

Electronic Supplementary Information (ESI)

Nanostructured 2D MoS₂ Honeycomb and Hierarchical 3D Marigold Nanoflower of CdMoS₄ for Hydrogen Production Under Solar Light

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ESI: S-1

Figure S1:

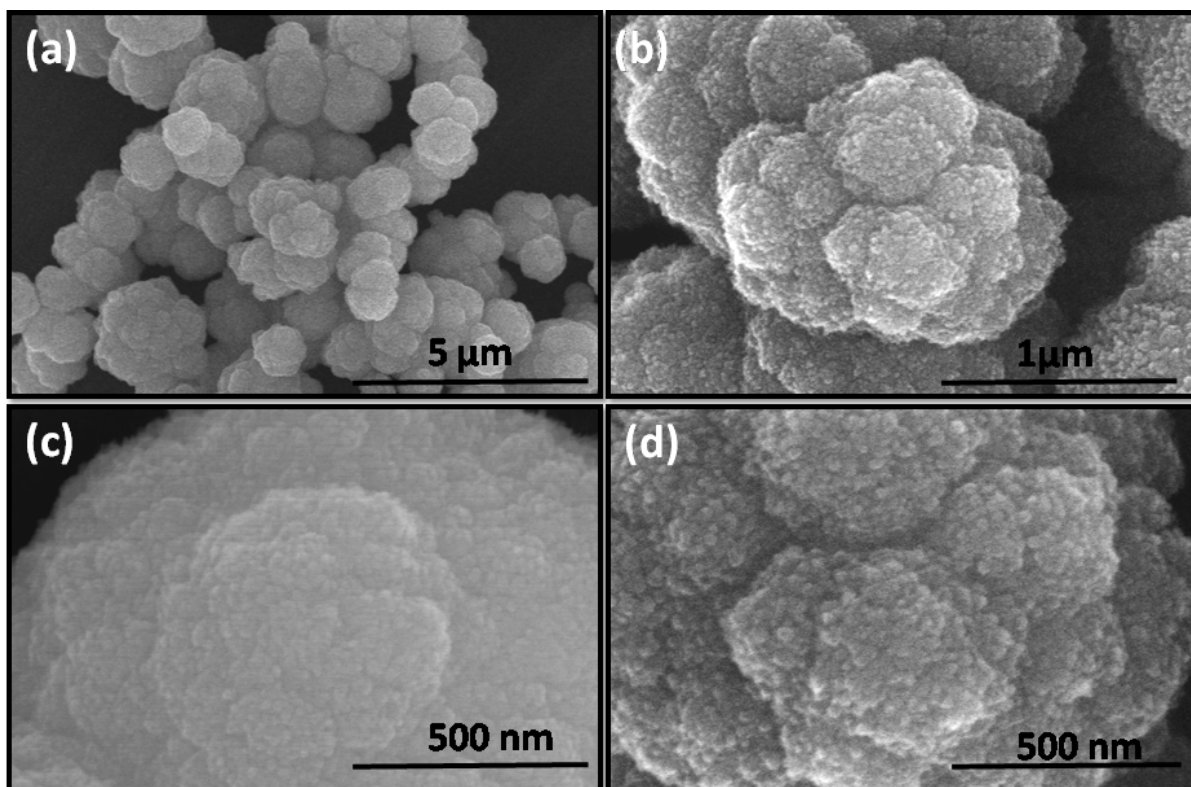


Figure S-1(a-d) FESEM images of as prepared CdS.

