Electronic Supplementary Information

Bifunctional TiO$_2$/Ag$_3$PO$_4$/Graphene composites with superior visible light photocatalytic performance and synergistic inactivation of bacteria

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Fig. S1 TEM image of TiO$_2$/Ag$_3$PO$_4$/GR composites where larger particles represent Ag$_3$PO$_4$ and smaller particles stand for nanosized TiO$_2$ (top); wrinkled graphene sheets were clearly observed in the enlarged image (bottom).
Fig. S2  Raman spectra of GO (a), Ag$_3$PO$_4$ (b)
Fig. S3 Visible light photocatalytic activities of the S0.8 toward different dye molecules.
Fig. S4  XRD patterns of (top) TiO$_2$/Ag$_3$PO$_4$/GR samples; (middle) recycled Ag$_3$PO$_4$; (bottom) TiO$_2$/Ag$_3$PO$_4$/GR composites before and after recycled photocatalysis.
Fig. S5  Digital photos of different aqueous dispersions 24 h after ultrasonication. R1 represents GO/TiO$_2$ and R2 stands for GO/Ag$_3$PO$_4$ while other samples are composites indicated in Table 1. The results indicate that all the composites exhibit better solubility than bare Ag$_3$PO$_4$. 