

Supporting Information for

Lanthanide-organic Cation Frameworks with the
Zeolite GIS-Topology and Large Cavities from
Intersected Channels Templated by Polyoxometalate
Counterions

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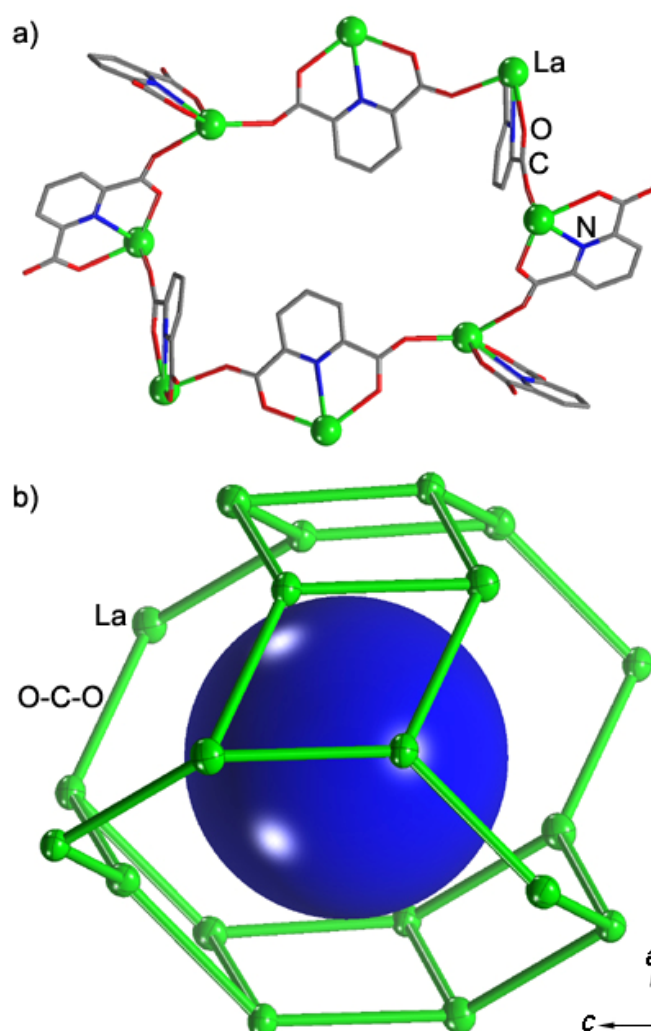


Figure S1 a) The metallamacrocycle composed of $\text{La}_8(\text{pdc})_8$ in **1**. b) View of the large cavity of intersected channels down the b -axis. The Keggin POM anion is represented as blue sphere.

