

## Electronic Supplementary Information

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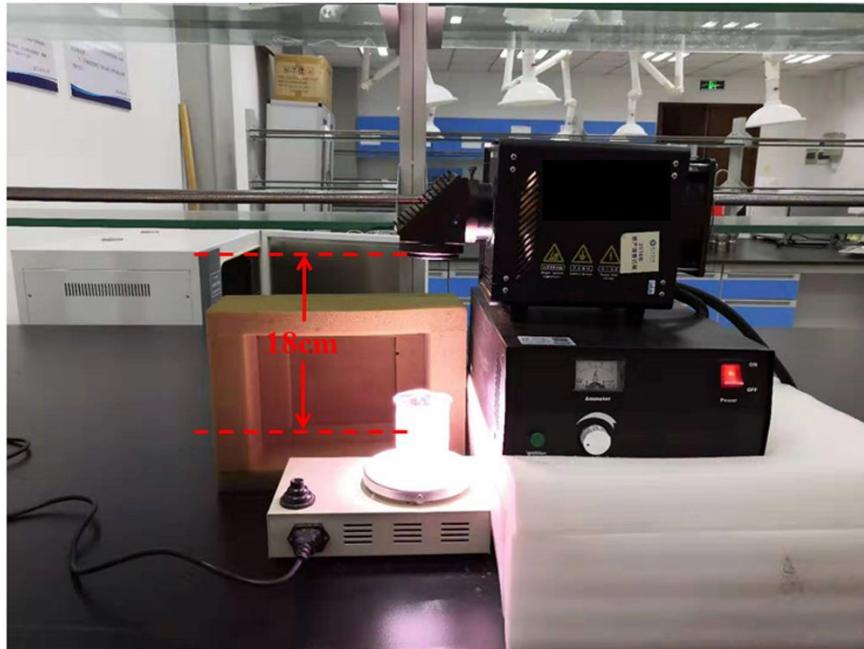


Figure S1 The reaction setup (the distance between the light and the solution is around 18cm)

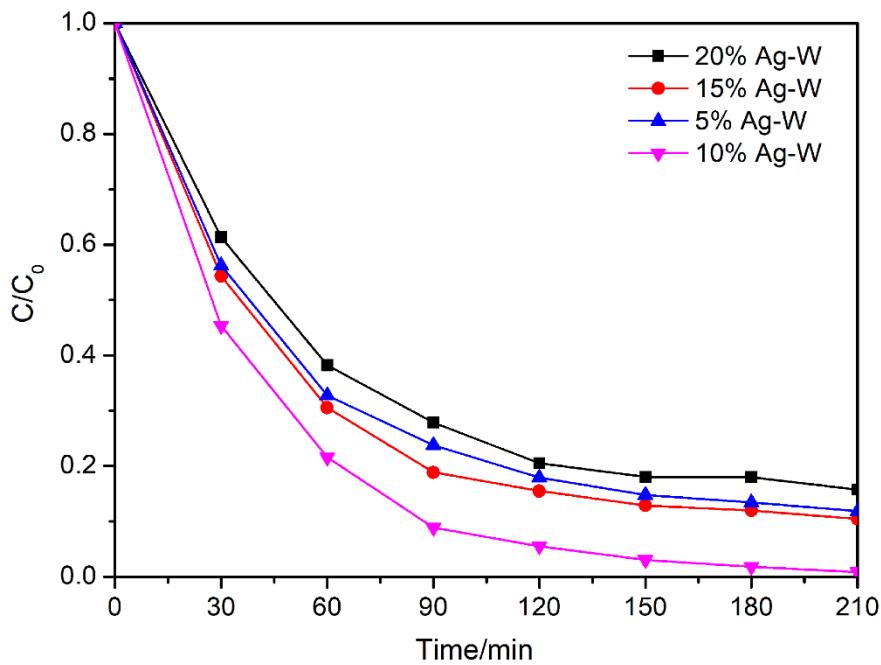


Figure S2 Degradation curves of tetracycline hydrochloride (TC) under the visible light irradiation ( $\lambda > 420$  nm) over Ag-W photocatalysts with different weight ratio of  $\text{Ag}_2\text{MoO}_4$

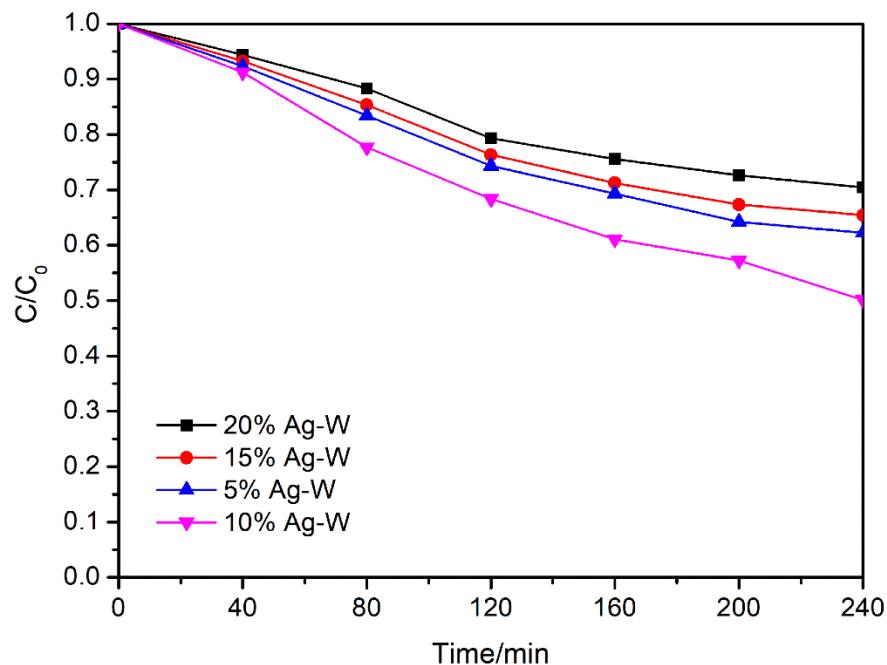


Figure S3 Degradation curves of 4 chlorophenol (4-CP) under the visible light irradiation ( $\lambda > 420$  nm) over Ag-W photocatalysts with different weight ratio of  $\text{Ag}_2\text{MoO}_4$

