

**Synthesis, structure and hydrogen adsorption of a novel porous metal-organic framework,  $\text{Mn}_9(\text{btt})_2(\text{HCOO})_{12}\cdot 0.7\text{DMF}\cdot 0.9\text{H}_2\text{O}$ , where **btt = 1,3,5-benzenetristetrazolate****

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**Supporting Information**

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- Figure S2. (a) Experimental X-ray powder diffraction pattern (in green) of **1** annealed at 120°C. (b) Experimental XRPD of the as-synthesized product (in red).
- Figure S3. Thermogravimetric analysis of **1**.
- Figure S4. Solid-state photoluminescence spectrum of  $\text{H}_3\text{btt}\cdot 2\text{HCl}$  with  $\lambda_{\text{ex}} = 300$  nm.
- Figure S5. Infrared spectrum of **1**.

Figure 1S

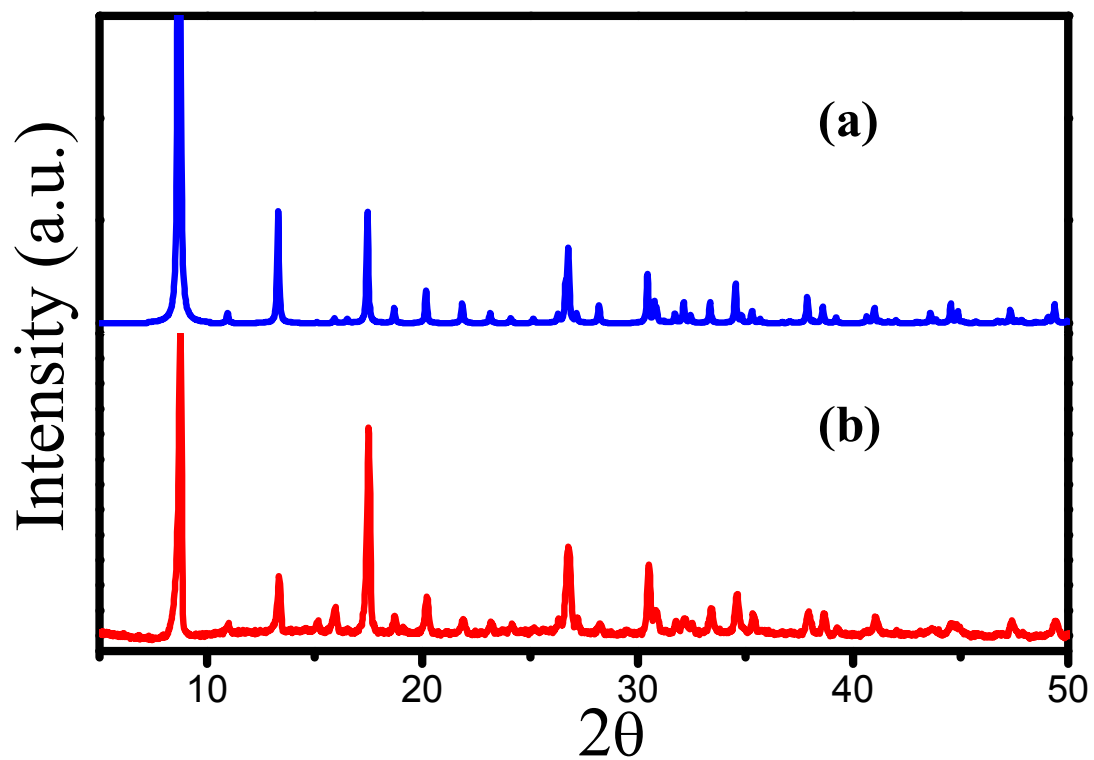


Figure 2S.

