

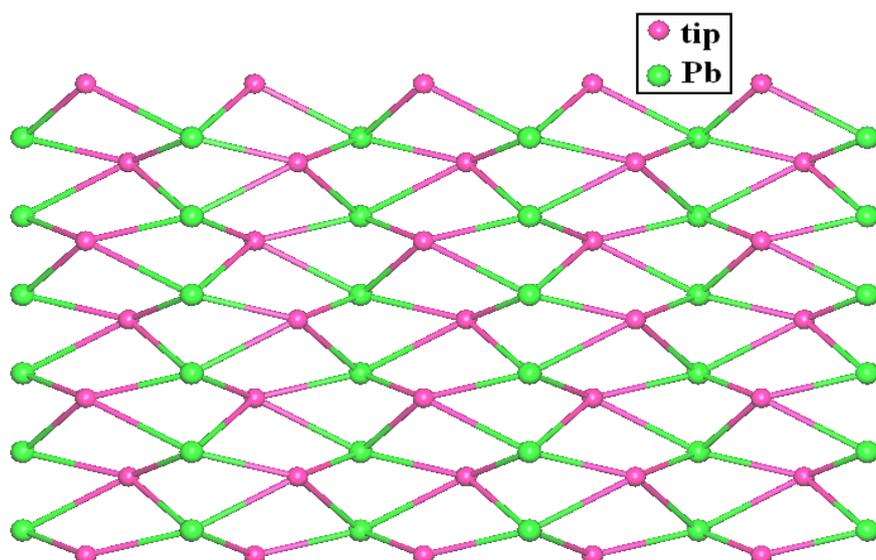
**In situ solvent and counteranion-induced synthesis, structural  
characterization and photoluminescence properties of Pb-based MOFs**

**Qi-Bing Bo,\* Juan-Juan Pang, Hong-Yan Wang and Zhen-Wei Zhang**

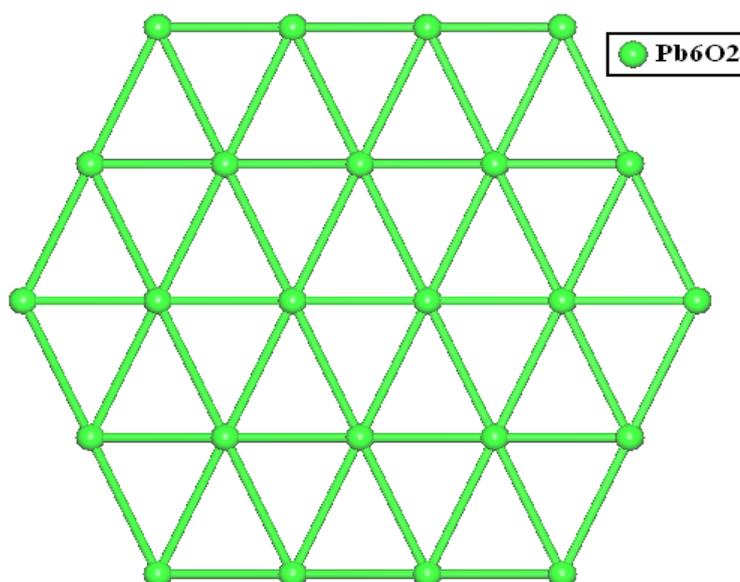
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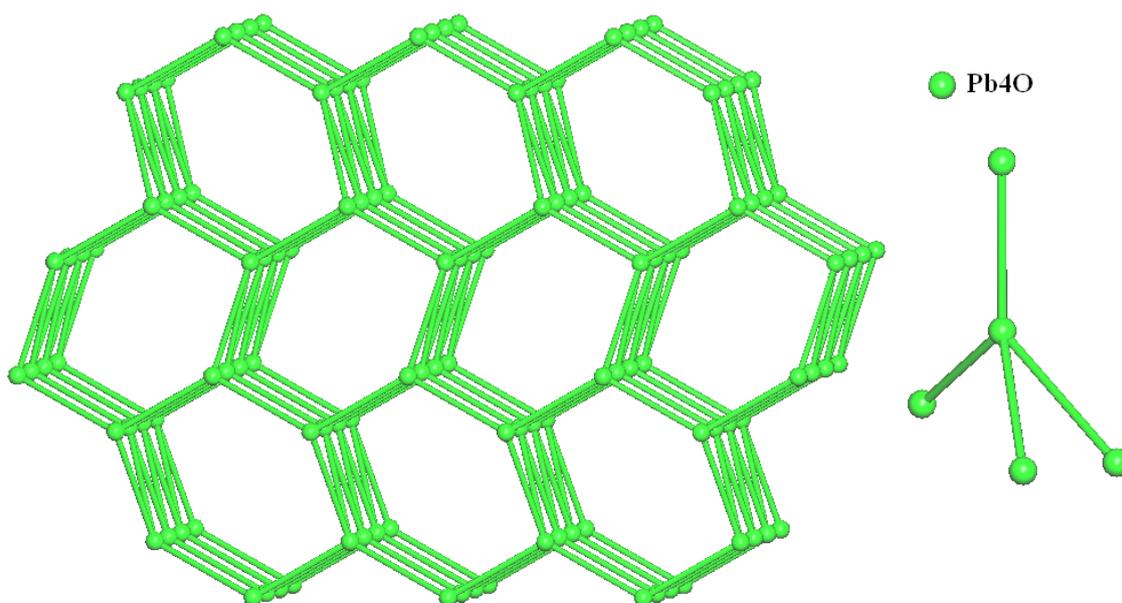
**Electronic Supplementary Information (ESI)**