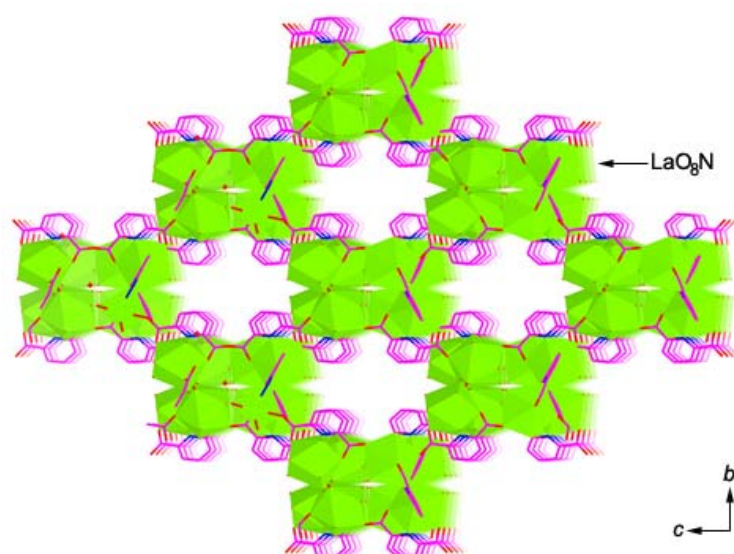
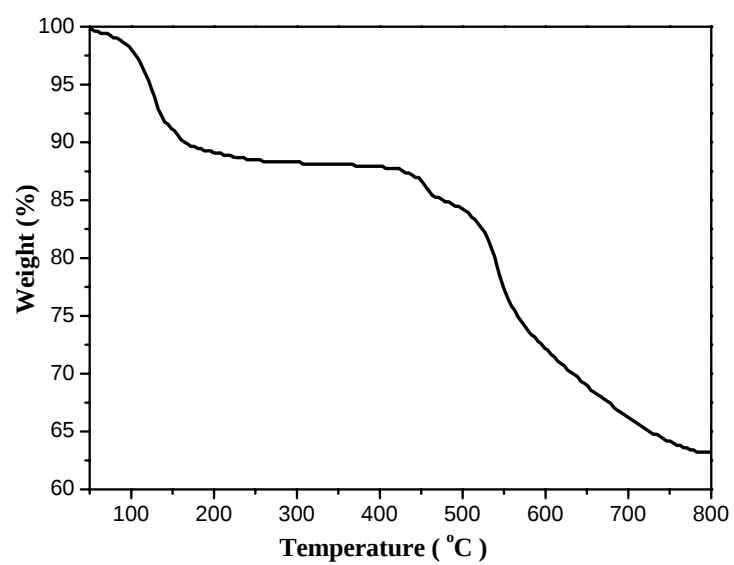
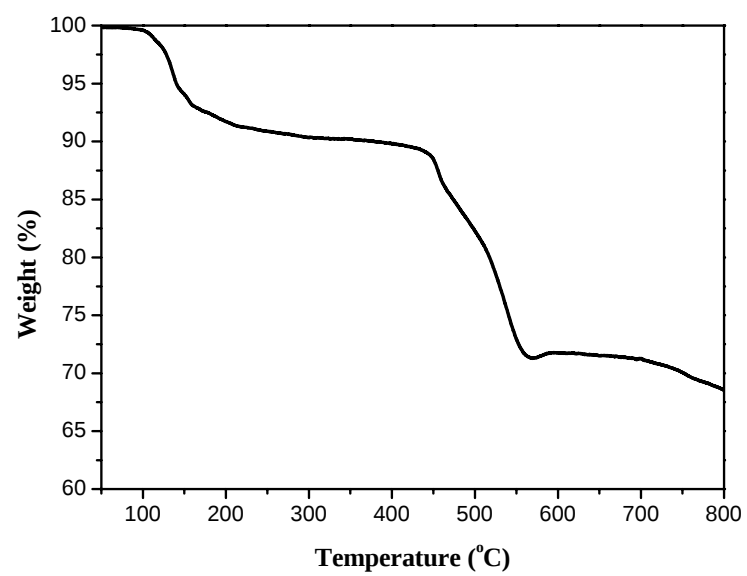


Figure S2 View of the 3D lanthanide-organic cation architecture, LaO_8N are highlighted with polyhedrons.

