Supplementary information:

Synthesis, structures and properties of two-dimensional honeycomb and stepwise networks from self-assembly of tripodal ligand 1,3,5-tris(imidazol-1-ylmethyl)-2,4,6-trimethylbenzene with metal salts

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1. Hydrogen bonds network in complex **2**.
2. Coordination environment of Cd2b in minor component of complex **3**.
3. FT-IR spectra of anion exchange.
4. Excitation and emission spectra of **2**.

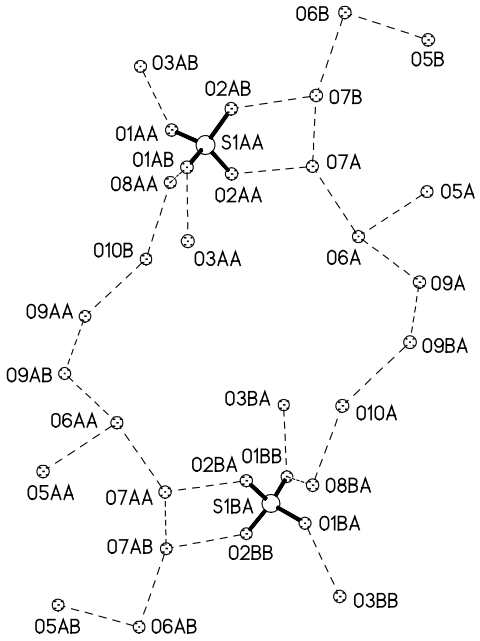

Figure S1. Hydrogen bonds network indicated by dashed lines in **2**. Distance between two O atoms (Å): O1AB-O3AA = 2.75, O1AB –O8AA = 2.93, O8AA-O10B = 2.90, O10B-O9AA = 2.87, O9AA-O9AB = 2.82, O9AB-O6AA = 2.89, O6AA-O5AA = 2.83, O6AA-O7AA = 2.78, O7AA-O7AB = 2.77, O7AA-O2BA = 2.75.

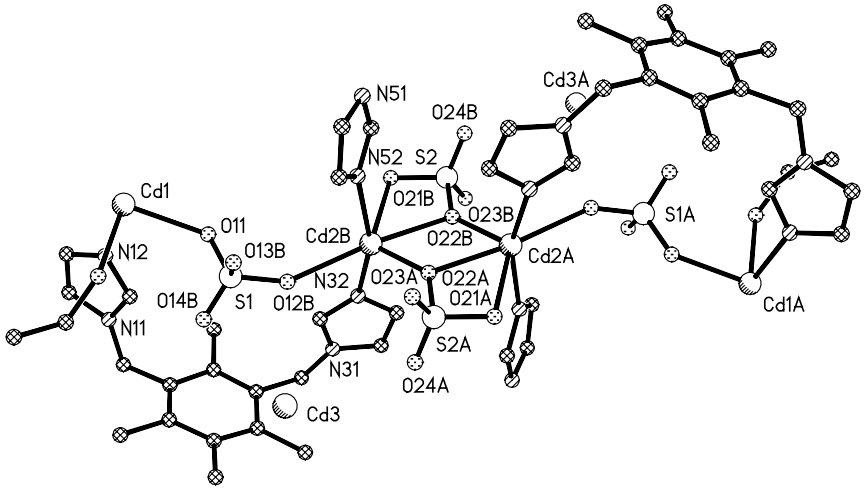

Figure S2. Coordination environment of Cd2b (minor component).

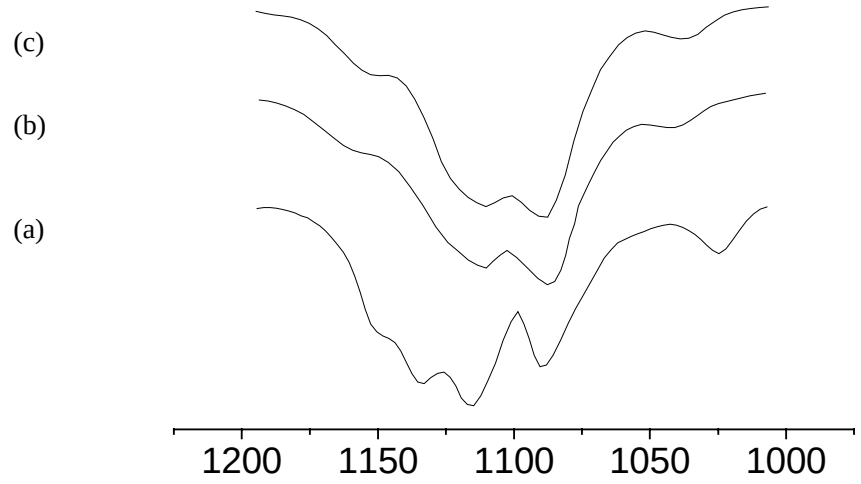

Figure S3. FT-IR spectra of (a) complex **2**; (b) $[Mn(L)_2](ClO_4)_2$ and (c) product of **2** exchanged with $NaClO_4$.

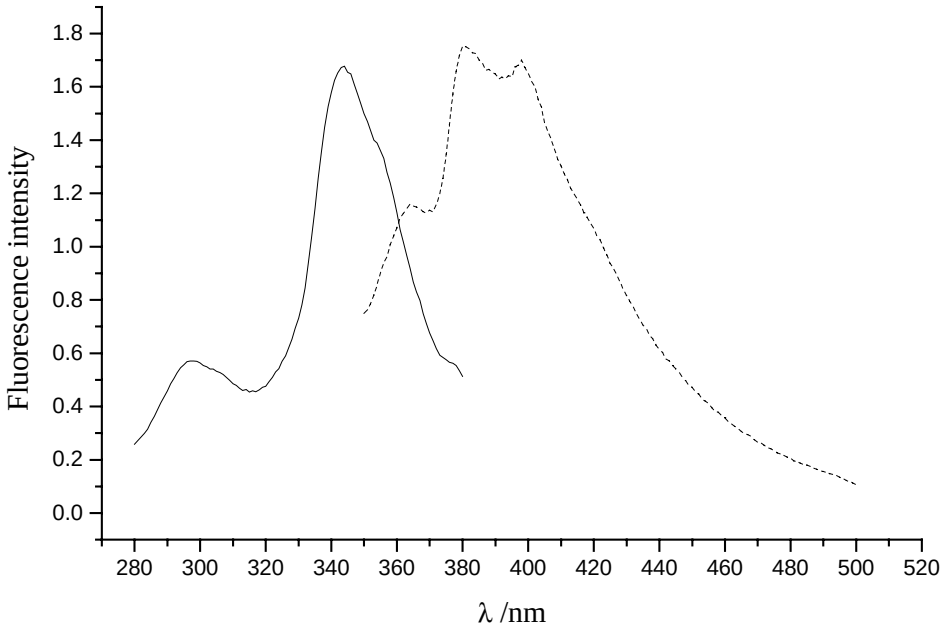

Figure S4. Excitation and emission spectra of **2** in solution (4 mg ml^{-1}, CH_3OH/DMF 1 : 1) at ambient temperature. Excitation = solid line, emission = dashed line.