Supporting Information

Fabrication of Single-Crystalline $BaTaO_2N$ from Chloride Fluxes for Photocatalytic H_2 Evolution under Visible Light

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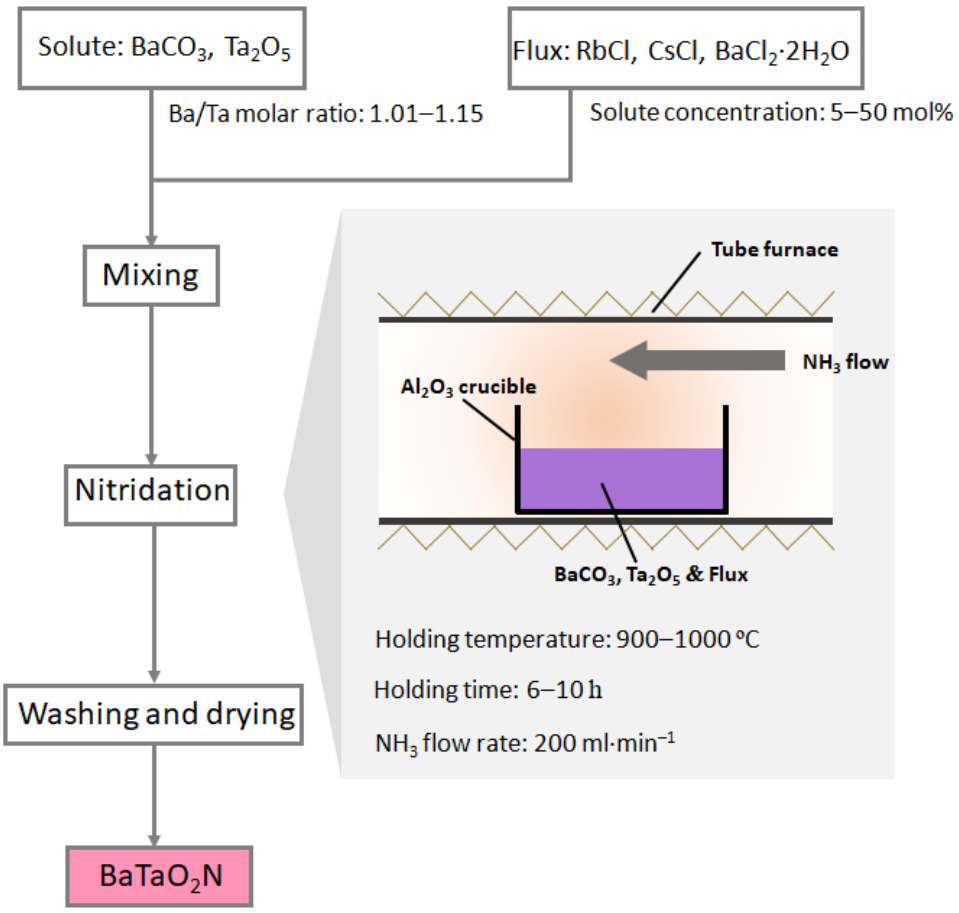

Figure S1. Synthetic route to the $BaTaO_2N$ crystals.

