

Supplementary Information

Visible light photocatalytic water oxidation over complex perovskite $\text{Sr}_3\text{BNb}_2\text{O}_9$ (B = Mg, Ca and Sr) doped with nitrogen

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Mg, Ca and Sr) powders: (a) $\text{Sr}_3\text{MgNb}_2\text{O}_{9-x}\text{N}_y$, (b) $\text{Sr}_3\text{CaNb}_2\text{O}_{9-x}\text{N}_y$ and (c) $\text{Sr}_3\text{SrNb}_2\text{O}_{9-x}\text{N}_y$.

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Table S1 Effective chemical formula of $\text{Sr}_3\text{BNb}_2\text{O}_{9-x}\text{N}_y$ (B = Mg, Ca and Sr) determined by thermogravimetric analysis (TGA)

Table S2 Cation percentage of $\text{Sr}_3\text{BNb}_2\text{O}_{9-x}\text{N}_y$ (B = Mg, Ca and Sr) determined by energy dispersive X-ray spectroscopy (EDS), standard deviation is included in the parenthesis.

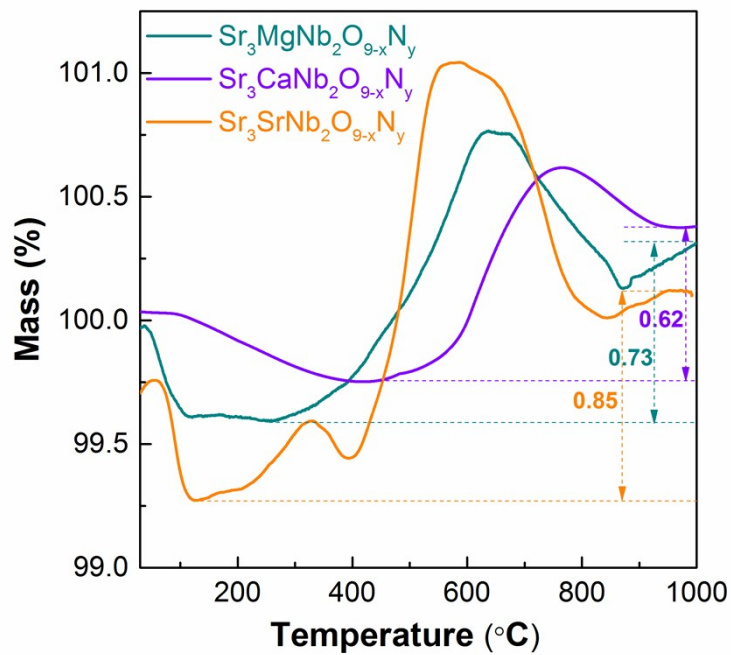


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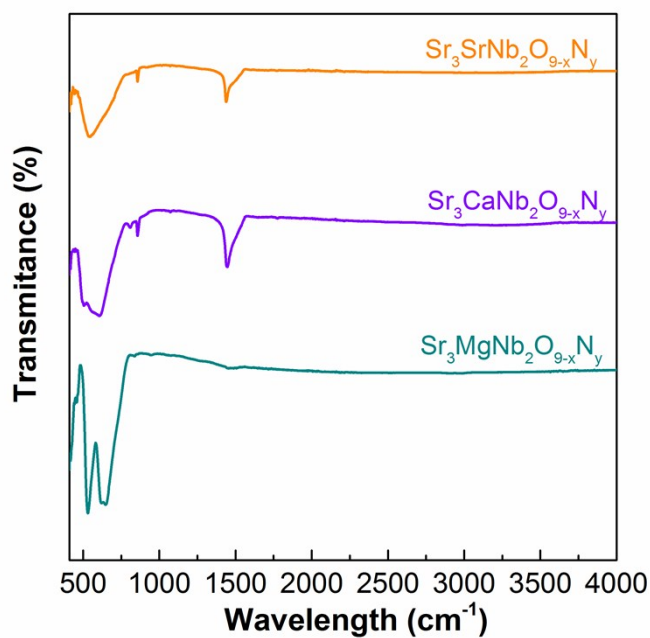


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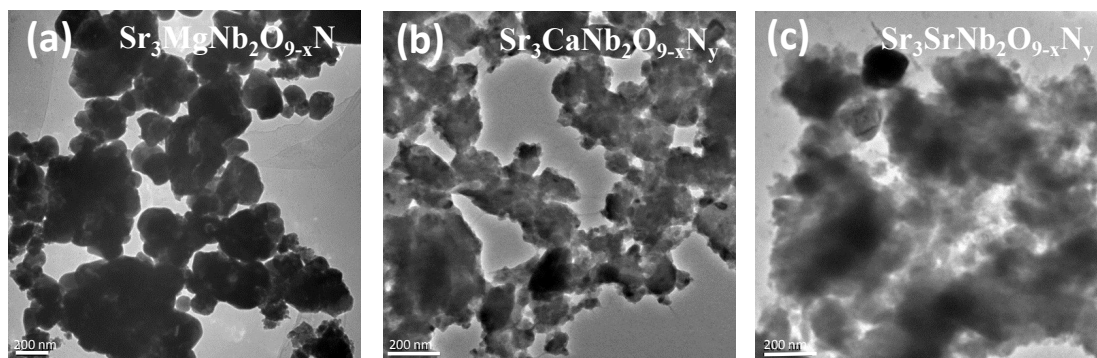


