
Supplementary Materials

Two New Nonaborates with {B₉} Cluster Open-Frameworks and Short Cutoff Edges

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Table S1. Hydrogen bond distances (Å) and angles (°) for the compound **2**.

Figure S1. Porous layered structure (a) and the seven intercommunicated channels (b) in [H₃O]K_{3.52}Na_{3.48}{Al₂[B₇O₁₃(OH)][B₅O₁₀][B₃O₅]}[CO₃].

Figure S2. (a) Metal positions in the framework of **1**; (b) Na₄BaO₂₈ pentamers in **1**.

Figure S3. (a) Metal positions in framework **2**; (b) Metal-O monolayer in **2**; (c) Metal-oxygen porous layer in **2**.

Figure S4. PXRD of **1** (a) and **2** (b).

Figure S5. IR spectra of **1** and **2**.

Figure S6. TG curves of **1** and **2**.

Table S1. Hydrogen bond distances (Å) and angles (°) for the compound **2**.

D–H···A	d(D–H)	d(H···A)	d(D···A)	∠(DHA) (°)
O(7)–H(7)···O(8)#1	0.81	2.38	2.9314	126.0
O(7)–H(7)···O(9)#1	0.81	2.36	3.0801	149.6

Symmetric codes: #1: $x, -y, -1/2 + z$.

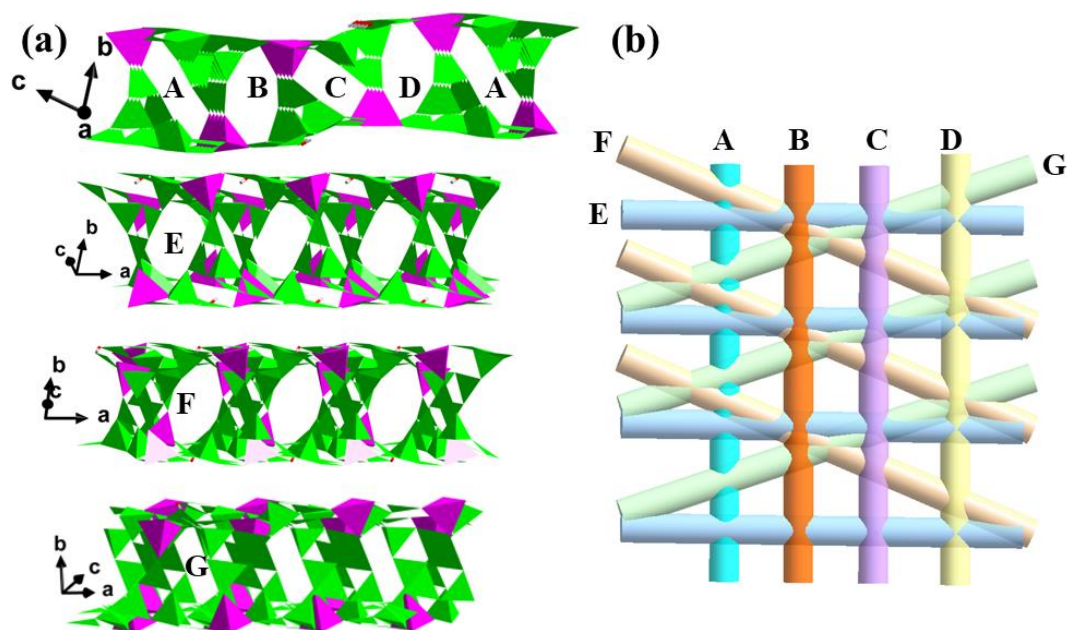


Figure S1. Porous layered structure (a) and the seven intercommunicated channels (b) in $[\text{H}_3\text{O}]\text{K}_{3.52}\text{Na}_{3.48}\{\text{Al}_2[\text{B}_7\text{O}_{13}(\text{OH})][\text{B}_5\text{O}_{10}][\text{B}_3\text{O}_5]\}[\text{CO}_3]$.

