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Supplementary Information to

Structural and morphological evolutions for octahedral $KNbO_3$ mesocrystal by self-assembly-topotactic conversion process

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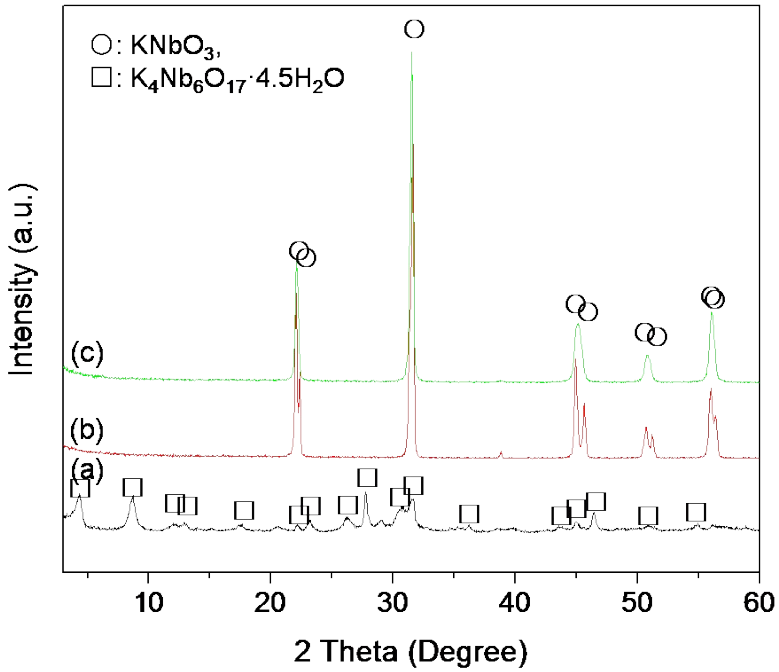

Fig. S1 XRD patterns of specimens obtained by solvothermal treatments of 3 mL $[Nb_6O_{19}]^{8-}$ (PHN) solution in 27 mL (a) water, (b) alcohol, (c) ethylenediamine solvents at 230 °C for 12, respectively.

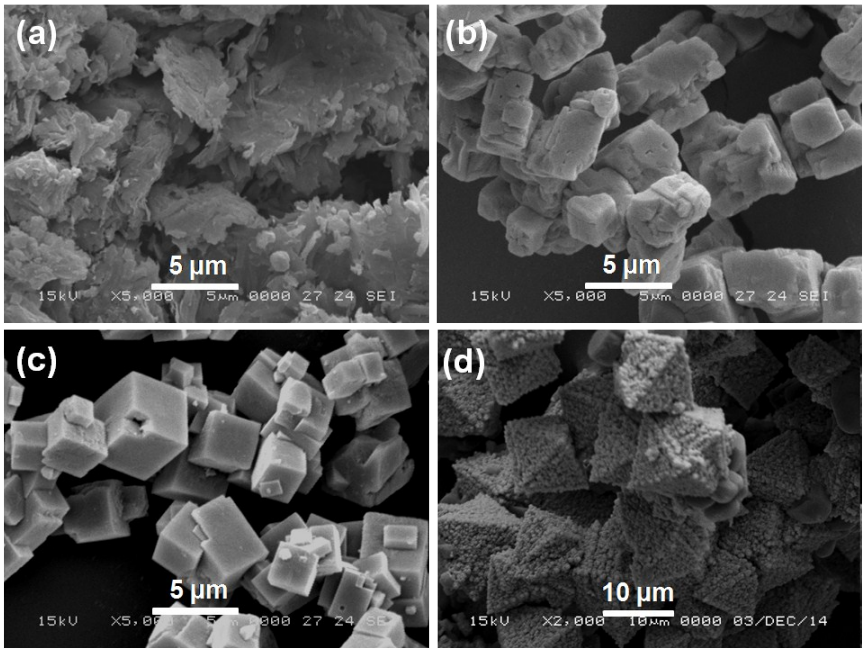

Fig. S2 SEM images of specimens obtained by solvothermal treatments of 3 mL PHN solution in 27 mL (a) water, (b) alcohol, (c) ethylenediamine, and (d) propylamine solvents at 230 °C for (a, b, c) 12 h and (d) 24 h, respectively.