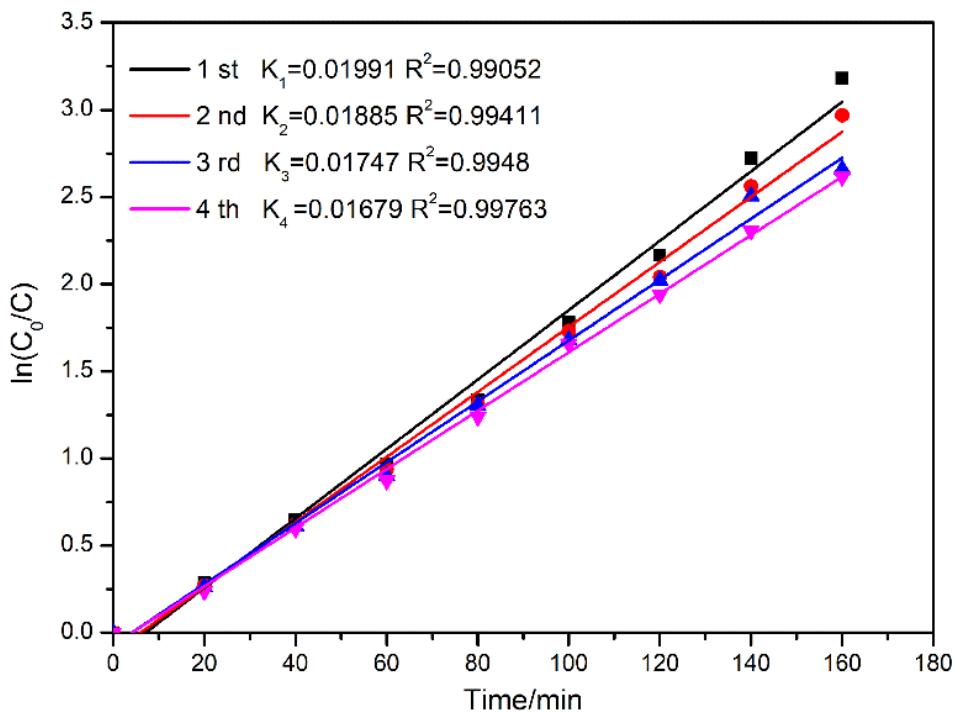


Figure S4 Rate constants (k) of cycling runs in photocatalytic photodegradation of RhB (10 mg/L, 100 mL) over 10%Ag-W heterojunction (100 mg) under visible light ( $\lambda > 420$  nm)

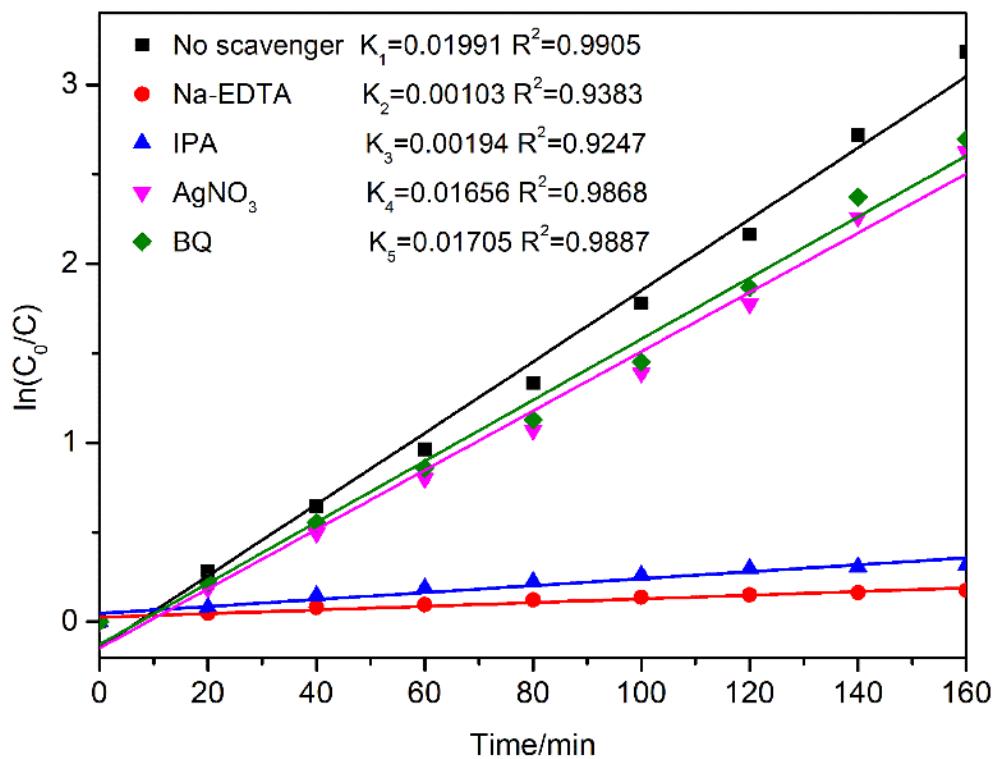


Figure S5 Rate constants (k) of the degradation of RhB (10 mg/L, 100 mL) efficiencies over 10% Ag-W heterojunction with different scavengers