

Supplementary Information

Actualizing efficient photocatalytic water oxidation over SrTaO₂N by Na modification

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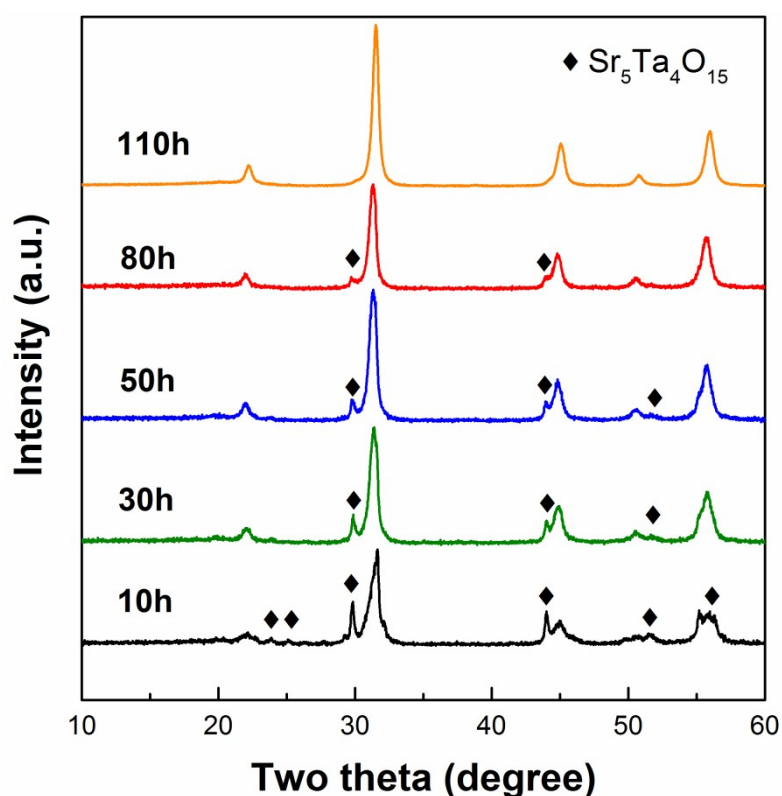


Figure S1. XRD patterns of amorphous precursors ammonolyzed at 900 °C for different time. Impurity peaks of Sr₅Ta₄O₁₅ were progressively depressed along with reaction time.

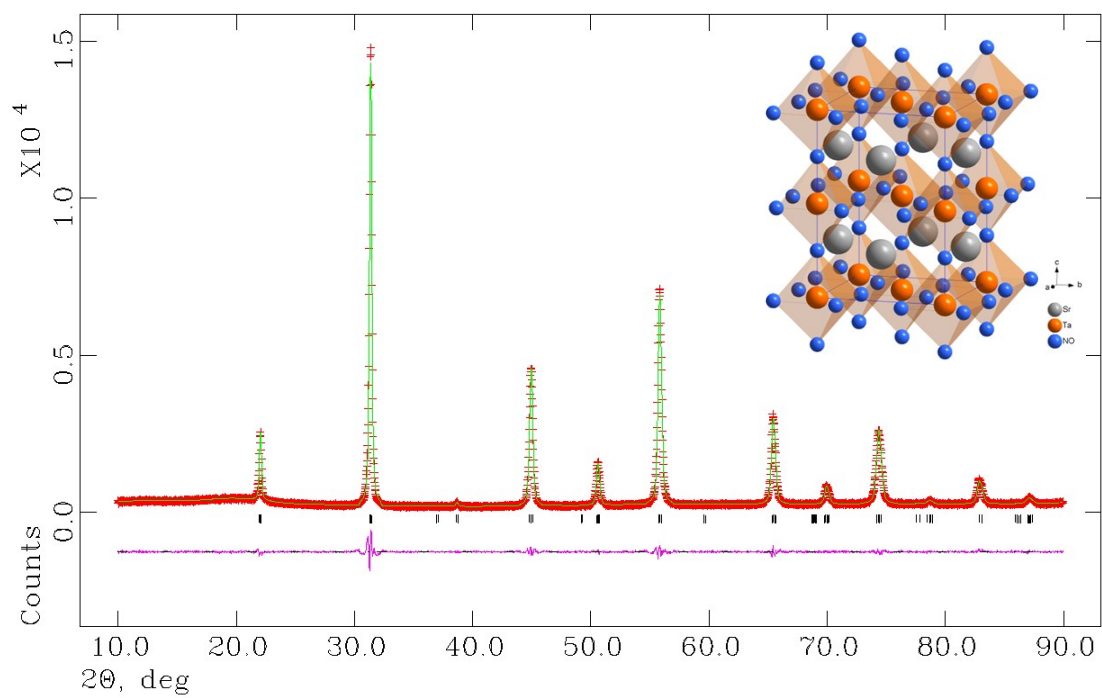


Figure S2. Observed and calculated X-ray powder diffraction patterns of SrTaO₂N with space group *I4mcm* ($R_p = 6.05\%$, $R_{wp} = 4.49\%$, $\chi^2 = 1.656$)

