Supporting Information

Facile Synthesis of MoS$_2$/B-TiO$_2$ Nanosheets with Exposed {001} Facets and Enhanced Visible-Light-Driven Photocatalytic H$_2$ Production Activity

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Fig. S1 Schematic illustration of the photoreactor.

Fig. S2 A spectrum of the Xe lamp in the experiment.
Fig. S3 EDS spectrum of MoS$_2$/B-TiO$_2$.

Fig. S4 XRD patterns of the as-obtained samples: (a) pure B-TiO$_2$; (b) 0.5 wt% MoS$_2$/B-TiO$_2$; (c) 1.0 wt% MoS$_2$/B-TiO$_2$; (d) 2.0 wt% MoS$_2$/B-TiO$_2$. 
Fig. S5 XPS spectra of the as-prepared sample 1.0 wt% MoS$_2$/B-TiO$_2$: (a) survey; (b) B 1s; (c) Mo 3d; (d) S 2p; (e) O 1s; (f) Ti 2p.
Fig. S6 PL spectra of as-synthesized samples: (a) pure B-TiO$_2$; (b) 0.5 wt% MoS$_2$/B-TiO$_2$; (c) 1.0 wt% MoS$_2$/B-TiO$_2$; (d) 2.0 wt% MoS$_2$/B-TiO$_2$. 