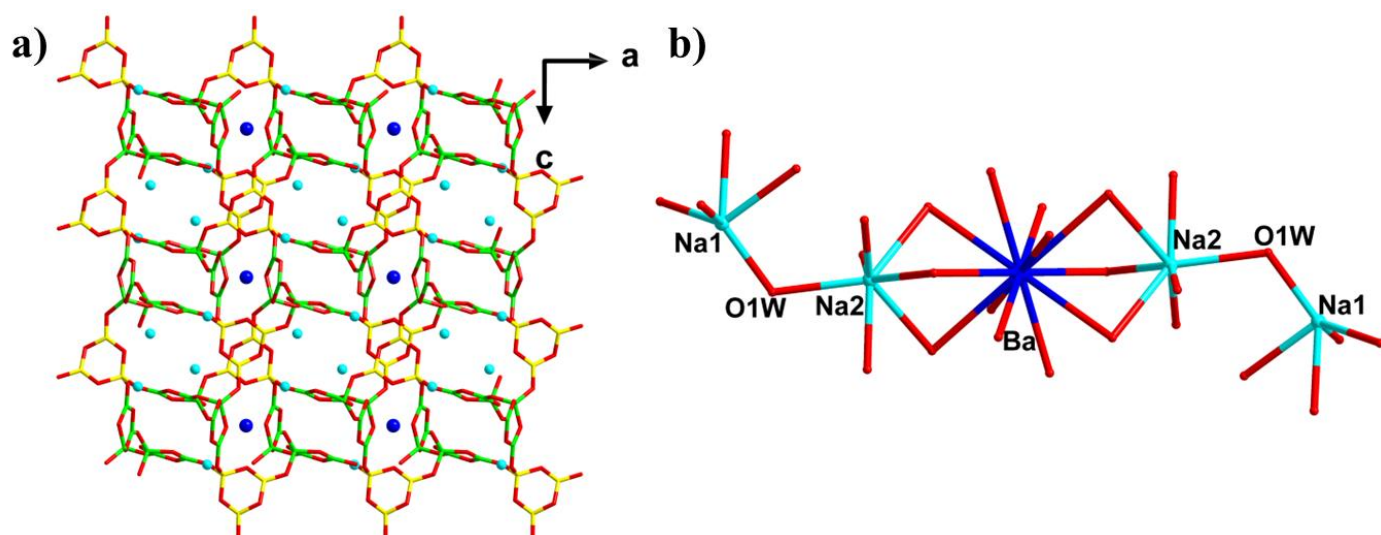


Figure S2. (a) Metal positions in the framework of **1**; (b) $\text{Na}_4\text{BaO}_{28}$ pentamers in **1**.

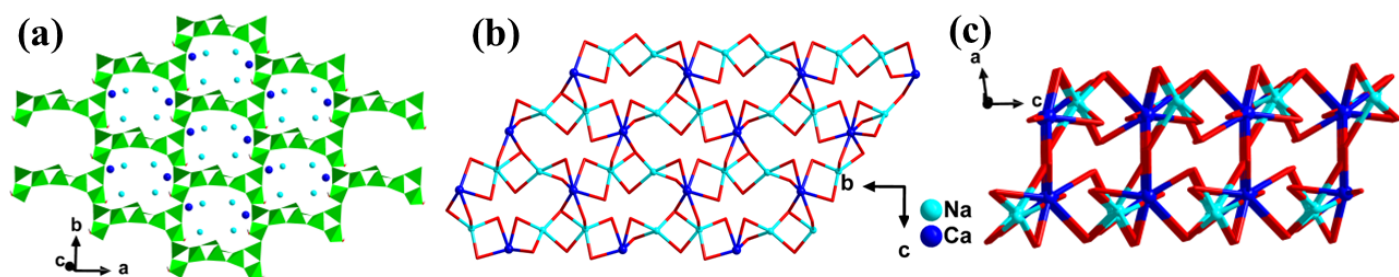


Figure S3. (a) Metal positions in the framework of 2; (b) Metal-oxygen monolayer in 2; (c) Metal-oxygen porous layer in 2.