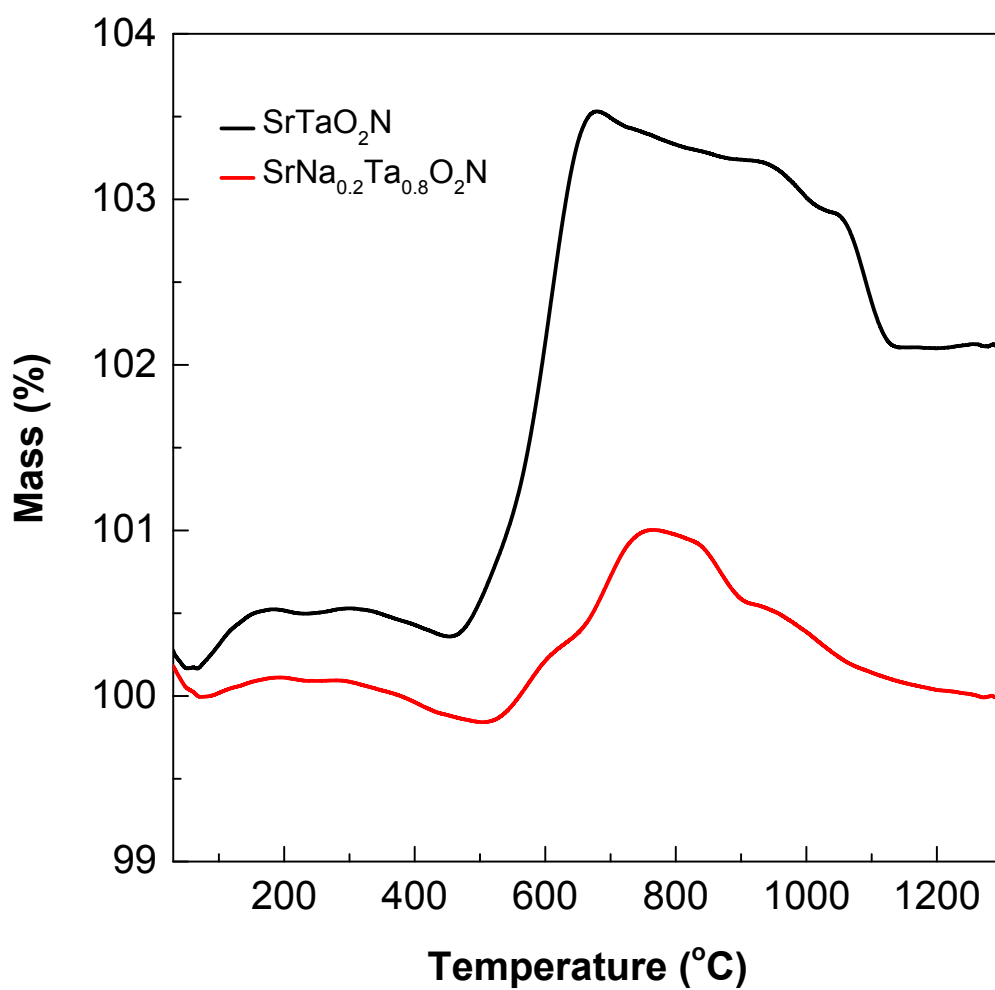


Figure S3. Thermogravimetric analysis (TGA) of SrTaO₂N and SrNa_{0.2}Ta_{0.8}O_{2.8}N_{0.2} in air with a heating rate 20 K/min

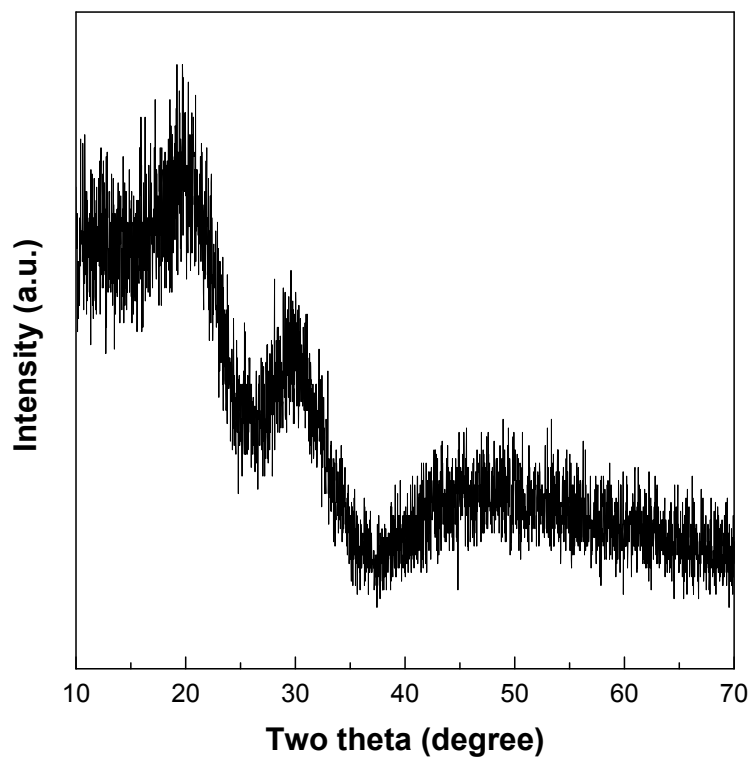


Figure S4. XRD patterns of precursors for $\text{SrNa}_{0.2}\text{Ta}_{0.8}\text{O}_{2.8}\text{N}_{0.2}$ before ammonolysis

Table S1 Compositions of samples determined by ICP and TGA analysis

	Sr / at%	Na / at%	Ta / at%	O / at%	N / at%
SrTaO_2N	20.8	-	19.2	41.2	18.8
$\text{SrNa}_{0.2}\text{Ta}_{0.8}\text{O}_{2.8}\text{N}_0$	21.2	3.6	15.2	55.2	4.8