Electronic Supplementary Material

Salt-Assisted Synthesis of 3D Open Porous $g-C_3N_4$ Decorated with Cyano Groups for Photocatalytic Hydrogen Evolution

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Figure S1. Mapping images of CS(NH₂)₂/NaCl after freeze-drying process.



Figure S2. The TG curves of $CS(NH_2)_2$ and $CS(NH_2)_2/NaCl$ removed NaCl and performed normalization.

$$\frac{(9.26 - 12.0)/(520 - 480)}{(14.78 - 15.79)/(520 - 480)} = 2.71$$



Figure S3. (a) the XRD pattern and (b) photograph of the sample prepared by treating $CS(NH_2)_2/NaCl$ at 500 °C for 1 h in air, (c) the photograph of the sample prepared by treating $CS(NH_2)_2/NaCl$ at 500 °C for 0.5 h in air.



Figure S4. SEM images of (a)BG-C₃N₄, (b)the product prepared by thermal drying and calcinating $CS(NH_2)_2/NaCI$.



Figure S5. SEM images of (a, b) $CS(NH_2)_2/NaCl$ after freeze-drying process. SEM images of (c, d)the heat-treatment products before eliminating NaCl.



Figure S6. TEM images of (a,b) 3D OPG-C₃N₄-2CN; (c,d) 3D OPG-C₃N₄-4CN.



Figure S7. FTIR spectra of $g-C_3N_4$ prepared by $CS(NH_2)_2/NaCl$, $CS(NH_2)_2/CaCl_2$, $CS(NH_2)_2/NH_4Cl$ and $CS(NH_2)_2/HCl$ at 500 °C for 0.5 h in air.



Figure S8. elemental mapping images of 3D OPG-C₃N₄-1CN.