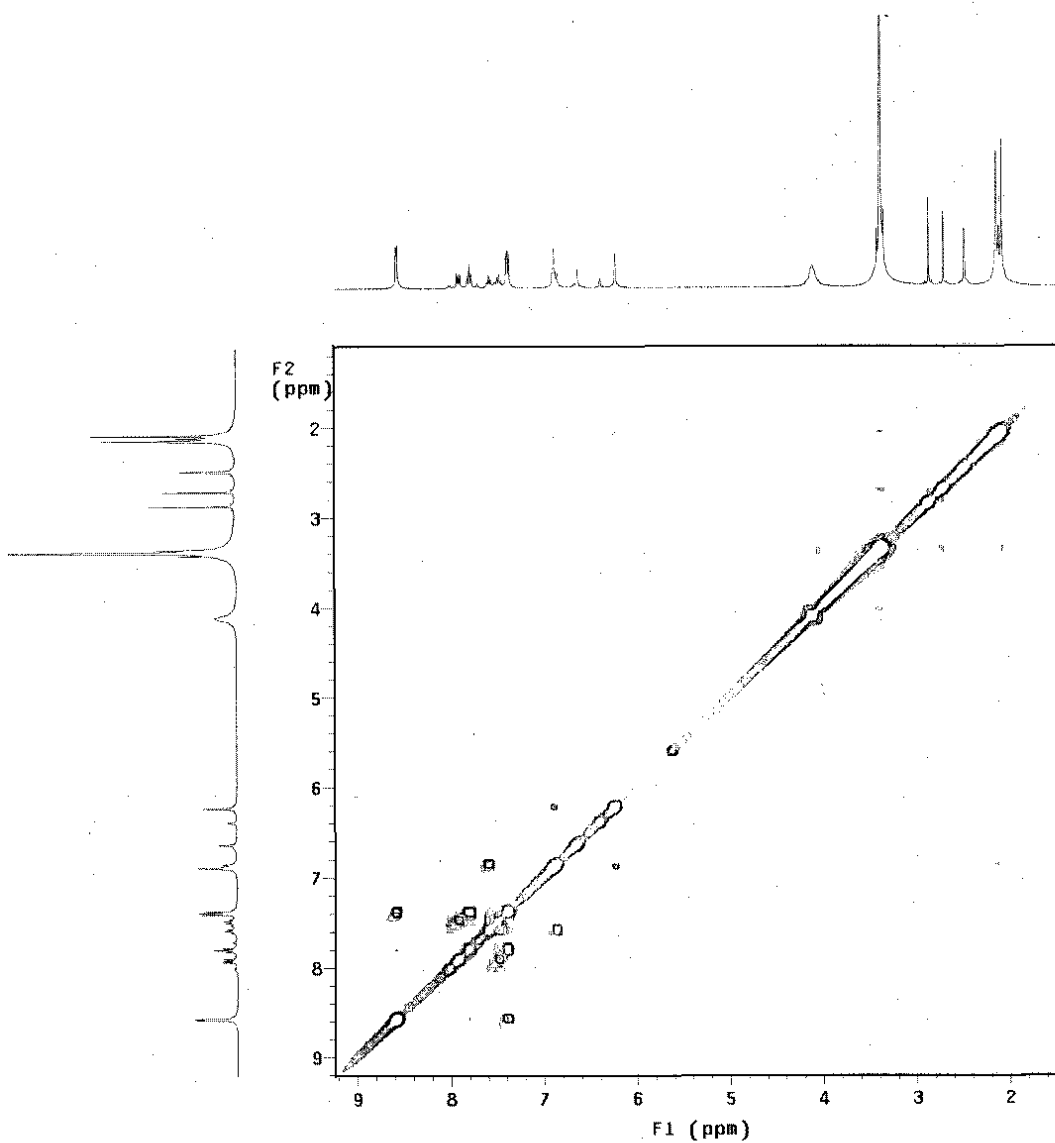


Figure S20: $^1\text{H-NMR}$ spectra of metallacycle **8**



S21: ^1H HOMO-COSY spectra of 5 (DMSO-d_6)



S22: ^1H HOMO-COSY spectra of **6** (DMSO-d_6)