ESI: S-2

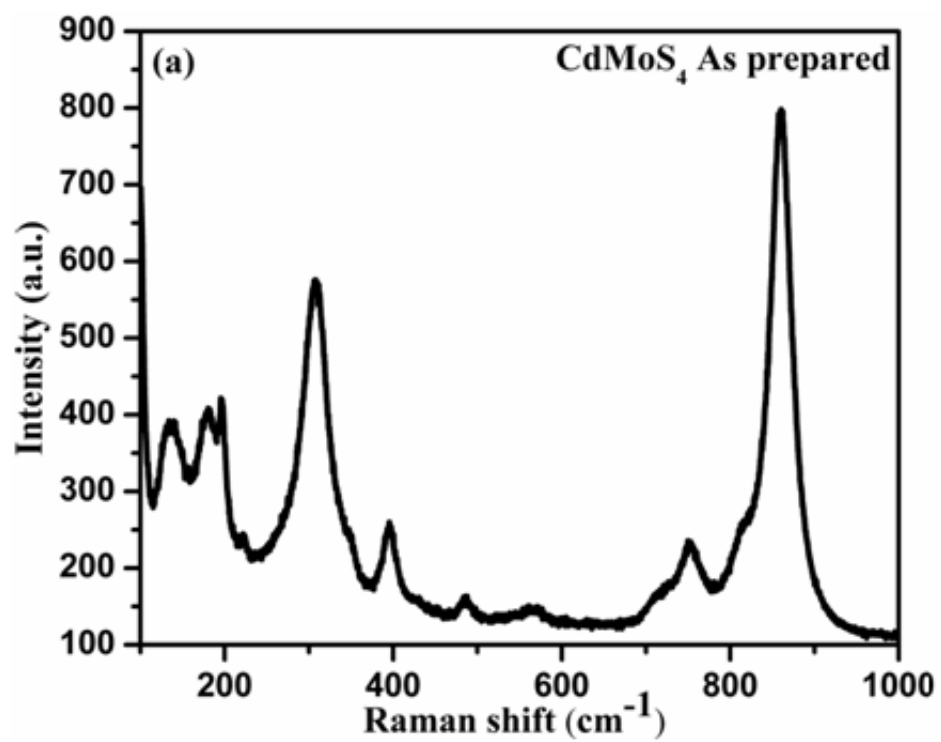


Figure S-1: Raman of as prepared CdMoS_4 sample.

ESI: S-3

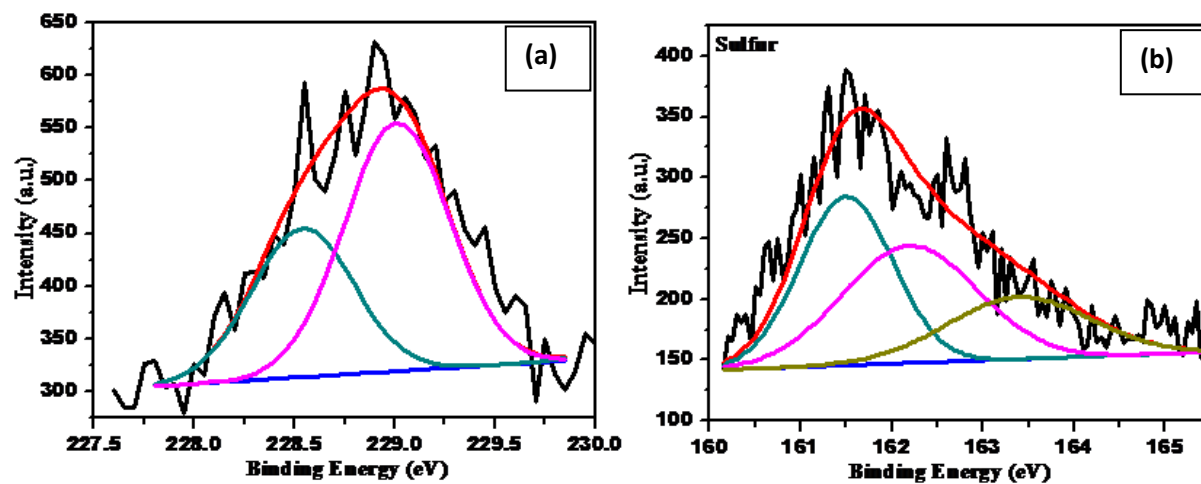


Figure S-1: Deconvoluted peak by fitting (a) Mo and (b) S2P XPS spectra of CdMoS₄ annealed at 400 °C sample.

Table S1:

Table S1: XPS of annealed CdMoS₄ sample.

<i>Sample</i>	<i>Element</i>		<i>Binding energy (eV)</i>	<i>Area (a.u.)</i>
<i>CdMo_xS_x400 °C</i>	<i>Mo</i>		<i>3d_{5/2}228.8</i>	<i>441.3</i>
			<i>3d_{3/2} 232.1</i>	<i>300.8</i>
	<i>Mo Deconv.</i>	<i>Mo⁴⁺</i>	<i>228.5</i>	<i>149.7</i>
		<i>Mo⁶⁺</i>	<i>229.2</i>	<i>259.4</i>
	<i>Cd</i>		<i>3d_{3/2} 411.7</i>	<i>700.1</i>
			<i>3d_{5/2}404.9</i>	<i>824.6</i>
	<i>Sulfur 2P</i>	<i>CdS</i>	<i>161.5</i>	<i>74.1</i>
		<i>MoS2</i>	<i>162.2</i>	<i>149.9</i>
		<i>MoS3</i>	<i>163.4</i>	<i>240.5</i>