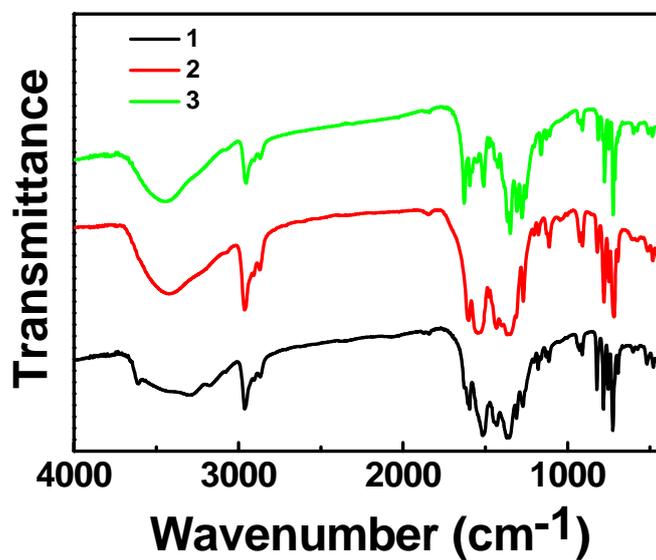
ESI 1 Schematic description of the equivalent 2D topology framework with a uninodal **sql**-type topological motif considering the Pb and tip ligand as connected nodes. Color codes: mauve for the organic 4-connected nodes, green for inorganic 4-connected nodes.



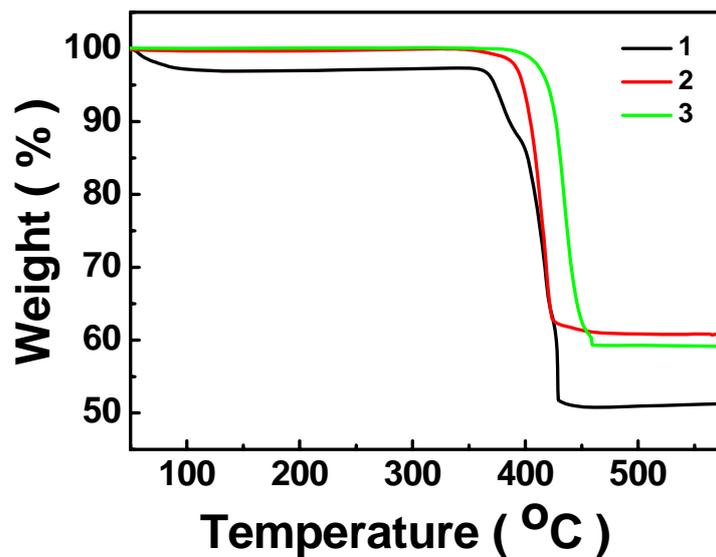
ESI 2 Schematic description of the equivalent 2D topology framework with a uninodal **hxl**-type topological motif considering the  $\text{Pb}_6\text{O}_2$  clusters and tip ligands as nodes and linkers, respectively. Color codes: 2-connected tip linkers are omitted, green for inorganic 6-connected  $\text{Pb}_6\text{O}_2$  cluster nodes.



