

## Supporting Information

### **Effect of Substituent Groups on Crystal Structures and Luminescence Properties of 2D/3D Cd<sup>II</sup> Complexes with Mixed Rigid and Flexible Carboxylate Ligands**

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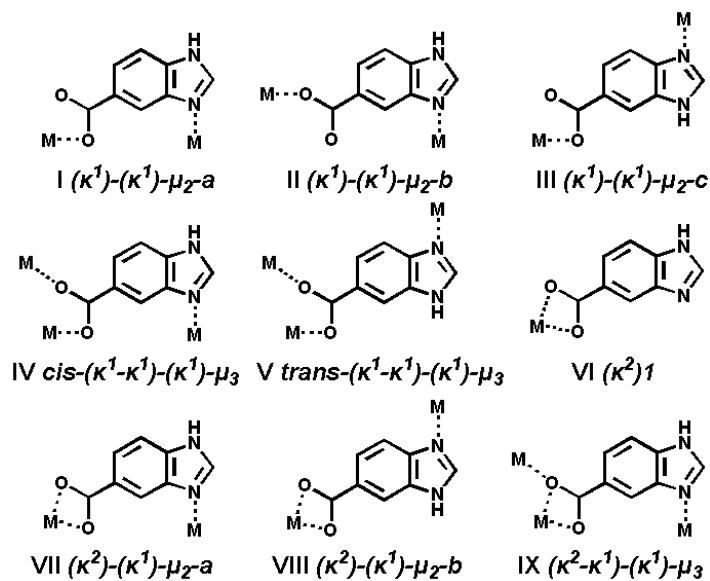


Chart S1. The coordination modes of the Hbic ligand.

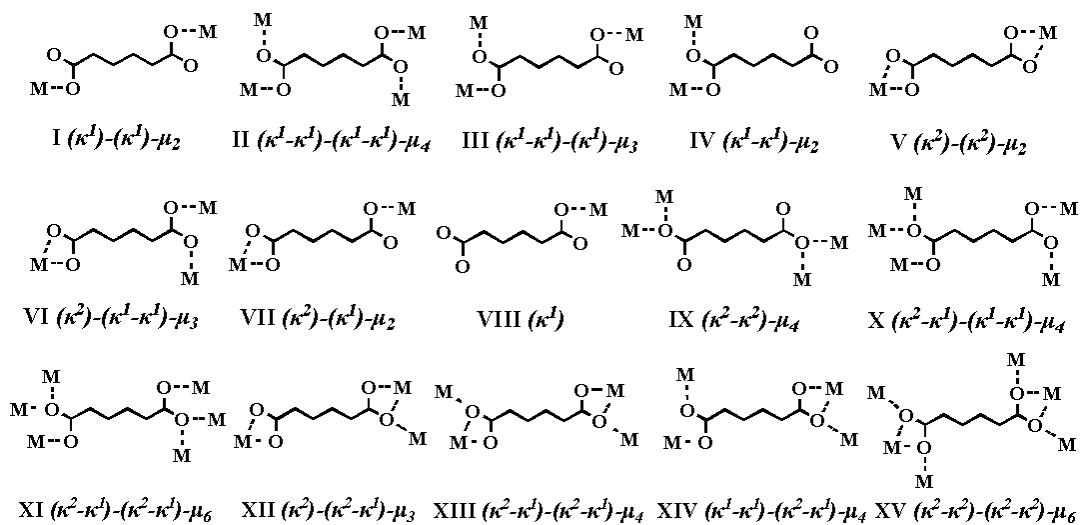
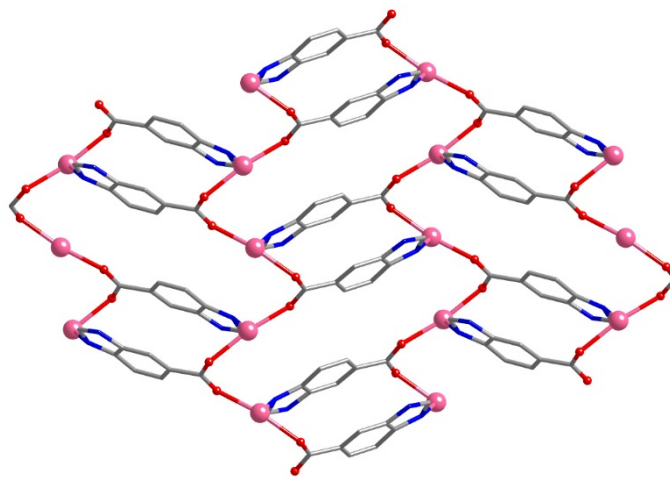
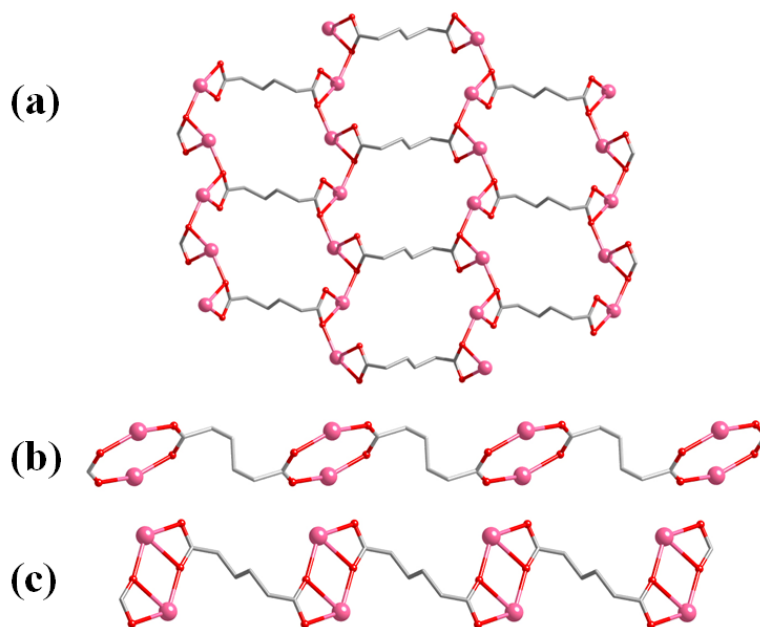