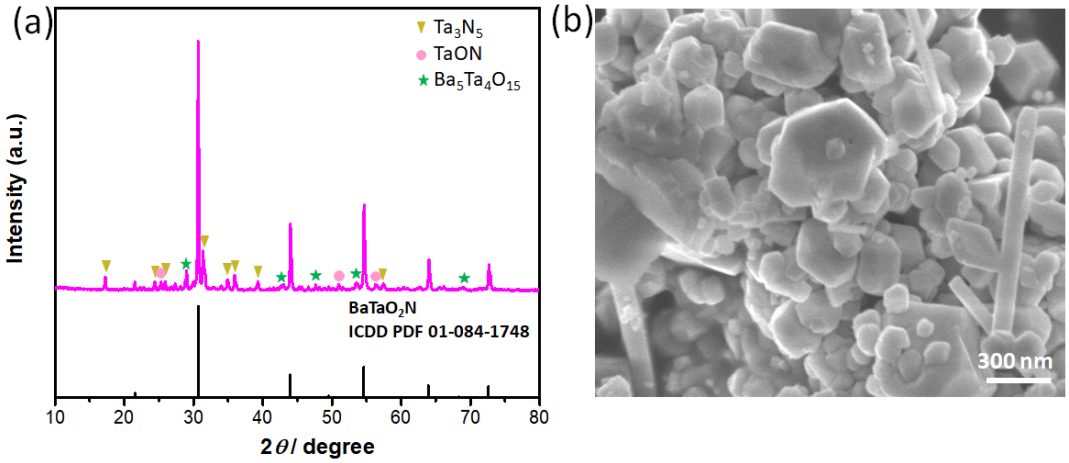

Figure S2. (a) XRD pattern and (b) SEM image of BTON ($BaCl_2$) prepared using a solute concentration of 10 mol%.

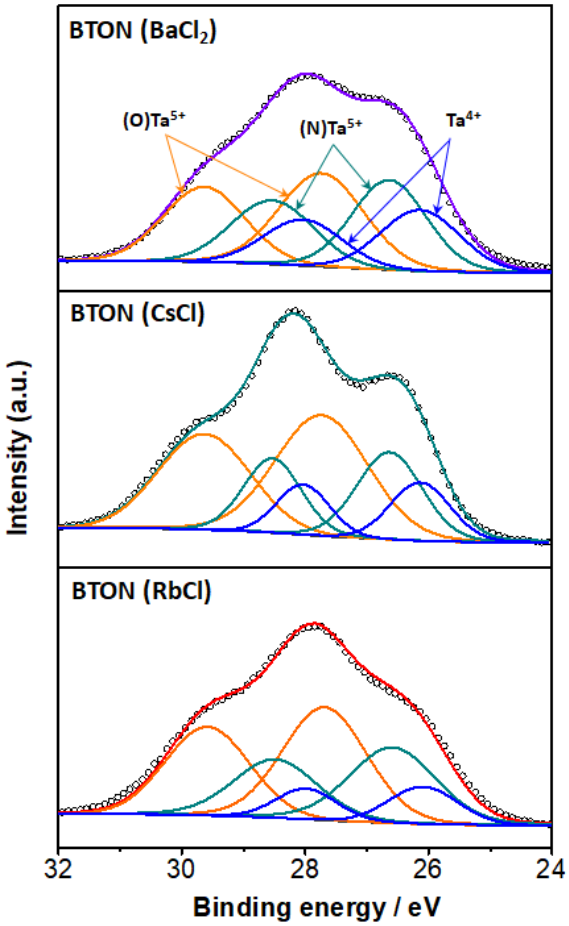

Figure S3. Ta 4f XPS spectra of BTON (RbCl), BTON (CsCl), and BTON ($BaCl_2$).

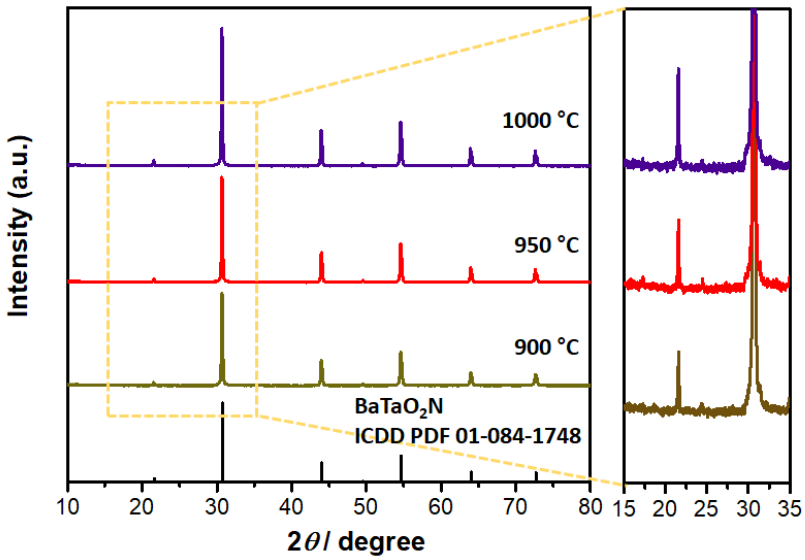

Figure S4. XRD patterns of BTON (RbCl) prepared using holding temperatures of 900, 950, and 1000 °C.