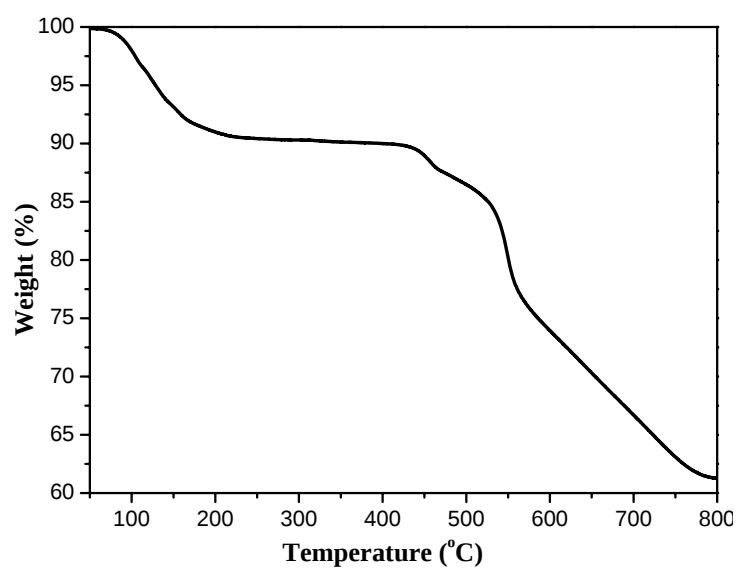
Compound 1



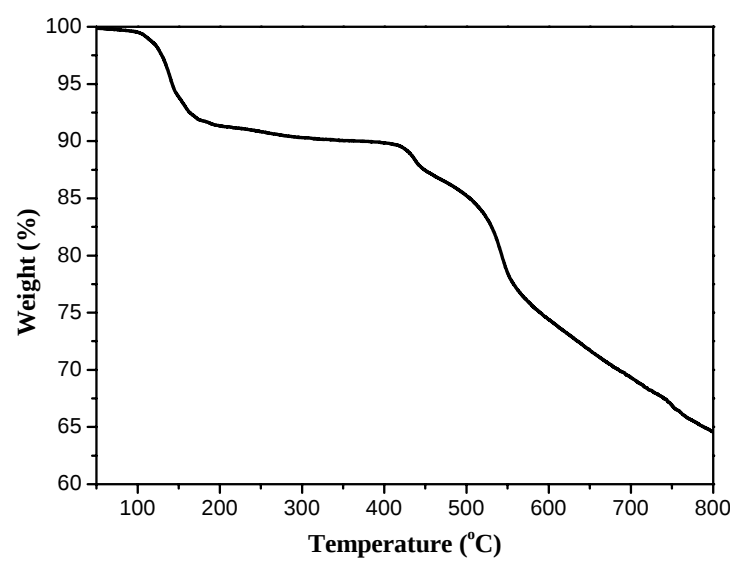
Compound 2



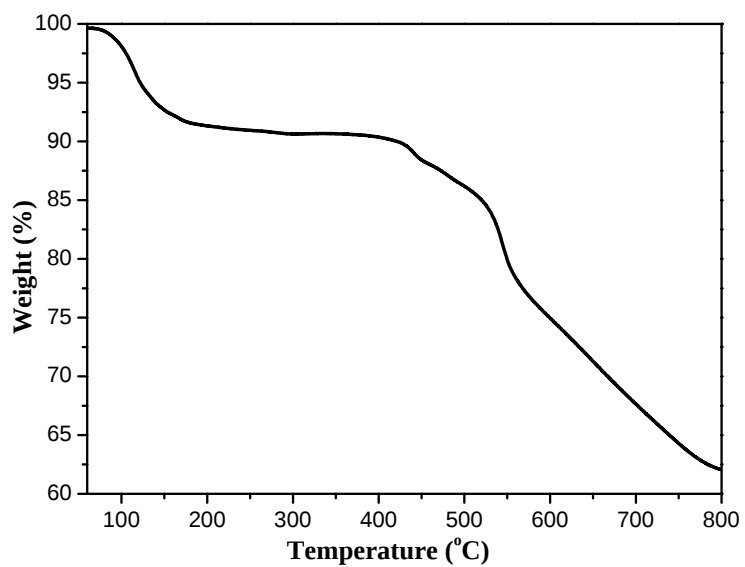
Compound 3



Compound 4



Compound 5



Compound 6