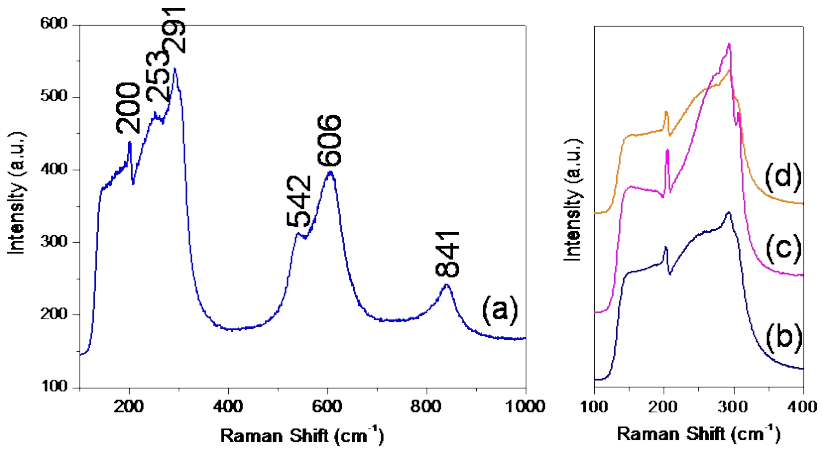

Fig. S3 Raman spectra of $KNbO_3$ specimens obtained by solvothermal treatments of 3 mL PHN solution in 27 mL propylamine solvent at 230 °C for (a) 3, (b) 6, (c) 12, and (d) 24 h, respectively.

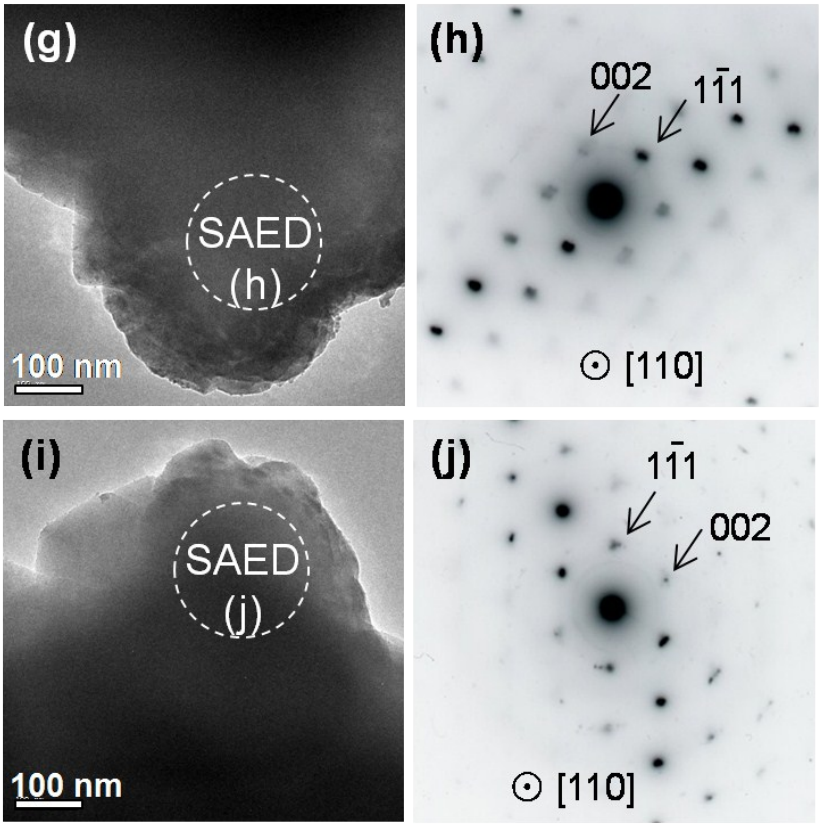

Fig. S4 (g, i) TEM images and (h, j) SAED patterns of specimens obtain by solvothermal treatments of 3 mL PHN solution in 27 mL propylamine solvent at 230 °C for 24 h. (g, i) TEM images are magnified images derived from (g, i) yellow region at the bottom and top of octahedron in (a) TEM image of Fig. 5, respectively.