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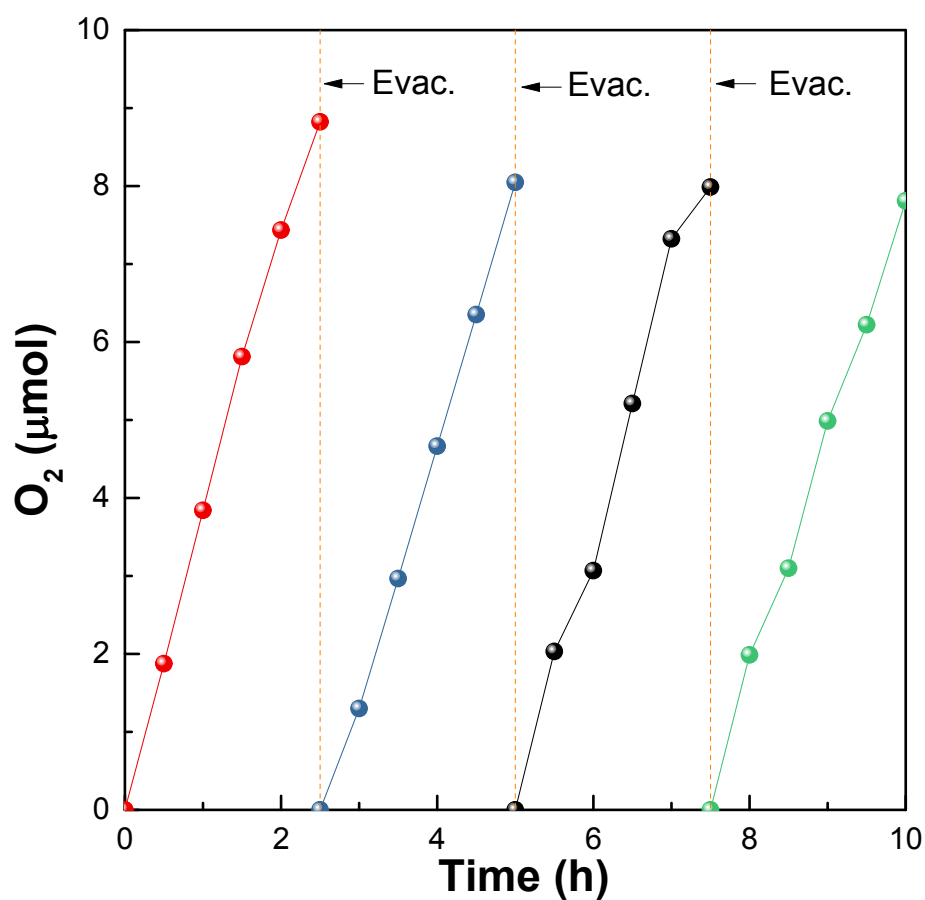


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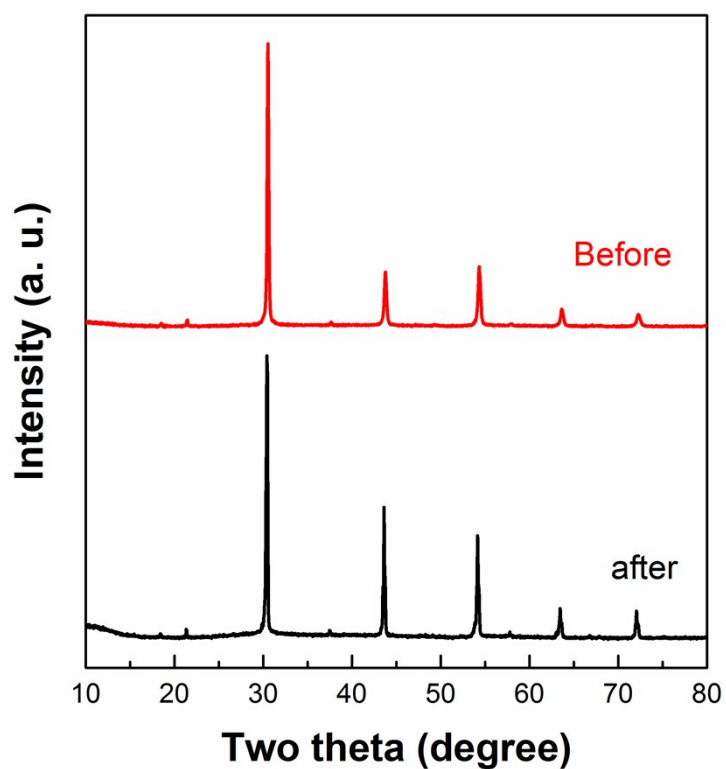