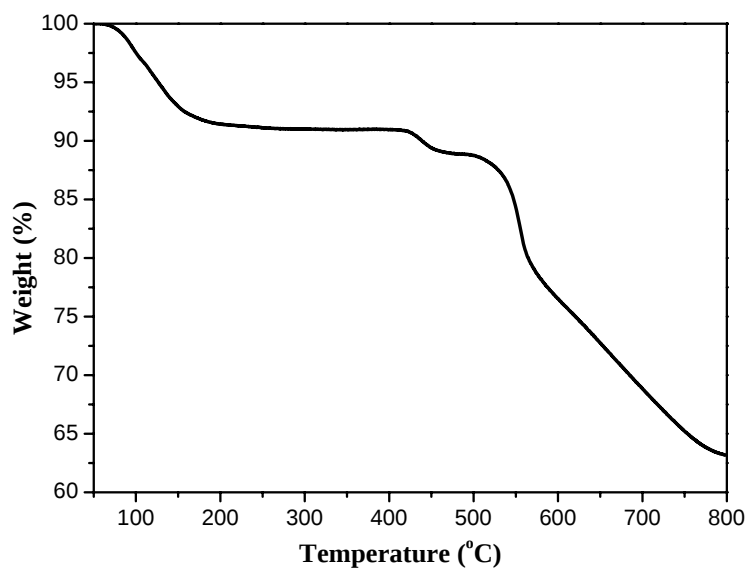
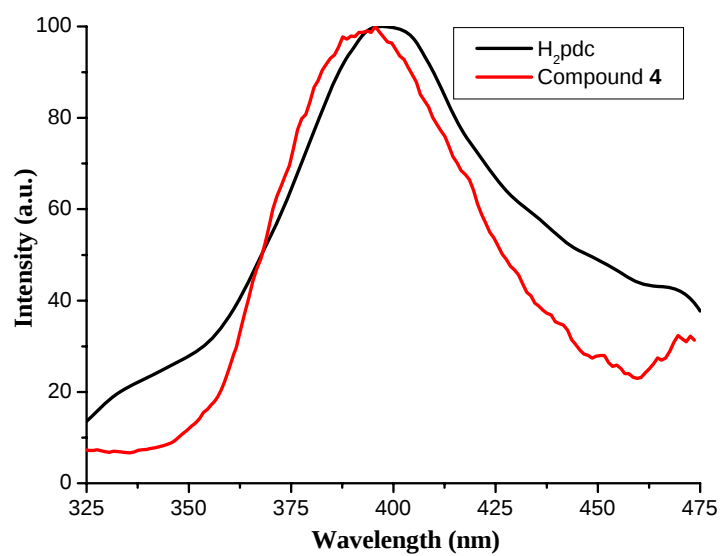
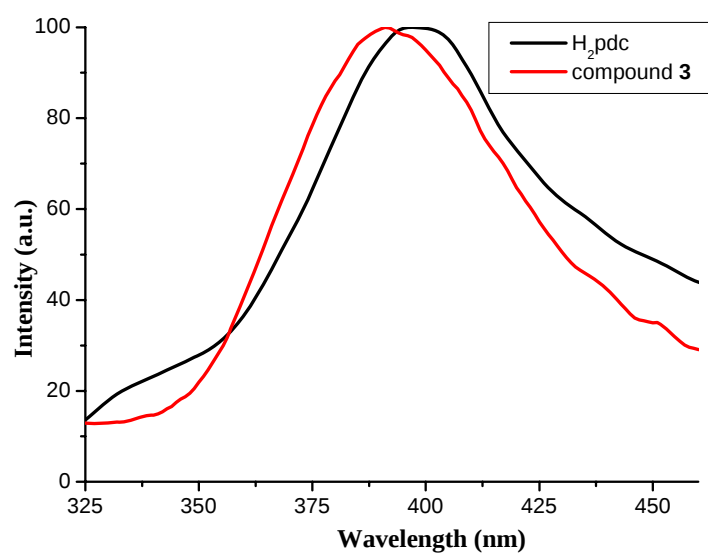
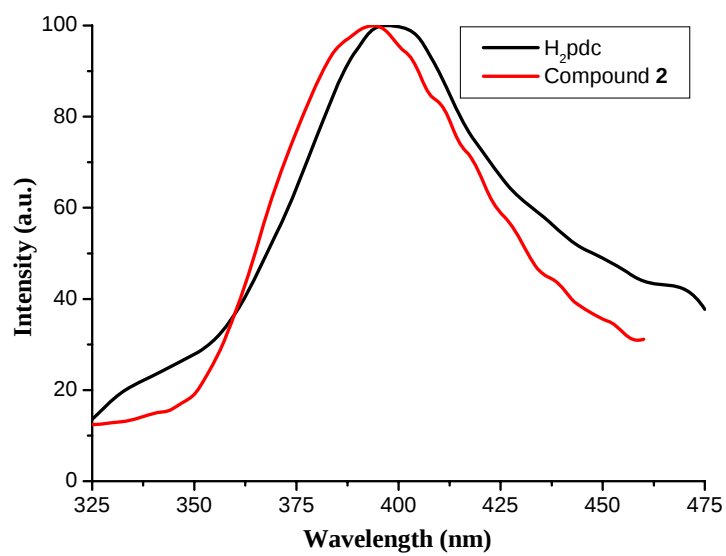


Figure S3 Thermogravimetric curves for compound 1-6.