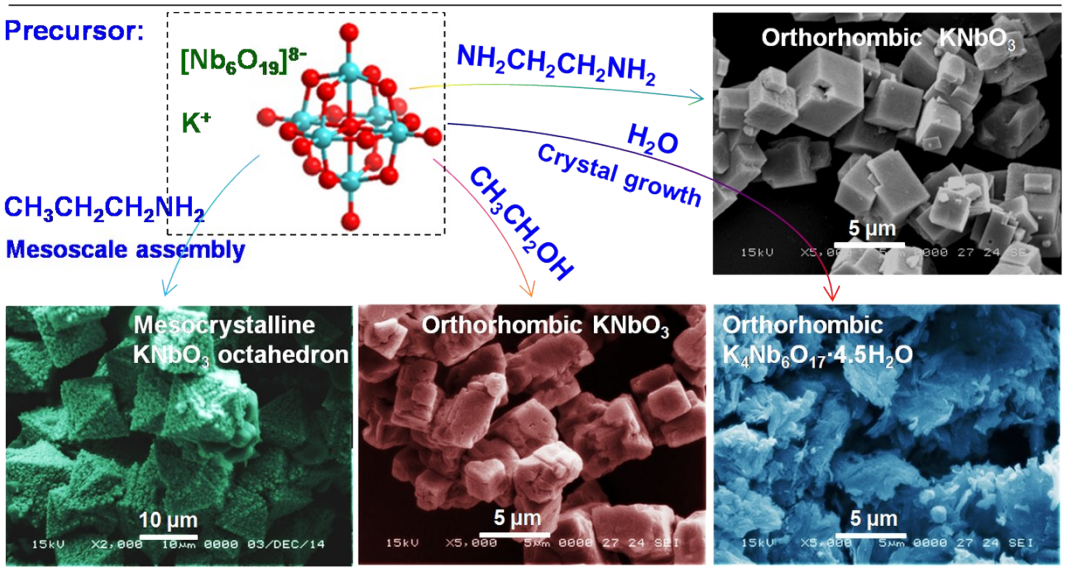

Fig. S5 SEM images of different niobates obtained by solvothermal processes in desired reaction solvents from Lindquist hexaniobate $[Nb_6O_{19}]^{8-}$ ion.

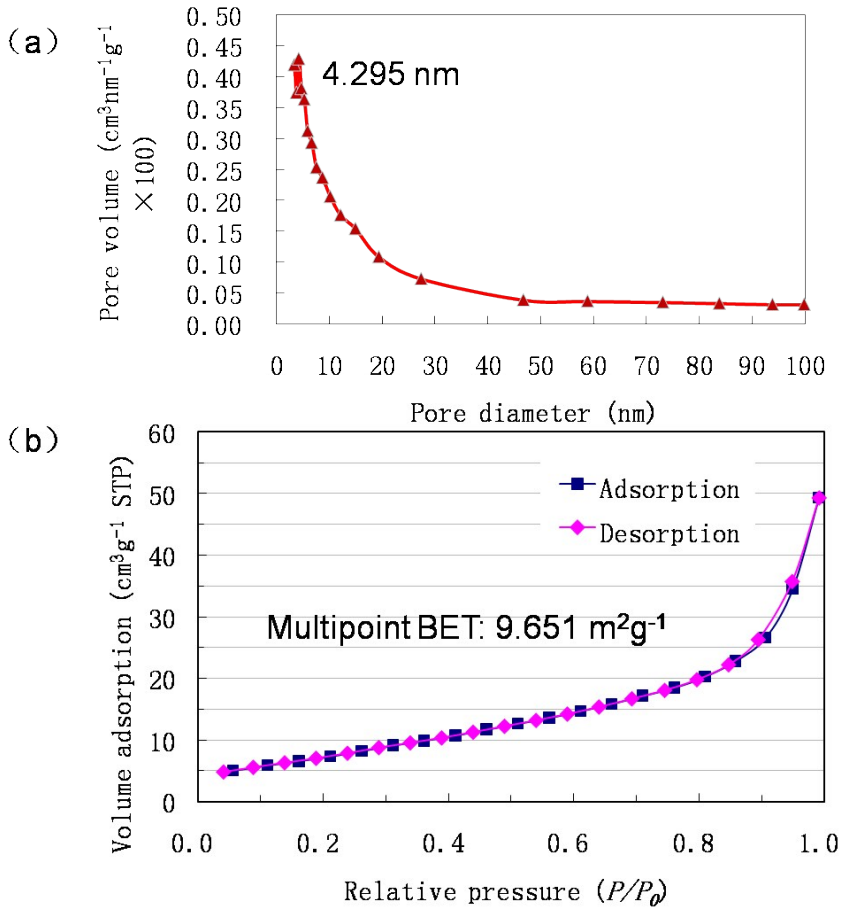

Fig. S6 (a) Pore size distribution and (b) N_2 adsorption-desorption isotherms of octahedral KN mesocrystal.