Supplementary Information (SI) for RSC Advances.

Supporting information

Improved Photocatalytic Efficiency of $Sr_5Ta_4O_{15}$ Perovskite Oxide via V Doping and Oxygen Defects

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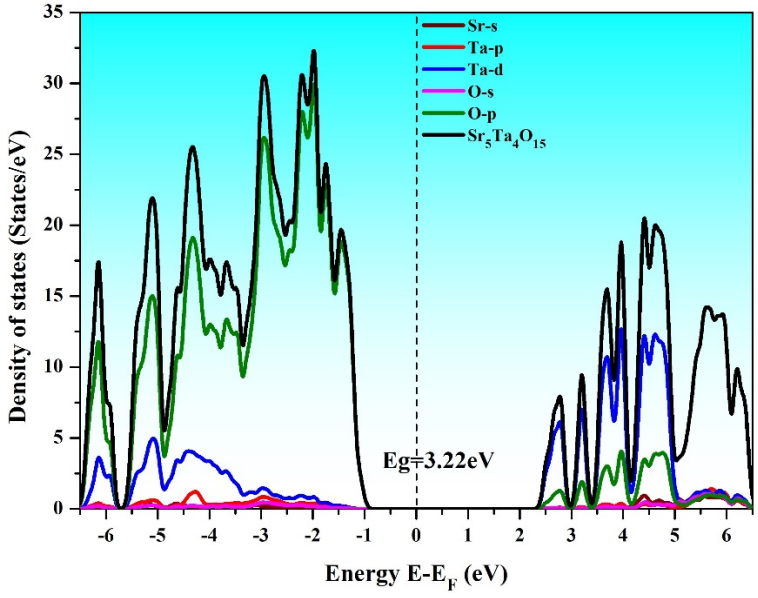

Fig. S1 DOS of $Sr_5Ta_4O_{15}$ using the GGA+U correction method.

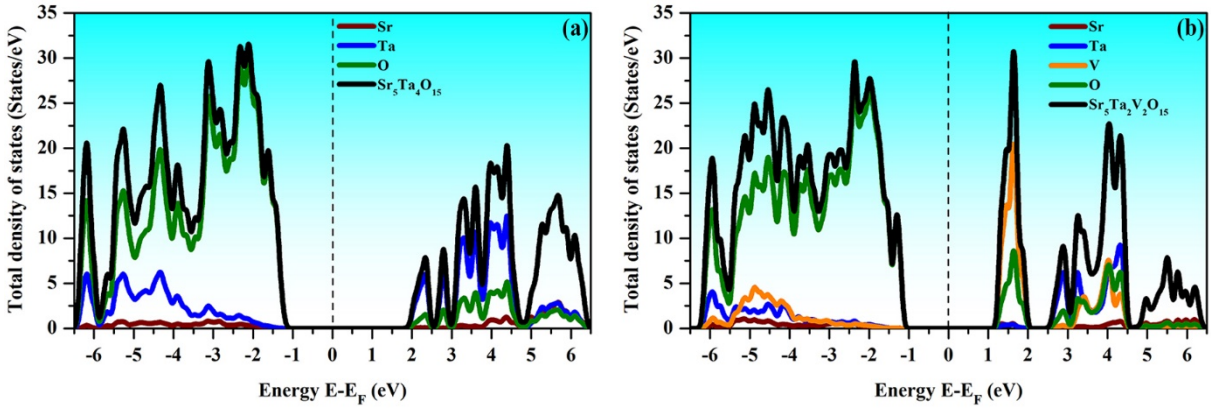

Fig. S2 Total DOS of (a) $Sr_5Ta_4O_{15}$ and (b) $Sr_5Ta_2V_2O_{15}$.

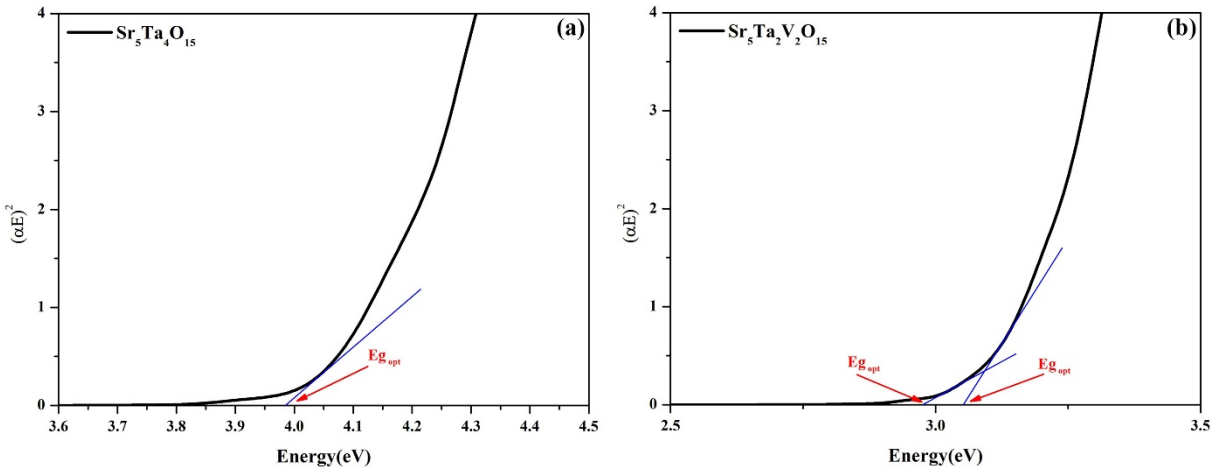

Fig. S3 Determination of the optical gap energy using the relation: $(\alpha E)^2 = K (h\nu - Eg)$ for (a) $Sr_5Ta_4O_{15}$ and (b) $Sr_5Ta_2V_2O_{15}$.