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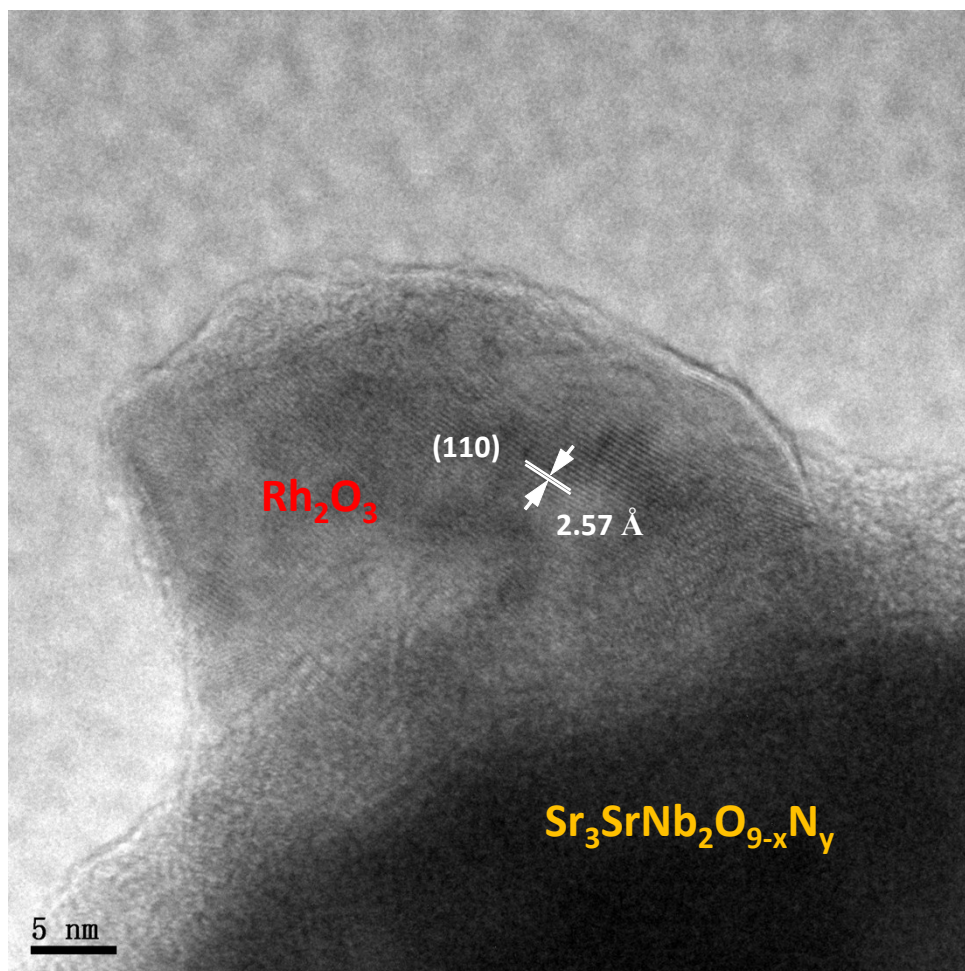


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Table S1 Effective chemical formula of $\text{Sr}_3\text{BNb}_2\text{O}_{9-x}\text{N}_y$ (B = Mg, Ca and Sr) determined by thermogravimetric analysis (TGA)

Compound	Effective chemical formula
$\text{Sr}_3\text{MgNb}_2\text{O}_{9-x}\text{N}_y$	$\text{Sr}_3\text{MgNb}_2\text{O}_{8.927}\text{N}_{0.049}$
$\text{Sr}_3\text{CaNb}_2\text{O}_{9-x}\text{N}_y$	$\text{Sr}_3\text{CaNb}_2\text{O}_{8.912}\text{N}_{0.059}$
$\text{Sr}_3\text{SrNb}_2\text{O}_{9-x}\text{N}_y$	$\text{Sr}_3\text{SrNb}_2\text{O}_{8.891}\text{N}_{0.073}$

Table S2 Cation percentage of $\text{Sr}_3\text{BNb}_2\text{O}_{9-x}\text{N}_y$ (B = Mg, Ca and Sr) determined by energy dispersive X-ray spectroscopy (EDS), standard deviation is included in the parenthesis.

	Mg (at. %)	Ca (at. %)	Sr (at. %)	Nb (at. %)
$\text{Sr}_3\text{MgNb}_2\text{O}_{9-x}\text{N}_y$	16(1)	—	49(1)	35(1)
$\text{Sr}_3\text{CaNb}_2\text{O}_{9-x}\text{N}_y$	—	16(1)	50(1)	34(1)
$\text{Sr}_3\text{SrNb}_2\text{O}_{9-x}\text{N}_y$	—	—	67(1)	33(1)