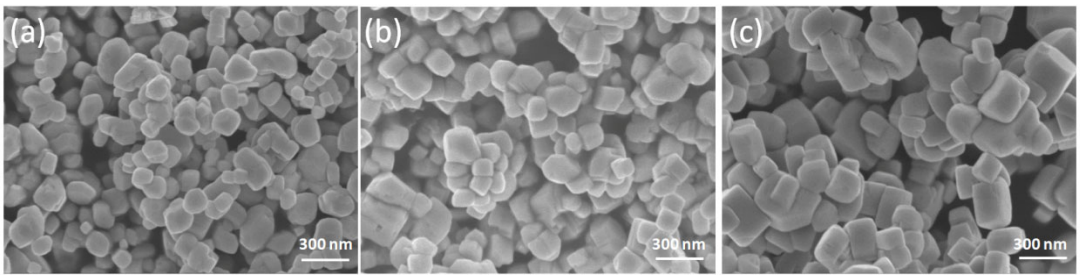

Figure S5. SEM images of BTON (RbCl) prepared using holding temperatures of (a) 900, (b) 950, and (c) 1000 °C.

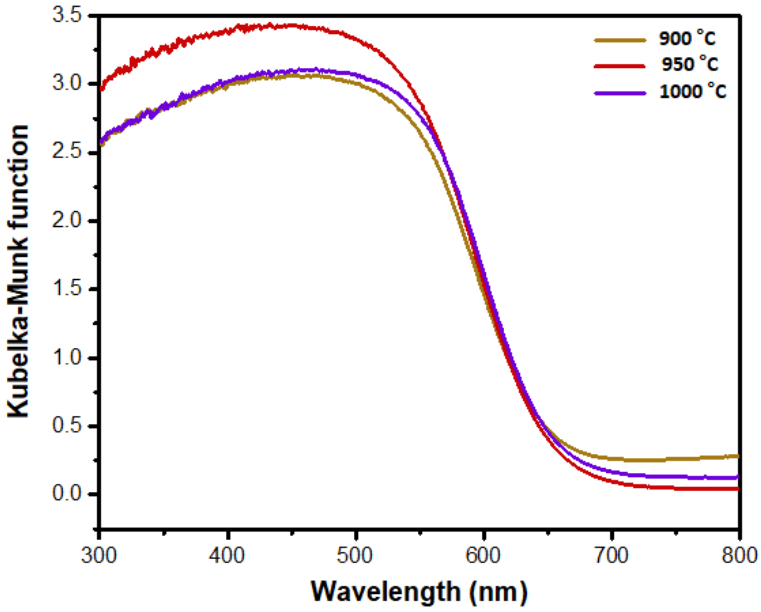

Figure S6. UV-vis DRS of BTON (RbCl) prepared using holding temperatures of 900, 950, and 1000 °C.