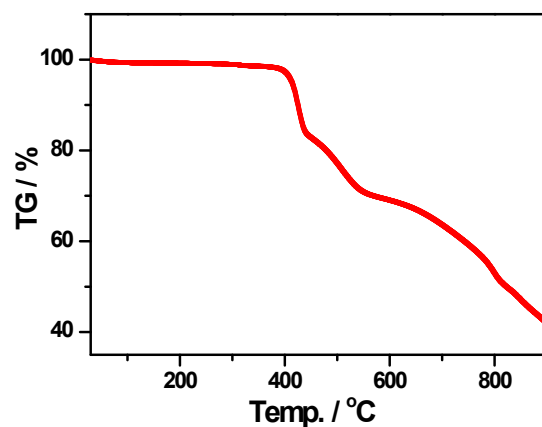
Chart S2. Reported coordination modes of adipate.



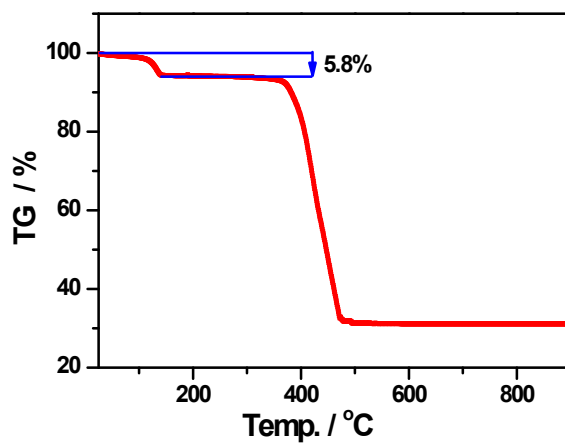
**Figure S1.** The 2D structure based on bic ligand in complex **1**.



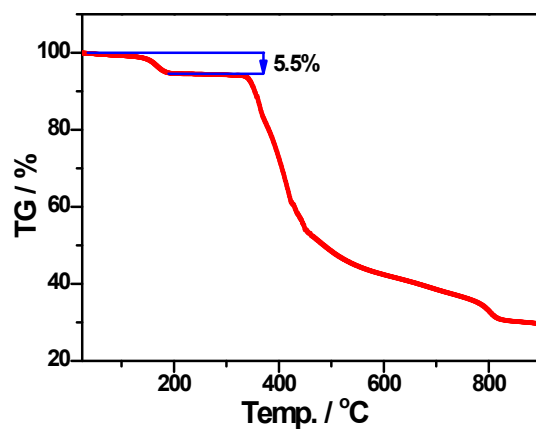
**Figure S2.** The 1D/2D structures based on  $\text{adp}^{2-}$  ion of complexes **1(a)**, **2(b)** and **3(c)**.