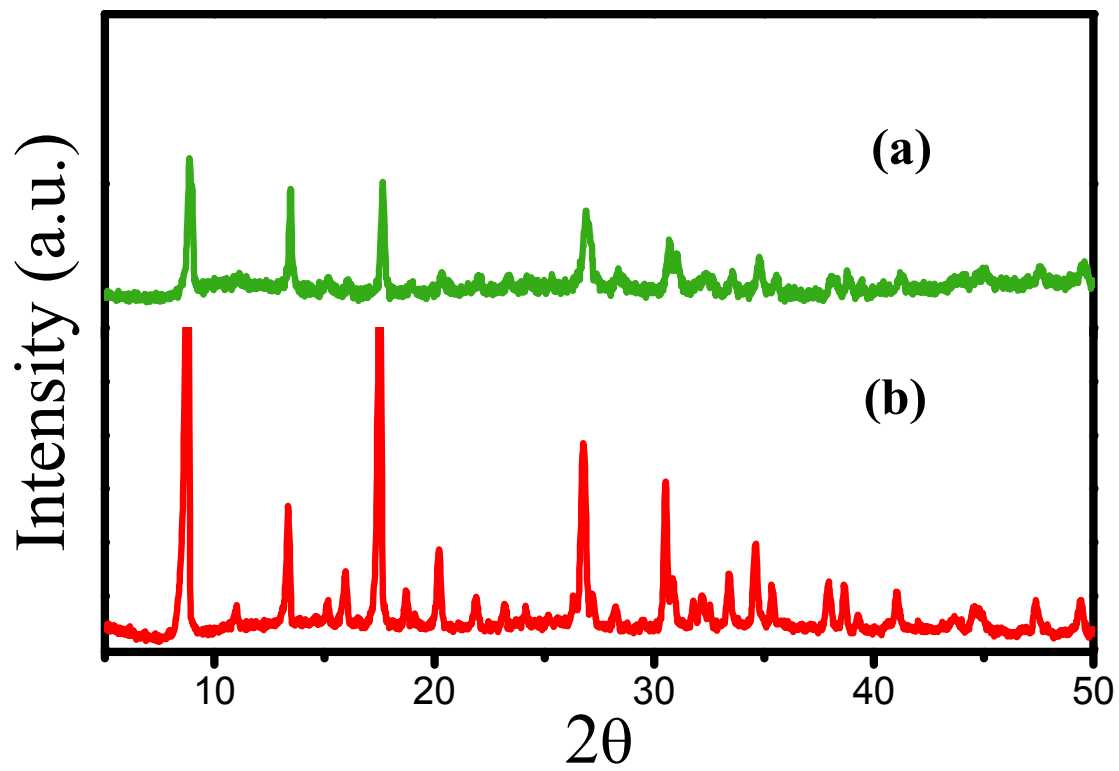


Figure 3S.

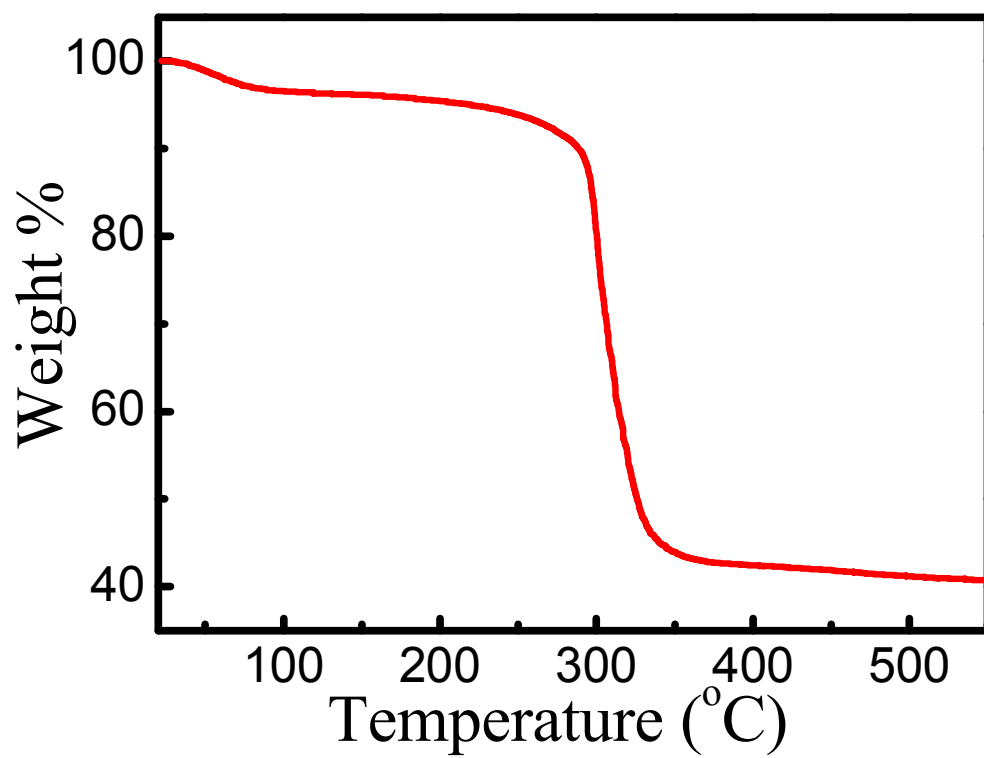


Figure 4S.

