

Supporting information for

**Facile Preparation of Semimetallic MoP<sub>2</sub> as a Novel Visible Light  
driven Photocatalyst with high photocatalytic activity**

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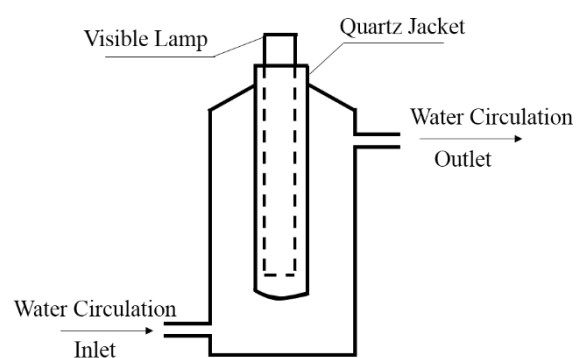


Figure S1. Schematic diagram of the photocatalysis reactor.

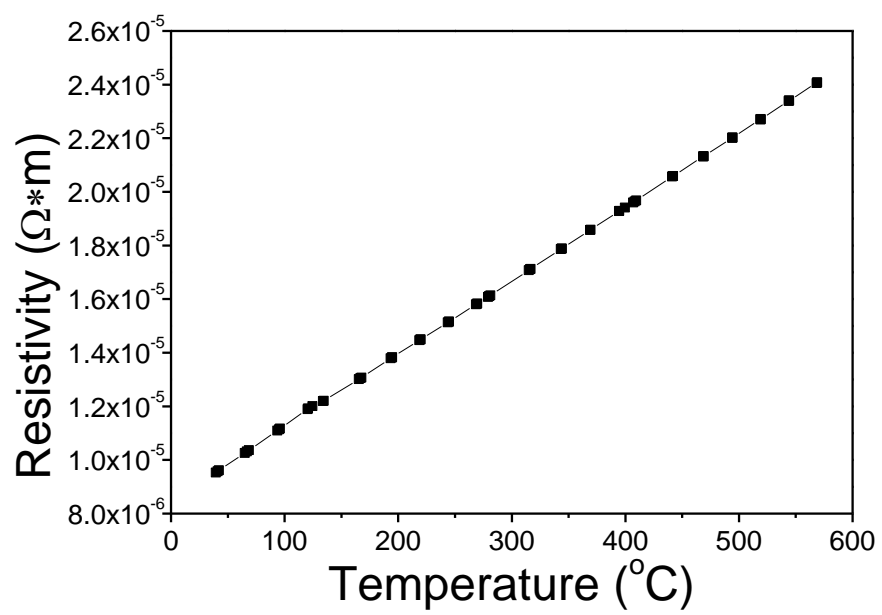


Figure S2. Resistivity change with temperature.

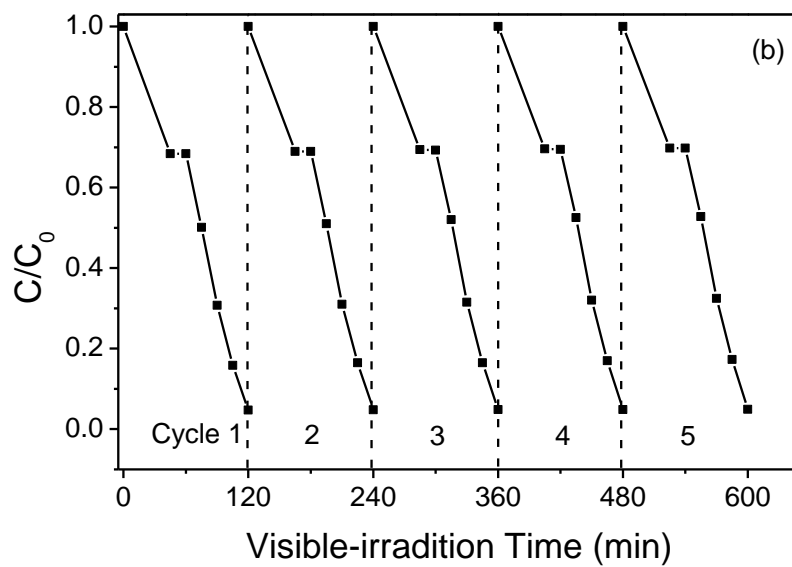


Figure S3. Cycling runs of methyl orange decolourisation using pure MoP<sub>2</sub>.

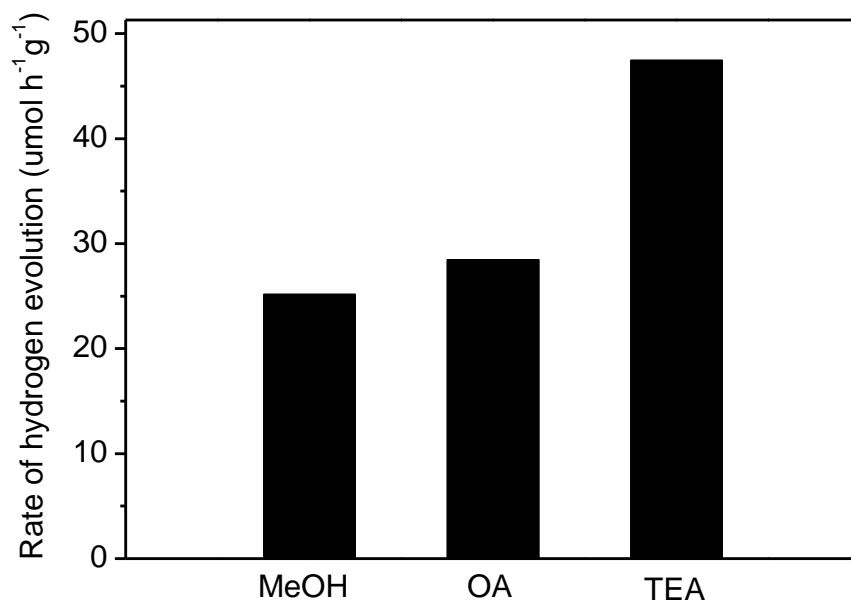


Figure S4. H<sub>2</sub> production from water containing various electron donors under visible light ( $\lambda > 400\text{nm}$ ) by ball milling and 2 wt% Pt-loaded MoP<sub>2</sub> catalyst. MeOH, methanol (20 vol.%); OA, oxalic acid (0.02 M); TEA, triethanolamine (20 vol.%)