A Hydrogen-bonded and π–π Assembled 3D Supramolecular Network, $[Co(en)_3]\cdot 1.5(C_5O_5)$, with 1D Mircroporous Hydrophilic Channels Showing Reversible Water ad/de-sorption Property

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Supplementary Materials :

STable 1. The N–H···O and O–H···O hydrogen bonds for **1**.

SFigure 1. TG measurements of cyclic ethanol (EtOH) de- and re-solvation processes were repeated three times.

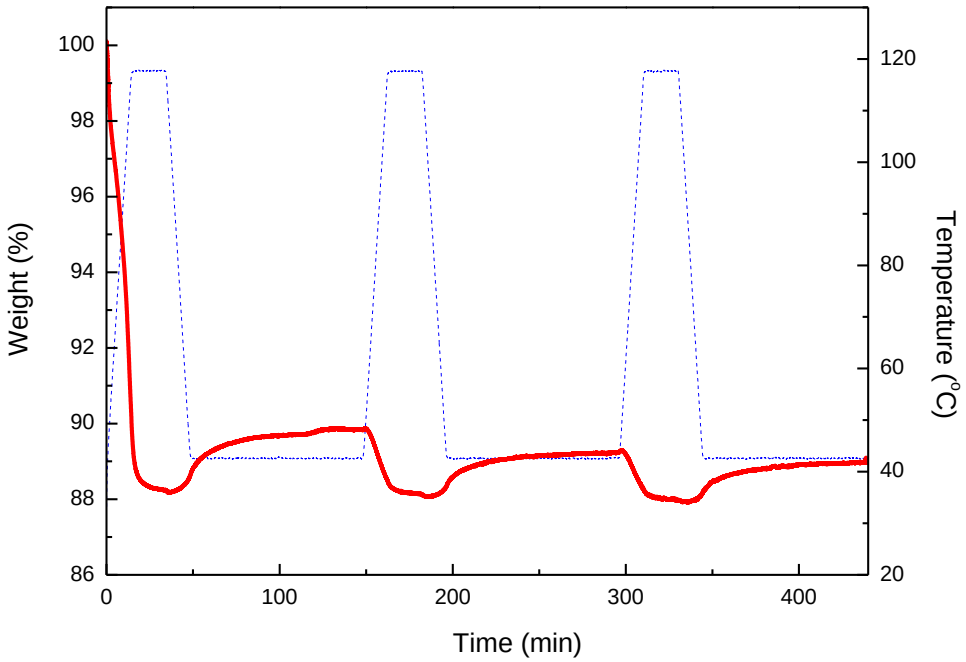
SFigure 2. Simulated PXRD pattern of **1** from single-crystal x-ray diffraction data and *in-situ* temperature-dependent powder XRD of **1** at various temperatures.

SFigure 3. N_2 Gas adsorption-desorption isotherms for **1** at 77 K.

STable 1. The N–H···O and O–H···O hydrogen bonds for **1**[a].

D−H···A (°)	D−H (Å)	H···A (Å)	D···A (Å)	∠ D−H···A (°)
N(1)−H(1A)···O(4)$_{(ii)}$	0.92	2.15	2.9854	151
N(1)−H(1B)···O(2)	0.92	2.10	2.9697	156
N(2)−H(2A)···O(9)	0.92	2.10	2.9892	163
N(2)−H(3B)···O(8)$_{(iii)}$	0.92	2.20	3.0594	155
N(3)−H(3A)···O(7)$_{(iv)}$	0.92	2.17	2.9987	149
N(3)−H(3B)···O(7)	0.92	2.08	2.9486	158
N(4)−H(4A)···O(1)$_{(v)}$	0.92	2.13	2.9305	144
N(4)−H(4B)···O(1)	0.92	2.38	3.0364	128
N(4)−H(4B)···O(4)$_{(ii)}$	0.92	2.21	2.9464	136’
N(5)−H(5A)···O(11)	0.92	2.24	3.0812	153
N(5)−H(5B)···O(1)	0.92	2.10	2.9858	161
N(5)−H(5B)···O(2)	0.92	2.53	2.9778	110’
N(6)−H(6A)···O(5)$_{(v)}$	0.92	1.98	2.8277	152
N(6)−H(6B)···O(6)	0.92	1.93	2.8289	165
O(9)−H(9C)···O(11)	0.87	2.39	3.1840	152
O(9)−H(9D)···O(12)	0.87	2.10	2.7581	132
O(10)−H(10D)···O(6)	0.85	2.47	3.0261	124
O(10)−H(10D)···O(6)$_{(i)}$	0.85	2.37	3.0261	134’
O(11)−H(11C)···O(12)	1.00	1.78	2.4475	121
O(11)−H(11D)···O(12)$_{(vii)}$	0.95	1.82	2.6407	142
C(9)−H(9B)···O(7)$_{(iv)}$	0.99	2.55	3.5168	165
C(11)−H(11B)···O(4)$_{(ii)}$	0.99	2.42	3.1495	130
C(13)−H(13B)···O(3)$_{(vi)}$	0.99	2.51	3.0624	115
C(14)−H(14A)···O(9)	0.99	2.54	3.4788	159