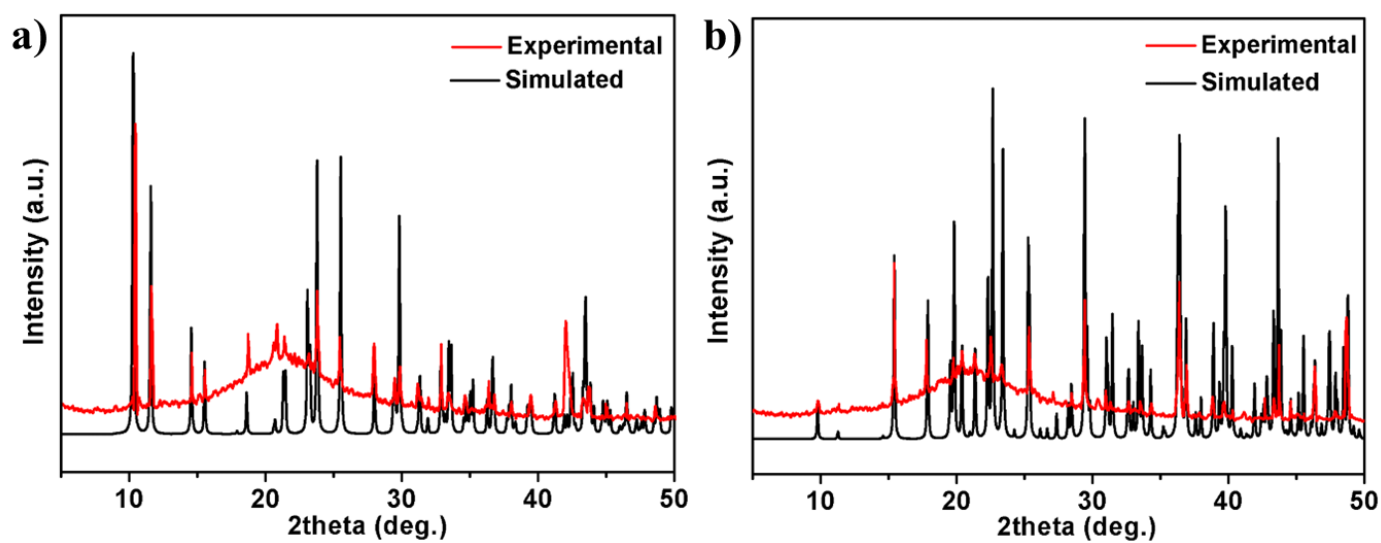


Figure S4. PXRD of 1 (a) and 2 (b).

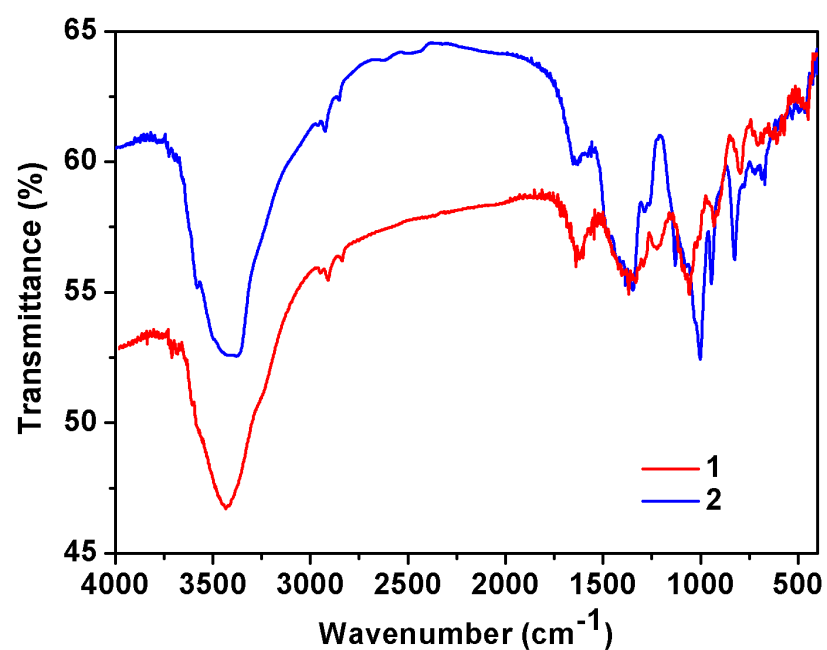


Figure S5. IR spectra of 1 and 2.

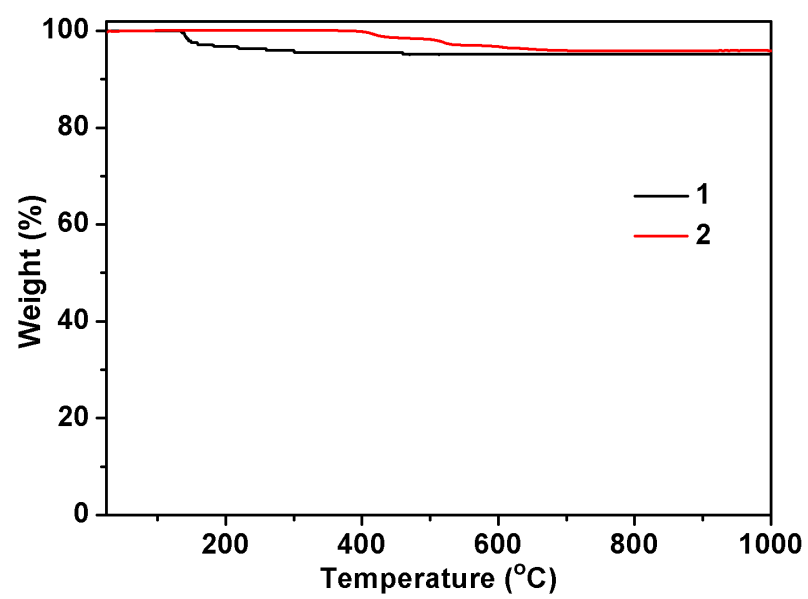


Figure S6. TG curves of 1 and 2.