**Supplementary Material**

A penetrating metal−organic framework based on N-heterocyclic carboxylic acid with sensing properties towards Cr(VI)/Fe(III) and nitrobenzene

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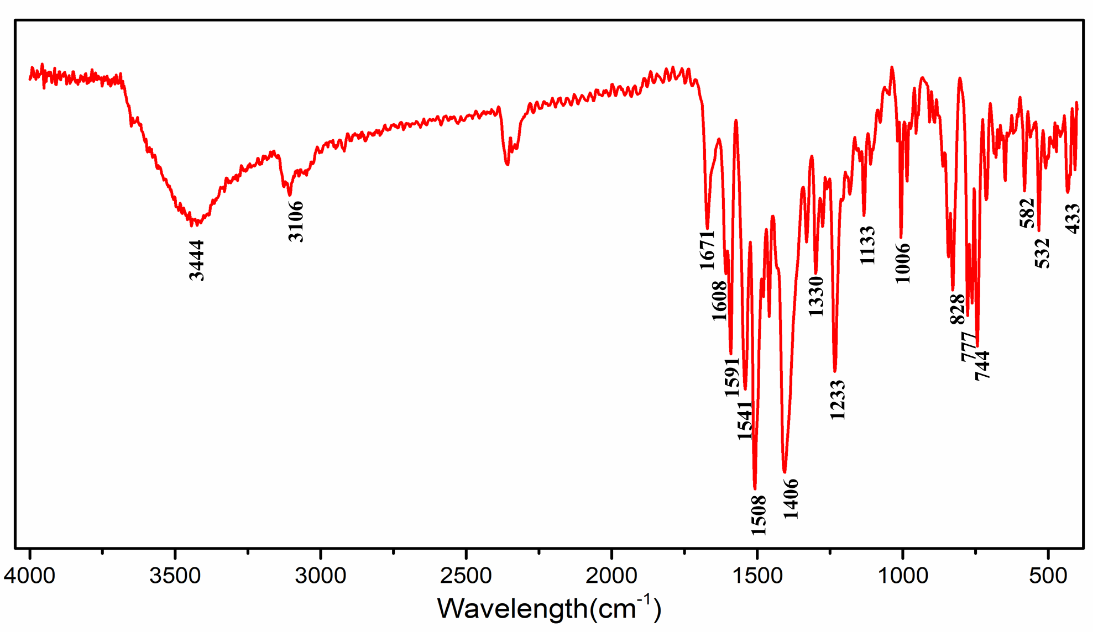


Figure S1. IR spectra of complex **1**.

Table S1. Selected bond lengths [Å] and angles [°] for complex **1**.

|  |  |  |  |
| --- | --- | --- | --- |
| Cd(1)-O(1) | 2.358(5) | Cd(1)-N(1) | 2.252(5) |
| Cd(1)-O(2) | 2.328(5) | Cd(1)-N(4) | 2.277(6) |
| Cd(1)-O(4) | 2.326(6) | Cd(1)-O(3) | 2.407(7) |
| N(1)-Cd(1)-O(1) | 101.2(2) | O(4)-Cd(1)-O(1) | 94.2(2) |
| N(1)-Cd(1)-O(2) | 115.2(2) | O(4)-Cd(1)-O(2) | 101.8(3) |
| N(1)-Cd(1)-N(4) | 99.1(2) | O(4)-Cd(1)-N(4) | 89.4(2) |
| O(4)-Cd(1)-N(1) | 142.3(3) | N(4)-Cd(1)-O(1) | 141.29(19) |
| N(4)-Cd(1)-O(2) | 86.14(19) | O(1)-Cd(1)-O(2) | 55.39(19) |

Symmetry codes: (i) x, -y+2, z-1/2; (ii) x+1/2, y-1/2, z; (iii) x, -y+2, z+1/2; (iv) x-1/2, y+1/2, z.

镉 热重

Figure S2. TG curve of complex **1**.

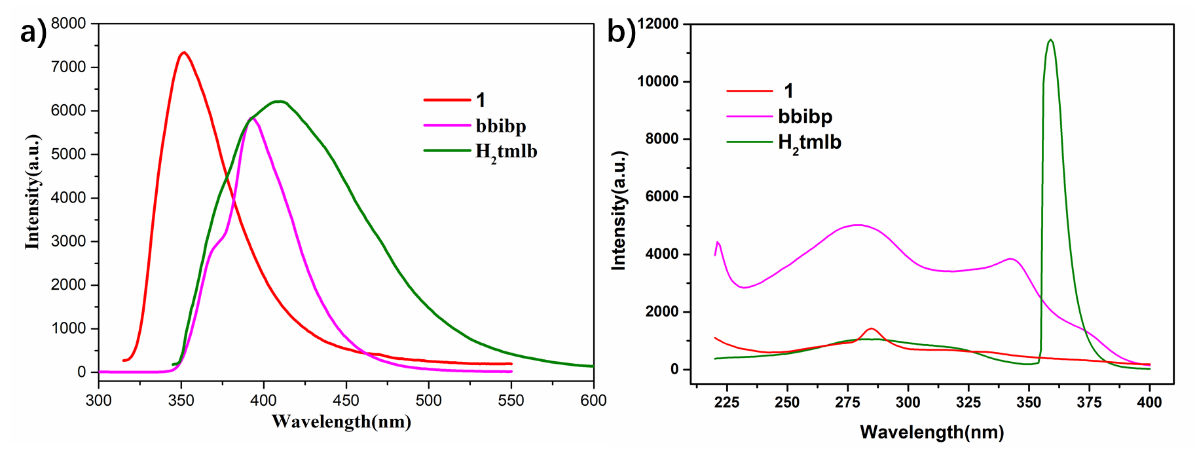


Figure S3. Emission spectra (a) and excitation spectra (b) of complex **1** at room temperature in the solid state.

Graph2

Figure S4. Powder XRD pattern of complex **1**.



Figure S5. Emission spectra of complex **1** in the suspension of ligand + DMF + NB.