[a]Symmetry operations used to generate equivalent atoms: (i) -x, y, 3/2-z (ii) 1/2-x,1/2-y,-z (iii) -x,-y,1-z (iv) x,-y,-1/2+z (v) 1/2-x,1/2-y,1-z (vi) x,y,1+z (vii) x,1-y,-1/2+z



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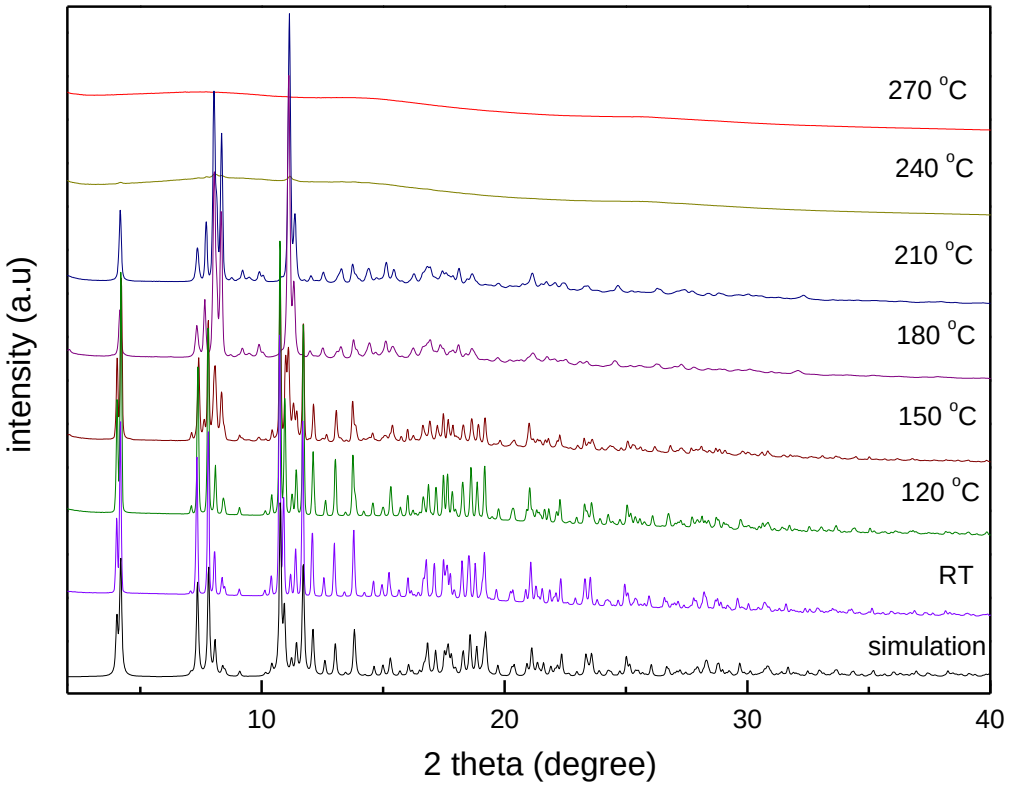

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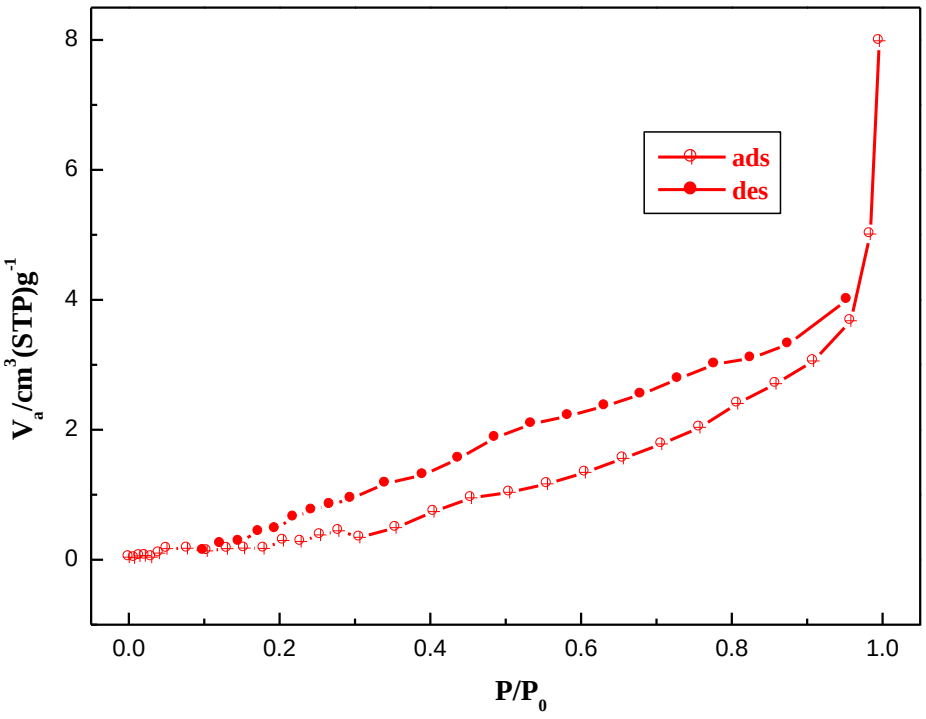

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