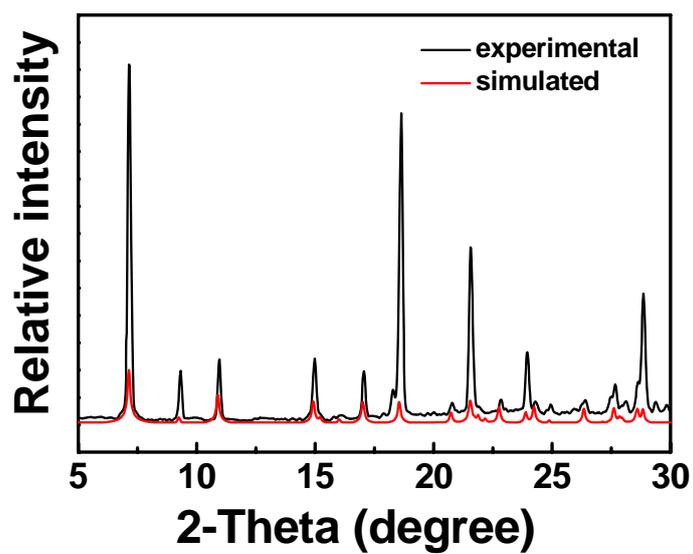
ESI 3 Schematic description of the equivalent 3D topology framework with a uninodal **dia**-type topological motif considering the  $\text{Pb}_4\text{O}$  clusters and tip ligands as nodes and linkers, respectively. Color codes: 2-connected tip linkers are omitted, green for inorganic 4-connected  $\text{Pb}_4\text{O}$  cluster nodes.



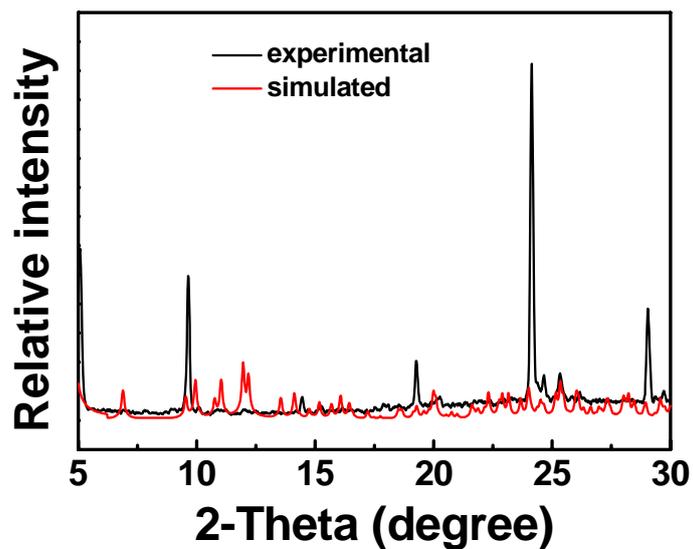
ESI 4 FT-IR spectra for 1, 2 and 3.



