Electronic Supplementary Material (ESI) for CrystEngComm

Supporting Information

Ag_2O/Bi_2O_3 composites: Synthesis, Characterization and High Efficient Photocatalytic Activities

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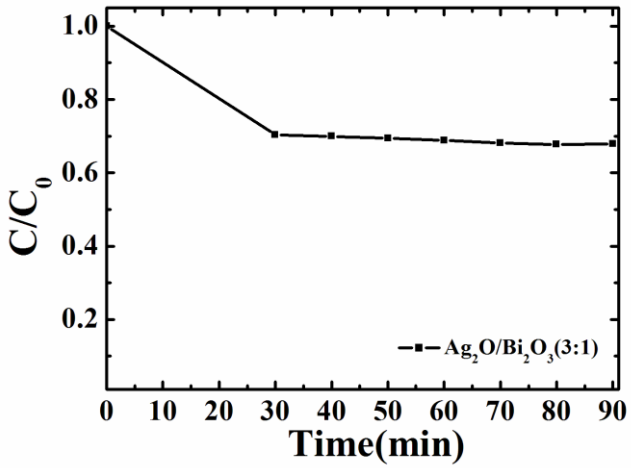

Fig. S1 Change of MO solution concentration with Ag_2O/Bi_2O_3 composite (3:1) stirred in darkness.

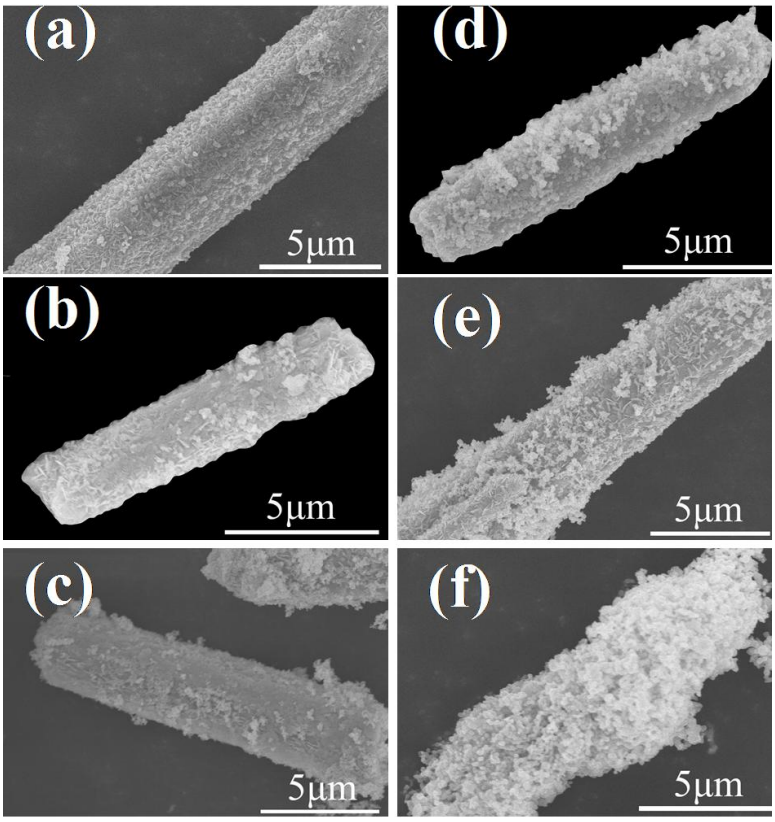

Fig. S2. High-magnification SEM images of Ag_2O/Bi_2O_3 composite with different ion ratio of Ag : Bi , (a) 1:3, (b) 1:2, (c) 1:1, (d) 2:1, (e) 4:1 and (f) 5:1 respectively.