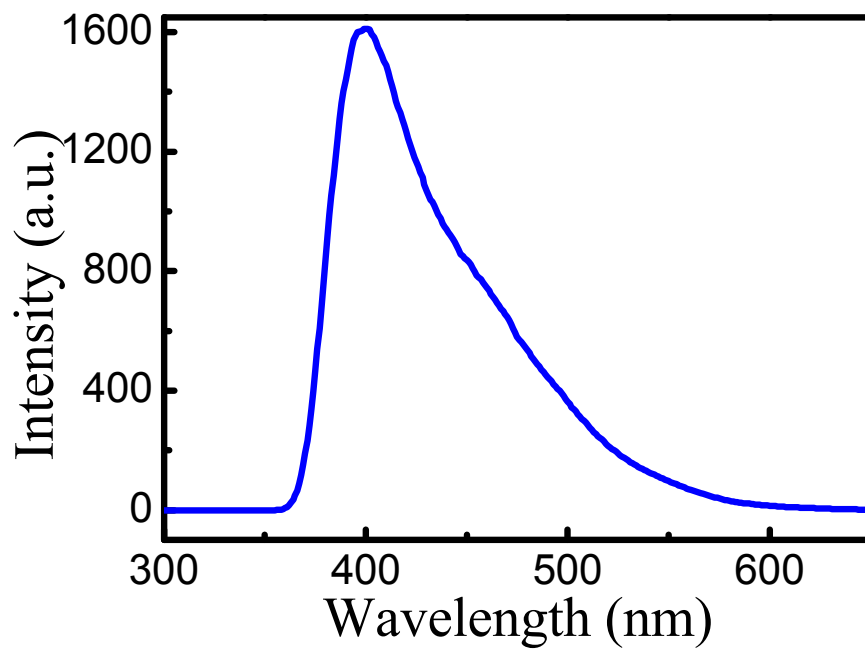
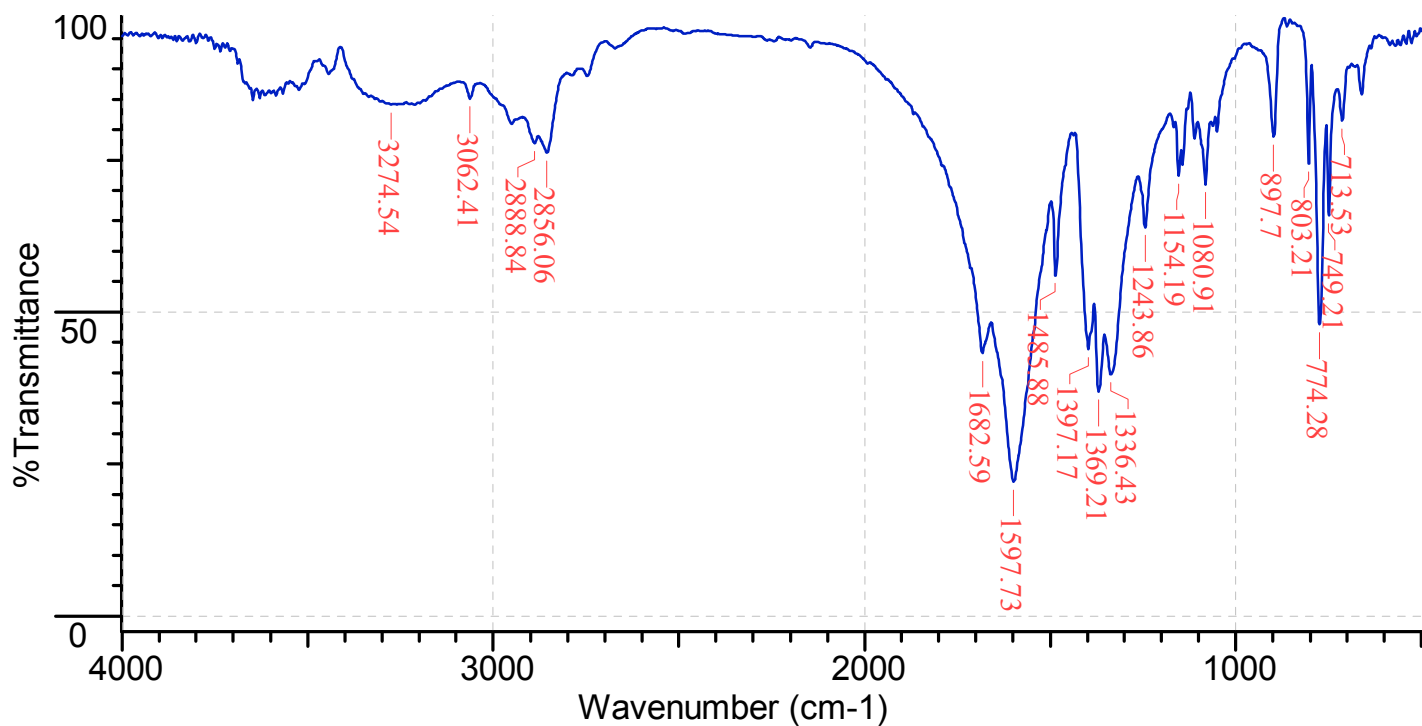


Figure 5S



No	cm-1	%T	Intensity	No	cm-1	%T	Intensity	No	cm-1	%T	Intensity
1	713.53	81.536	W	7	1154.19	72.462	M	13	1597.73	22.086	VS
2	749.21	65.858	M	8	1243.86	63.981	M	14	1682.59	43.288	S
3	774.28	47.940	S	9	1336.43	39.734	S	15	2856.06	76.221	W
4	803.21	74.421	M	10	1369.21	36.899	S	16	2888.84	77.829	W
5	897.70	78.822	W	11	1397.17	43.863	S	17	3062.41	85.124	W
6	1080.91	71.020	M	12	1485.88	56.010	M	18	3274.54	84.088	W