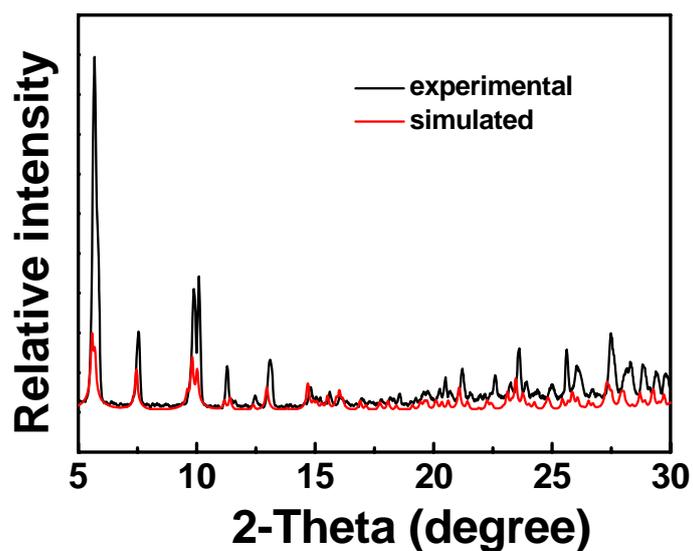
ESI 5 TG curves for 1, 2 and 3



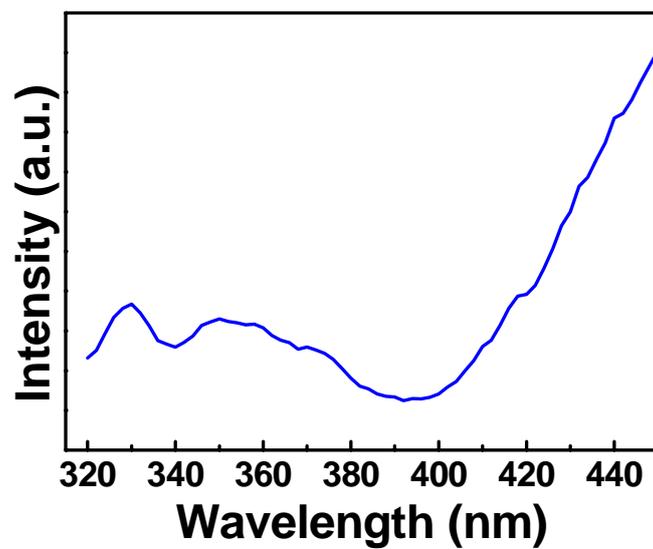
ESI 6 (a) The experimental and simulated PXRD patterns for 1. The top is the experimental pattern, and the bottom is the simulated one.



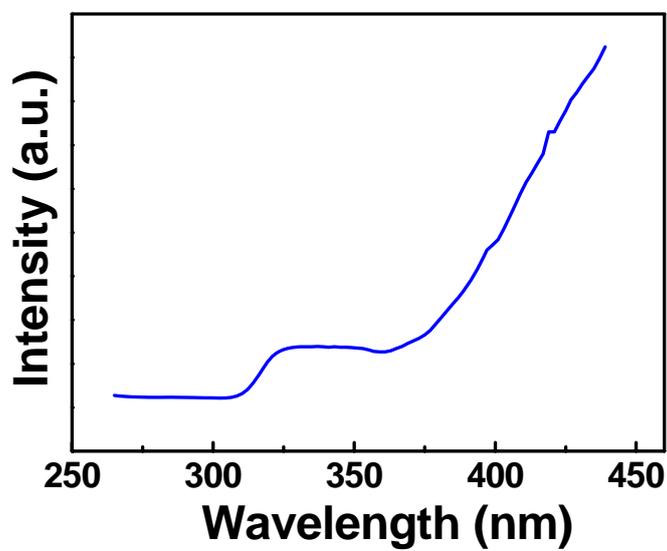
ESI 6 (b) The experimental and simulated PXRD patterns for **2**. The top is the experimental pattern, and the bottom is the simulated one.



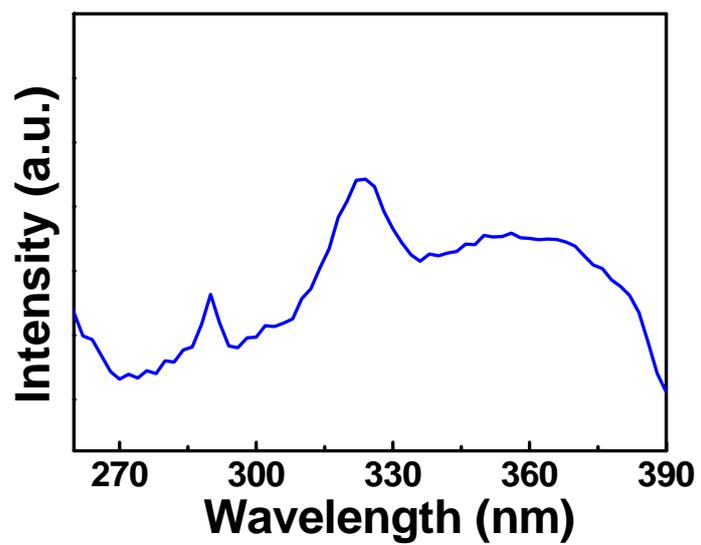
ESI 6 (c) The experimental and simulated PXRD patterns for **3**. The top is the experimental pattern, and the bottom is the simulated one.



ESI 7 The excitation spectrum for **1**, monitored at 527 nm.



ESI 8 The excitation spectrum for **2**, monitored at 568 nm.



ESI 9 The excitation spectrum for **3**, monitored at 416 nm.