ESI: S-4

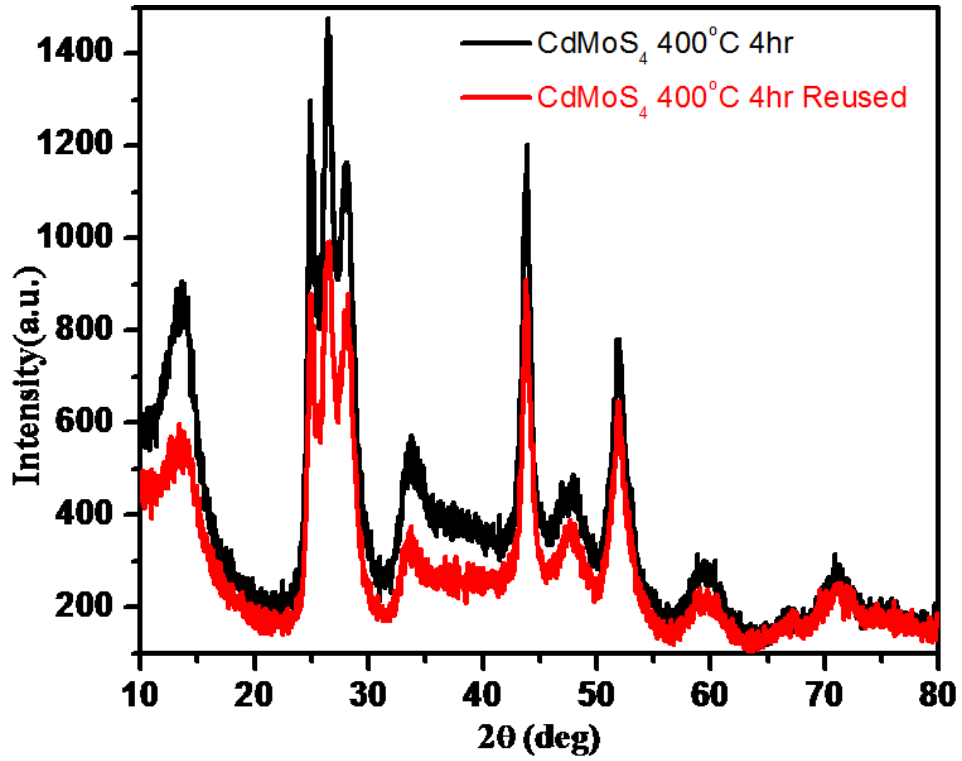


Figure S-1: XRD of CdMoS₄ 400 °C 4hr and reused sample.

