Supplementary Information

Optical and Electronic Configuration of a Novel Semiconductor -Silver Nitroprusside for Enhanced Electrocatalytic and Photocatalytic Performance

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Fig. S1: EDX pattern of SINP
Fig. S2: Photocurrent Vs Time
Fig. S3: OER polarization at different KOH concentration
FTIR band at 2170, 2147, 1932, 513, 646, 661 cm$^{-1}$ significant for $\nu$(CN)$_{ax}$, $\nu$(CN)$_{eq}$, $\nu$(NO), $\nu$(FeC), $\nu$(FeCN)$_{eq.+ax}$, $\nu$(FeN), $\nu$(FeNO) vibration respectively, are consistent after MO degradation. Catalyst stability and reliability can be confirmed by this analysis$^1$. 

Fig. S4: FTIR spectrum before and after reaction
Fig. S5: Schematic mechanism of 2 amino 2 hydroxyethanol degradation

**Synthesis of Ag₃PO₄ and BiVO₄**

Ag₃PO₄ and BiVO₄ were synthesized according to previously declared precipitation² and hydrothermal route respectively.³