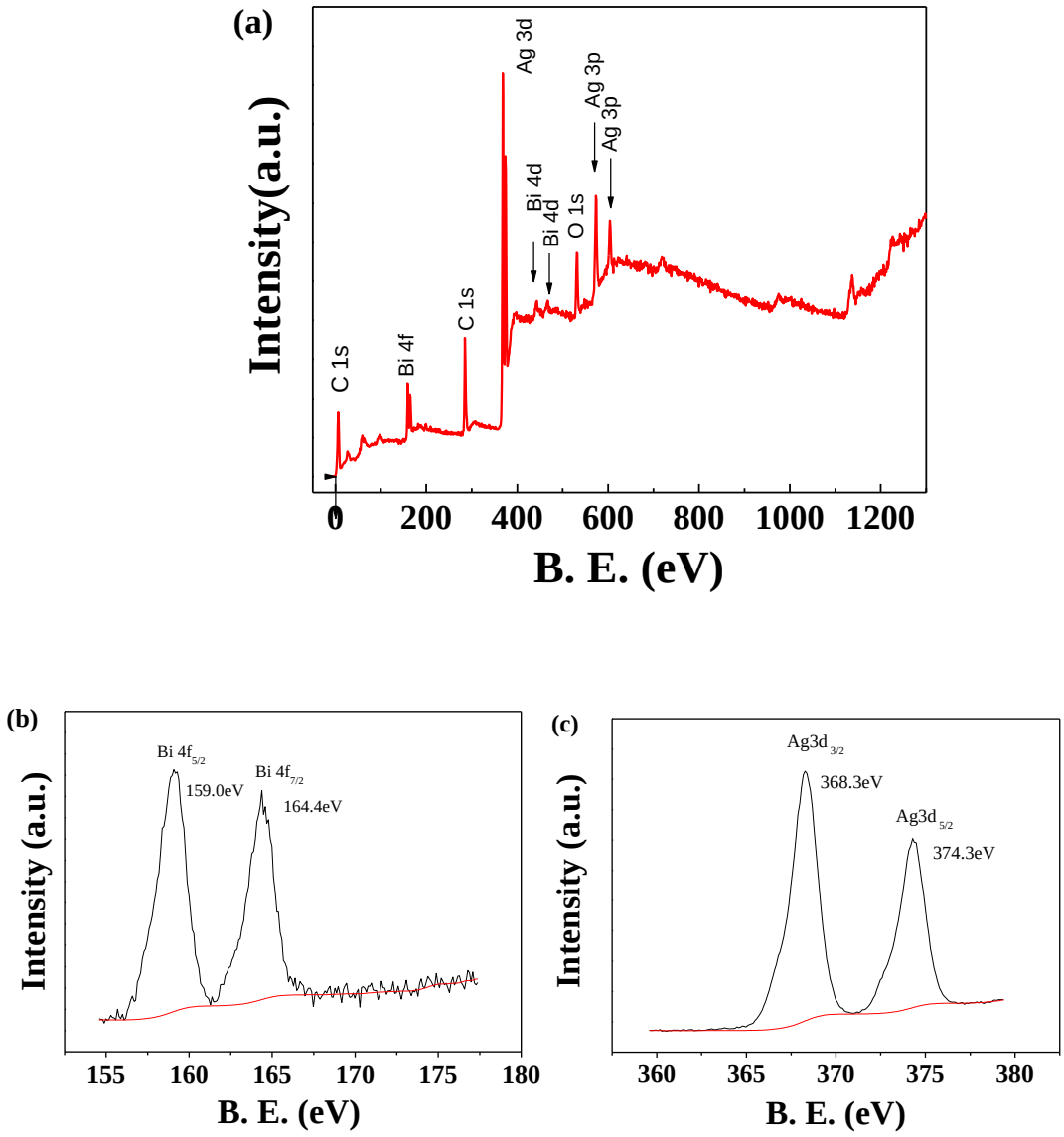

Fig. S3 XPS survey spectra of Ag_2O/Bi_2O_3 (3:1) composite (a), High-resolution of XPS analysis of Bi 4f spectrum(b) and Ag 3d spectrum (c).

In high-resolution spectrum of Bi 4f (Fig. S3b), two peaks at 159.0eV and 164.4eV are found, which indicates that Bi is in the +3 oxidation state (Dumitriu D et al, J. Cata., 2003,219:337-351). While in high-resolution spectrum of Ag 3d (Fig. S3c), two peaks at 368.3eV and 374.3 eV are determined, indicative of Ag(I) with a splitting of 5.9 eV, which is close consistent with standard separation of 6.0 eV.

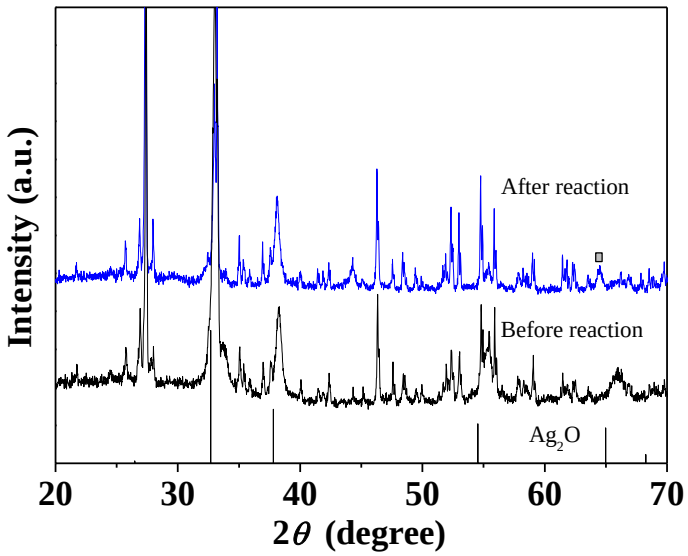

Fig. S4 The XRD patterns of Ag_2O/Bi_2O_3 (3:1) composite before and after the photocatalytic reaction. Diffraction peaks of cubic Ag_2O (JCPDS NO. 76-1393) are given. Slight diffraction peak of pure Ag (JCPDS NO.04-0783) is found (square) .

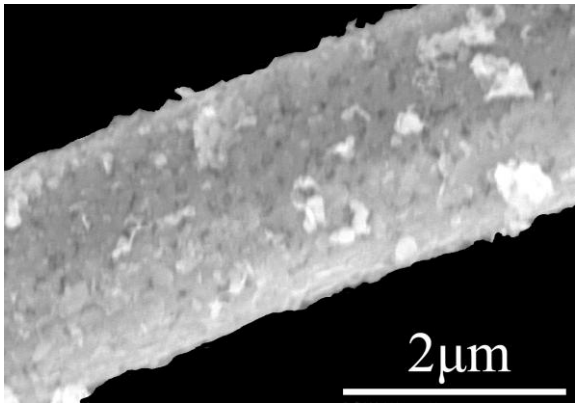

Fig. S5 the SEM image of Ag_2O/Bi_2O_3 (3:1) composite after the photocatalytic reaction.