Electronic Supplementary Material (ESI) for CrystEngComm

Crystalline beryllium carboxylate frameworks with rutile-type and cubic-C_3N_4 topologies

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Physical measurements:

The thermogravimetric analyses were performed on a Mettler Toledo TGA/SDTA 851e analyzer in a flow of N_2 with a heating rate of 10 ºC/min from 30 to 700 ºC. Powder X-ray diffraction (XRD) data were obtained using a Rigaku D/MAX-rA diffractometer with Cu-Kα radiation (λ = 1.5418 Å) in the 2θ range of 5-50º. The tube voltage and current were 40 kV and 35 mA, respectively. The step size was 0.02º and the count time was 4 s. The CHN analyses were carried out on a Euro EA3000 analyzer. IR spectra (KBr pellets) were recorded on an ABB Bomen MB 102 spectrometer.

Figure captions:

Fig. S1. ORTEP plot of the asymmetric unit of BCF-1, showing the labeling scheme and the 30% probability displacement ellipsoid. Symmetry code: A = -y+1/2,x-1/2,-z+1/2.

Fig. S2. ORTEP plot of the asymmetric unit of BCF-2, showing the labeling scheme and the 30% probability displacement ellipsoid. Symmetry code: A = -x+2,-y+3/2,z+0; B = y+1/4,-x+7/4,-z+5/4; C = -y+7/4,x-1/4,-z+5/4.

Fig. S3. Coordination modes of the BTC ligands in BCF-1 and BCF-2

Fig. S4. IR spectrum of BCF-2.

Fig. S5. Experimental and simulated powder XRD patterns of BCF-2.

Fig. S6. Powder XRD pattern of (a) the exchanged solids by immersing BCF-2 in $NaNO_3$ aqueous solution for 2 days and (b) the resulting solid by heating the sample (a) with DMF at 150 °C for 2 days.

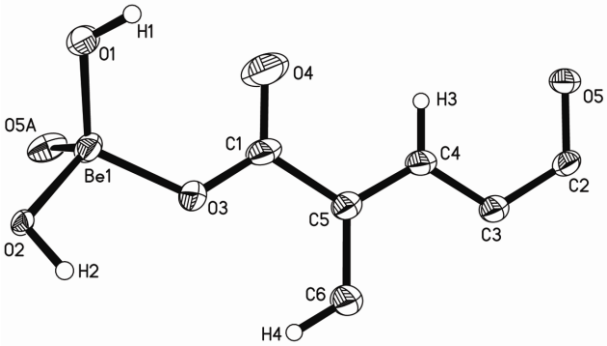

Fig. S1

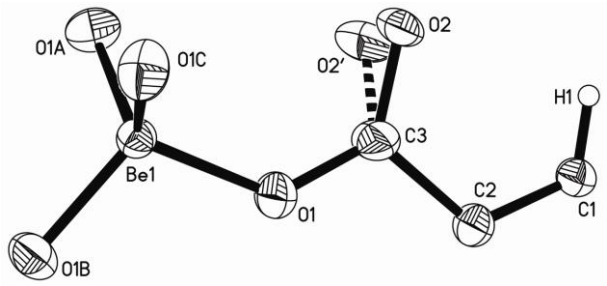

Fig. S2

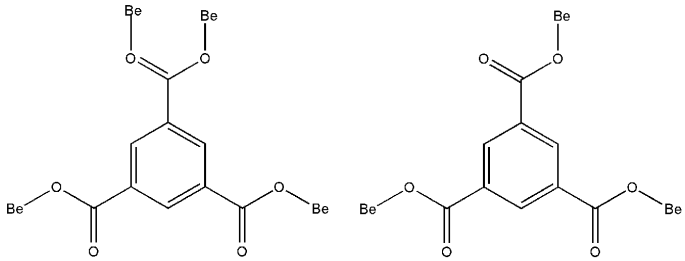

Fig. S3

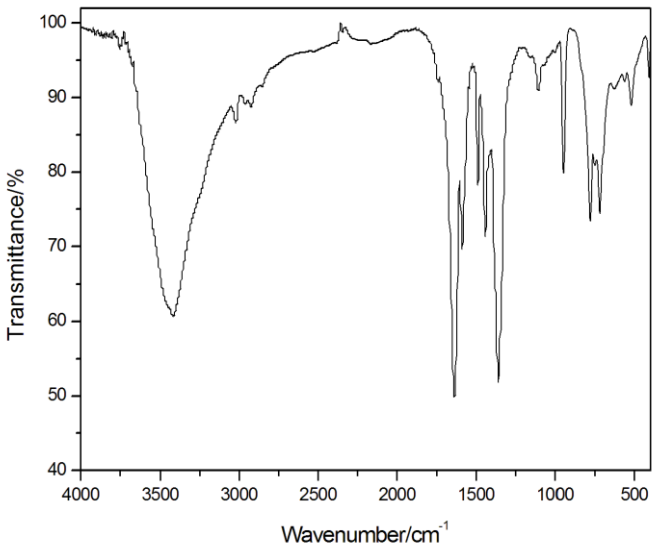

Fig. S4

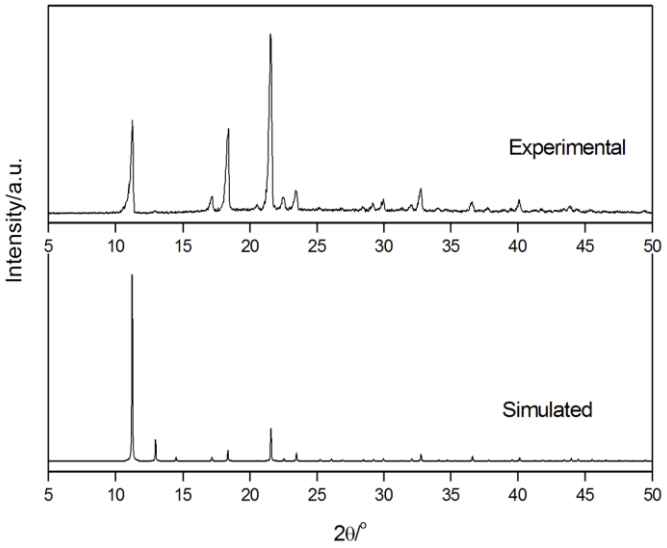

Fig. S5

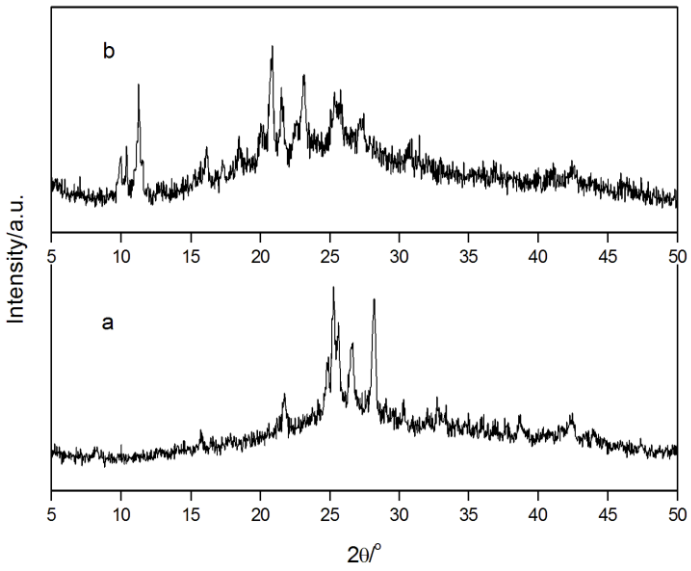

Fig. S6