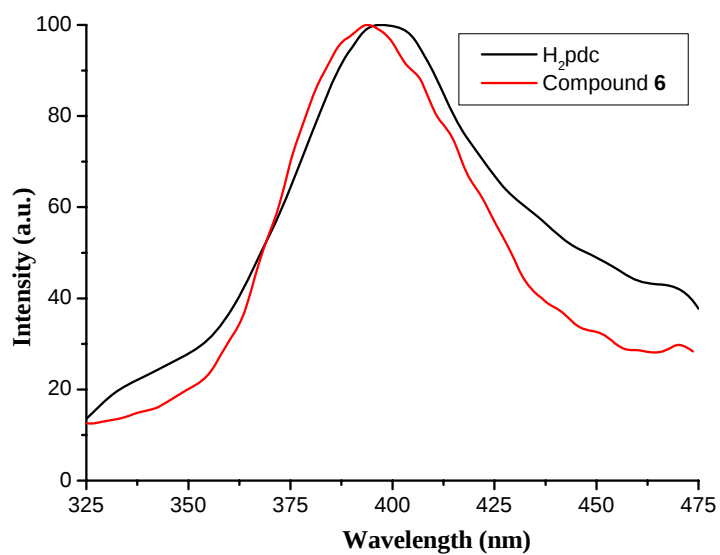
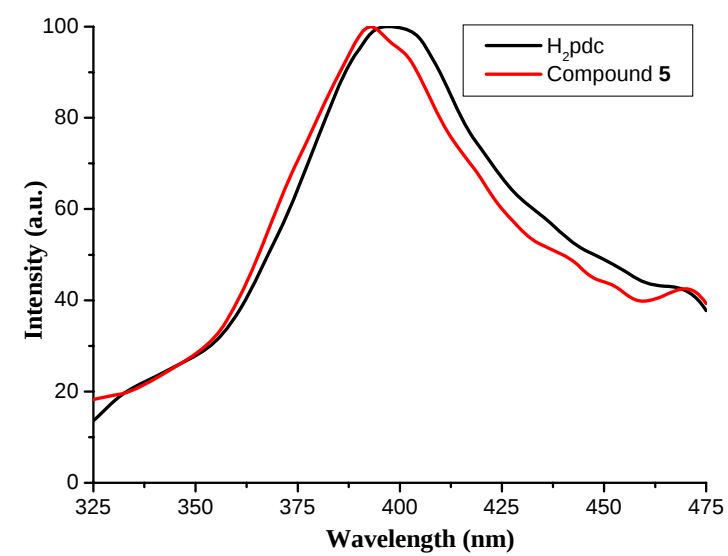
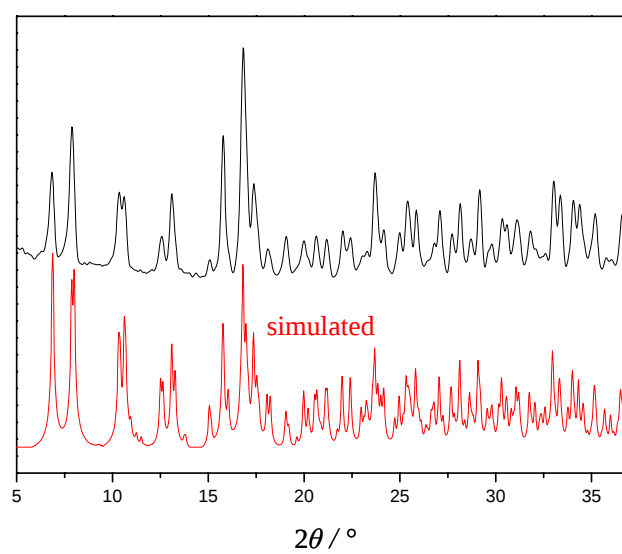
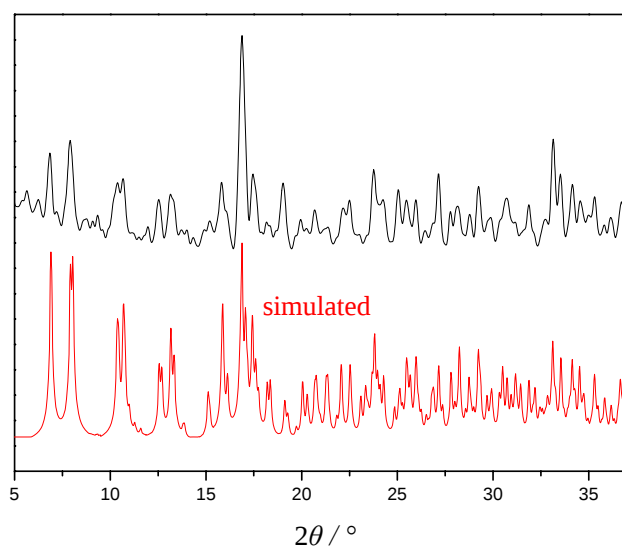


Figure S4 Emission spectra of ligand H₂pdc and compound 2-6 in the solid state at room temperature.