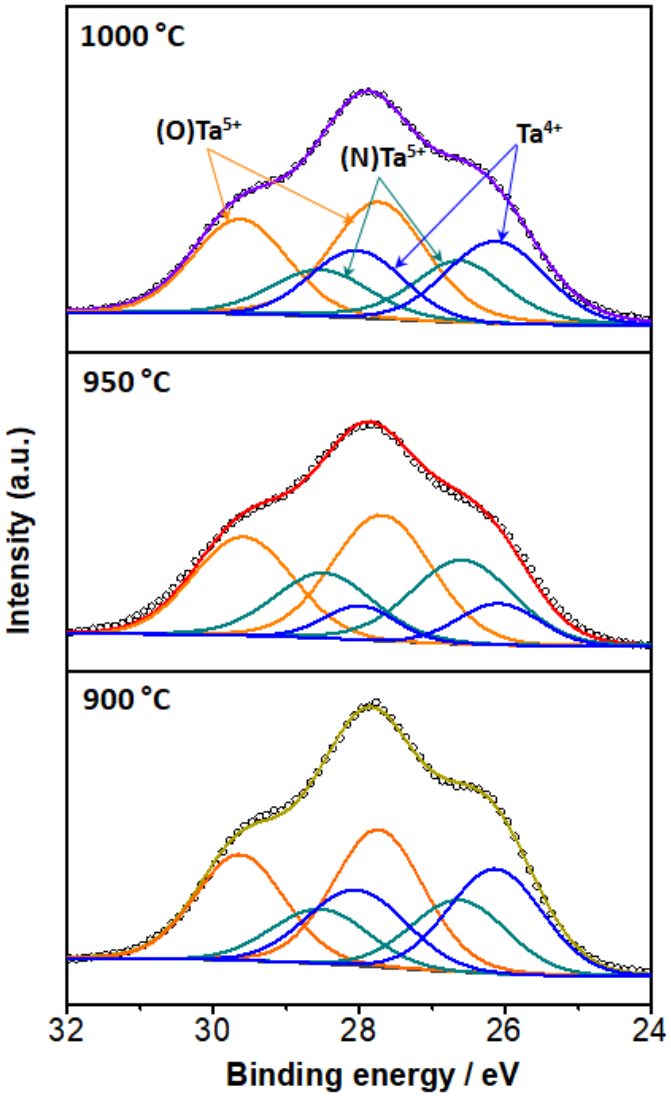

Figure S7. Ta 4f XPS spectra of BTON (RbCl) prepared using holding temperatures of 900, 950, and 1000 °C.

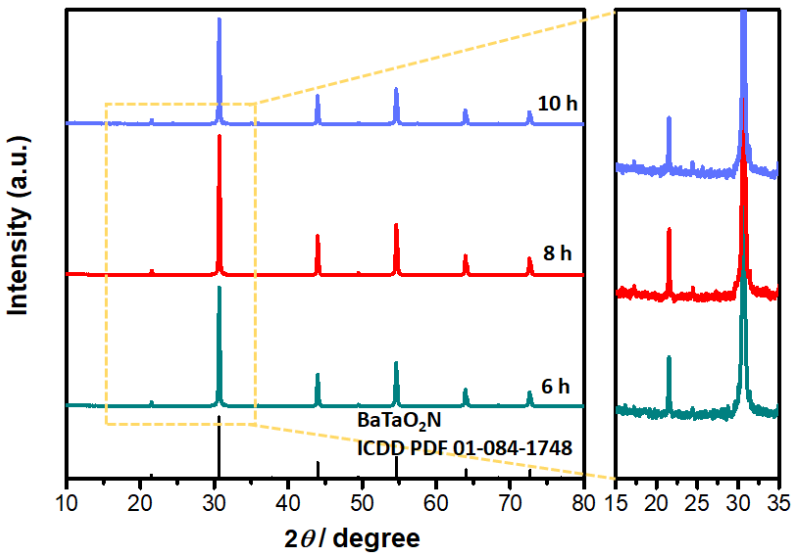

Figure S8. XRD patterns of BTON (RbCl) prepared using holding times of 6, 8, and 10 h.

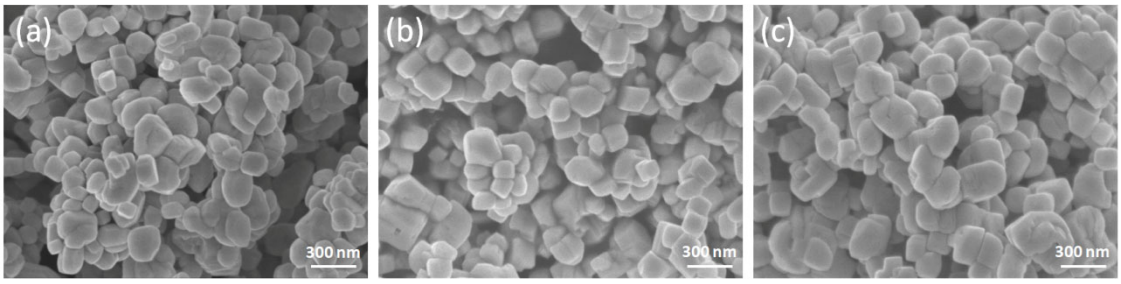

Figure S9. SEM images of BTON (RbCl) prepared using holding times of (a) 6, (b) 8, and (c) 10 h.