Fig. S1 XRD patterns of Bi$_2$WO$_6$ synthesized at different temperature showing the enhancement in crystallization.

Fig. S2 FESEM image of Bi$_2$WO$_6$ synthesized at 190 °C showing the partial destruction of hierarchical structure.
**Fig. S3** FESEM image of non-mesoporous Bi$_2$WO$_6$ synthesized at 170 °C without Pluronic F127.

**Fig. S4** N$_2$ adsorption-desorption isotherms of non-mesoporous Bi$_2$WO$_6$ synthesized at 170 °C without Pluronic F127.
Fig. S5 Change in RhB absorption spectra with respect to time under dark: (A) in presence of bare Bi$_2$WO$_6$ and (B) Pt/ Bi$_2$WO$_6$. 