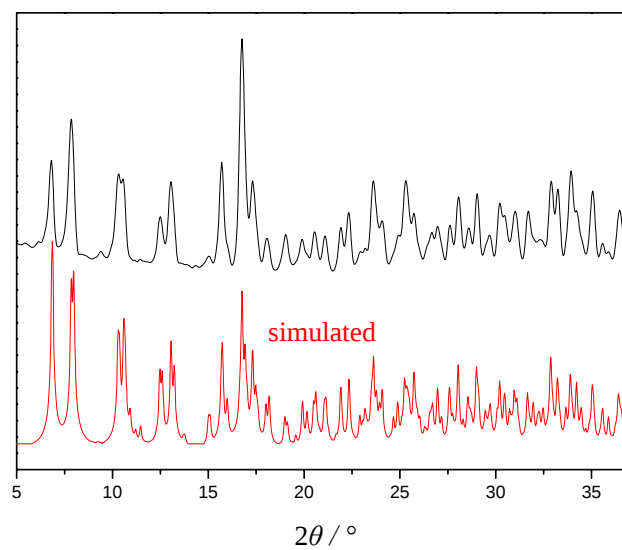
Compound 2



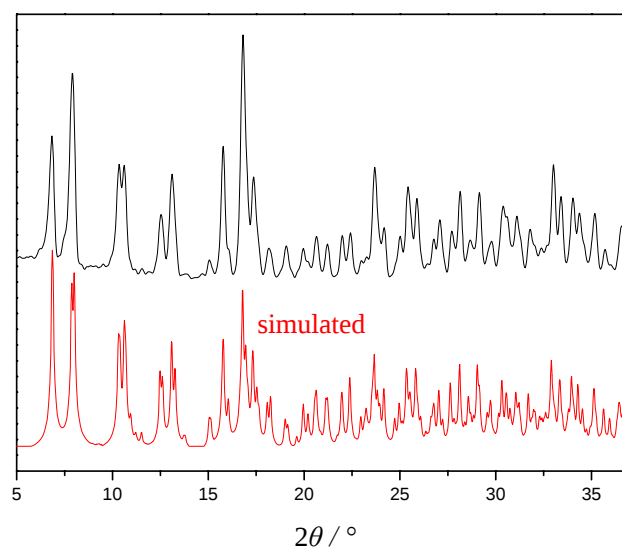
Compound 3



Compound 4



Compound 5



Compound 6

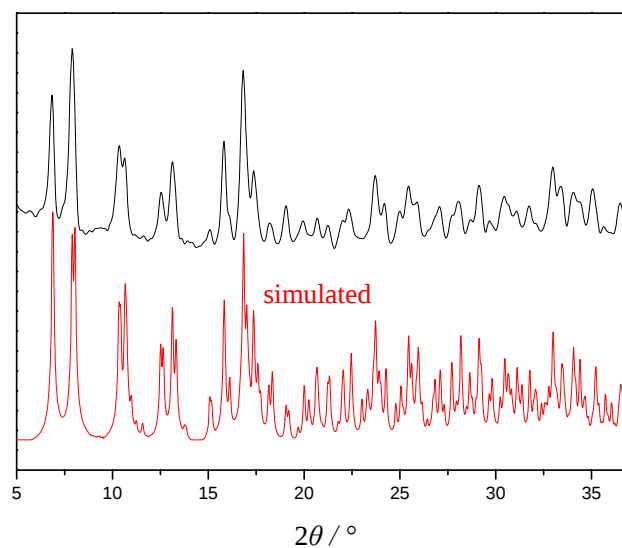


Figure S5 The powder X-ray diffraction patterns of compound 2-6.