**Figure S3.** (a) The TG curves of complex 1 in flowing N<sub>2</sub> at a heating rate of 10 °C/min in the temperature range 30 - 900 °C.



**Figure S3.** (b) The TG curves of complex 2 in flowing N<sub>2</sub> at a heating rate of 10 °C/min in the temperature range 30 - 900 °C.



**Figure S3.** (c) The TG curves of complex 3 in flowing N<sub>2</sub> at a heating rate of 10 °C/min in the temperature range 30 - 900 °C.

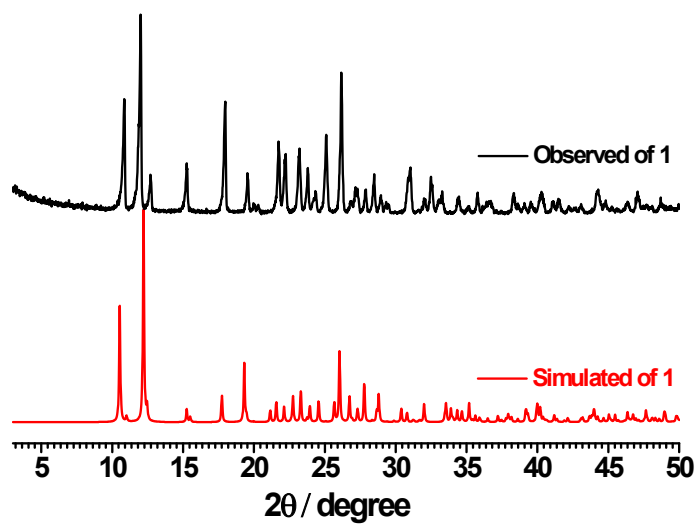


Figure S4. (a) XRPD pattern of 1 compared to that simulated from single crystal data of 1.

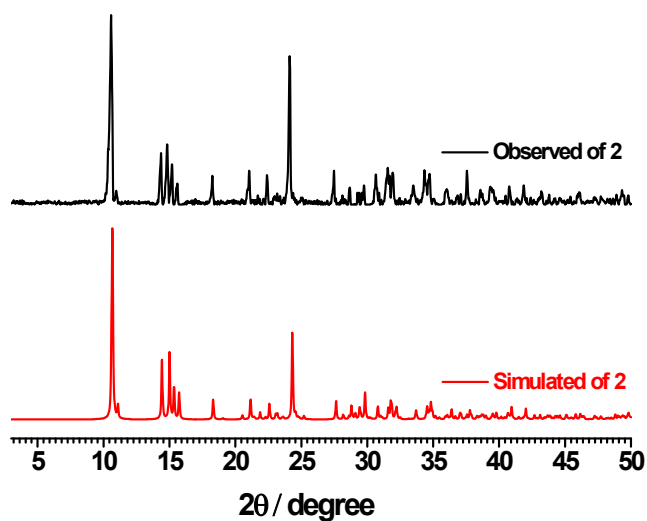
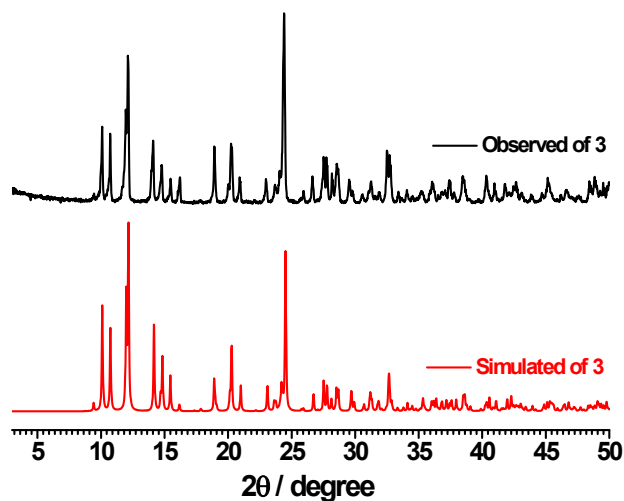


Figure S4. (b) XRPD pattern of 2 compared to that simulated from single crystal data of 2.



**Figure S4.** (c) XRPD pattern of **3** compared to that simulated from single crystal data of **3**.