

A photoluminescent microporous metal organic anionic framework for nitroaromatic explosive sensing

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Table S1. Selected bond lengths (Å) and angles (deg) for **1**

| | | | | | |
|---|----------|---------------------------------------|----------|---------------------------------------|------------|
| In1—O2 | 2.112(6) | In2—O3 | 2.140(7) | In2—O5 ^v | 2.434(7) |
| In1—O7 ⁱⁱ | 2.175(6) | In2—O6 ^v | 2.152(7) | | |
| In1—O8 ⁱⁱ | 2.278(5) | In2—O4 | 2.381(6) | | |
| O2 ⁱ —In1—O2 | 117.2(3) | O3—In2—O3 ^{iv} | 80.5(5) | O3—In2—O5 ^v | 90.9(3) |
| O2—In1—O7 ⁱⁱ | 112.7(3) | O3—In2—O6 ^v | 138.0(3) | O6 ^v —In2—O5 ^v | 53.9(2) |
| O2—In1—O7 ⁱⁱⁱ | 81.5(3) | O3—In2—O6 ^{vi} | 110.0(3) | O6 ^{vi} —In2—O5 ^v | 138.3(2) |
| O7 ⁱⁱ —In1—O7 ⁱⁱⁱ | 153.4(3) | O6 ^v —In2—O6 ^{vi} | 89.4(4) | O4—In2—O5 ^v | 78.4(2) |
| O2 ⁱ —In1—O8 ⁱⁱ | 145.1(3) | O3—In2—O4 | 55.3(3) | O3—In2—O5 ^{vi} | 79.4(2) |
| O2—In1—O8 ⁱⁱ | 87.4(2) | O6 ^v —In2—O4 | 91.8(2) | O4—In2—O5 ^{vi} | 102.22(19) |
| O7 ⁱⁱ —In1—O8 ⁱⁱ | 65.5(3) | O6 ^{vi} —In2—O4 | 84.6(2) | O5 ^v —In2—O5 ^{vi} | 167.3(3) |
| O2 ⁱ —In1—O8 ⁱⁱⁱ | 87.4(2) | O3—In2—O4 ^{iv} | 129.5(3) | | |
| O7 ⁱⁱ —In1—O8 ⁱⁱⁱ | 94.2(3) | O4—In2—O4 ^{iv} | 174.9(3) | | |
| O8 ⁱⁱ —In1—O8 ⁱⁱⁱ | 84.1(3) | | | | |

Symmetry transformations: (i) 1-x, y, 1.5-z; (ii) x, 1+y, z; (iii) 1-x, 1+y, 1.5-z; (iv) x, 2-y, 2-z; (v) 2-x, 1-y, 0.5+z; (vi) 2-x, 1+y, 1.5-z; (vii) 2-x, 1-y, -0.5+z; (viii) x, -1+y, z; (ix) 2-x, y, 1.5-z.

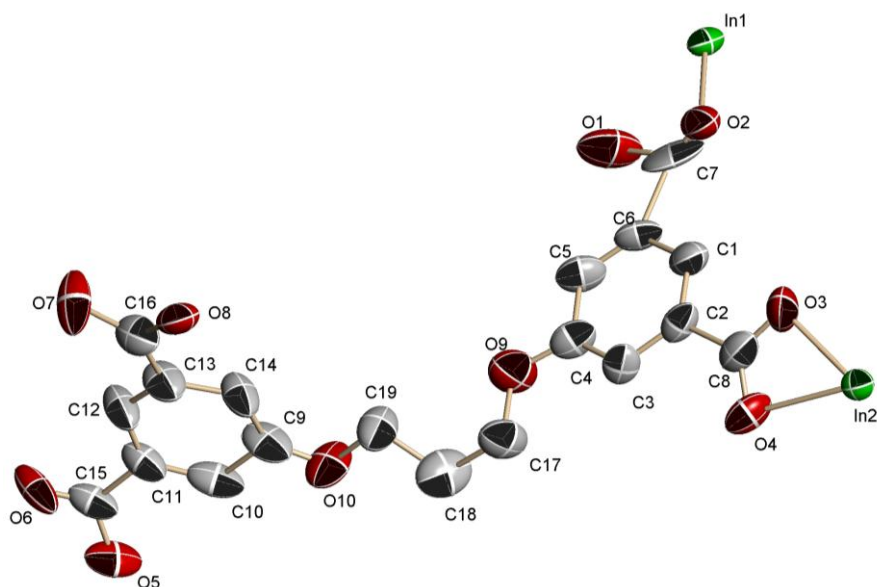


Fig. S1. An ORTEP drawing of the asymmetric unit of **1** (with thermal ellipsoids at 30% probability). The H atoms and guest molecules are omitted for clarity.

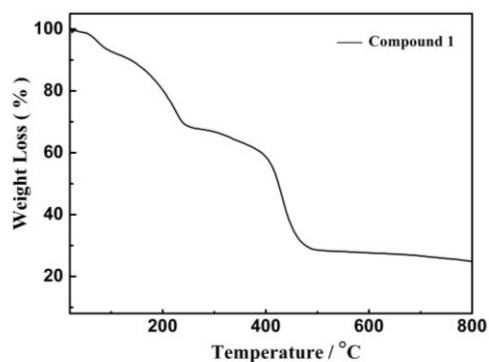


Fig. S2 TGA curve of compound **1**.

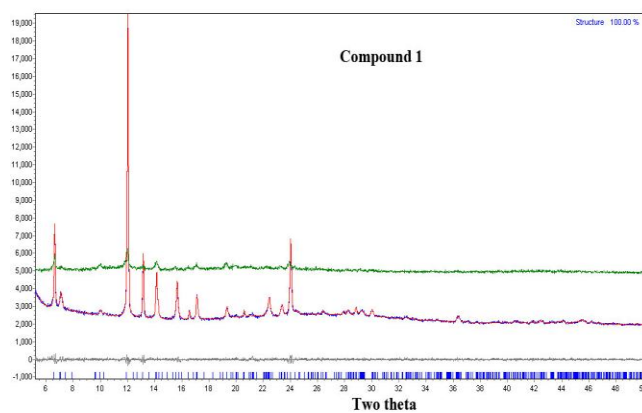


Fig. S3 PXRD patterns of **1**: The red, blue, and gray lines are the calculated, the as-synthesized and the difference between the calculated and the as-synthesized. The blue bars are the calculated Bragg positions. The best fitting results for **1**: $a = 12.537(9)$, $b = 13.483(5)$, $c = 25.13(2)$ Å. The green line is that of the activated sample after gas adsorption measurements.

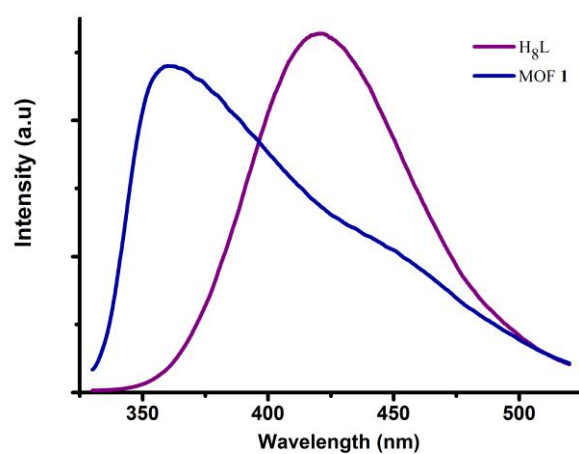


Fig. S4 Solid-state photoluminescent spectra of **1** and ligand H₈L at room temperature.