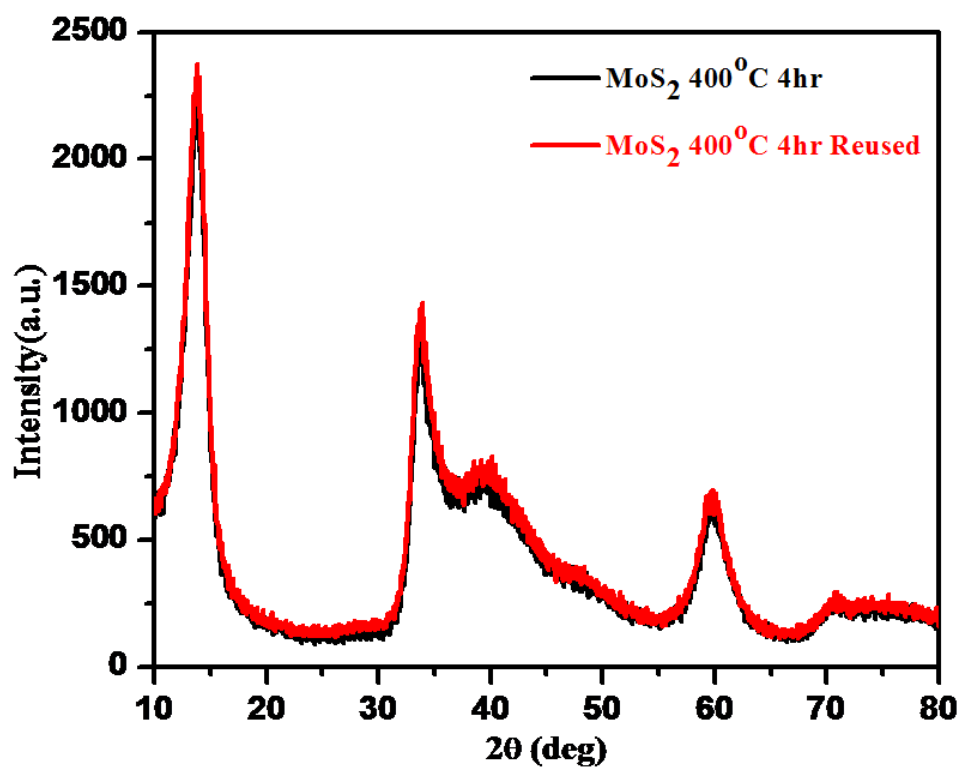


Figure S-2: XRD of MoS₂ 400 °C 4 hr and reused sample.

ESI: S-5

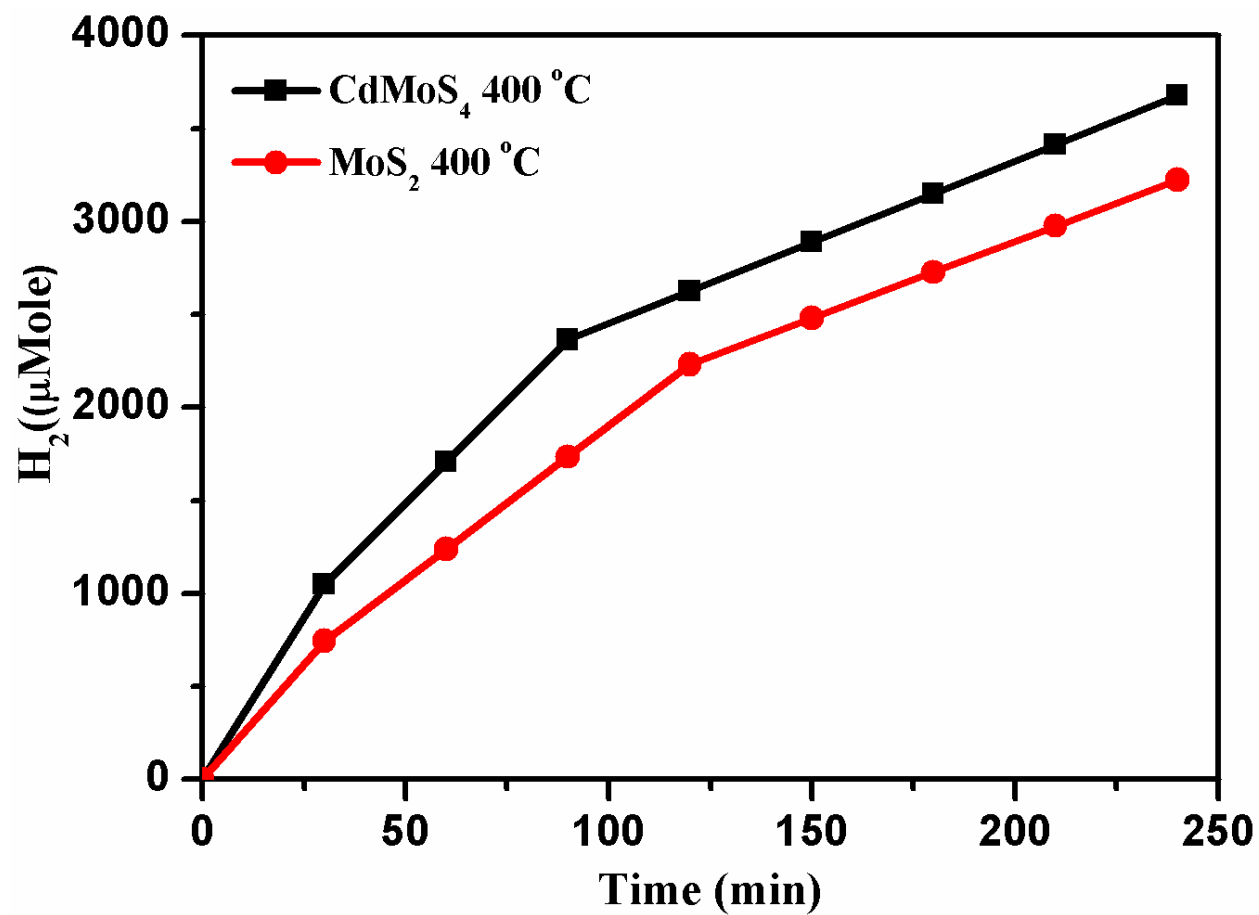


Figure S-1: Photocatalytic H₂ generation from water without existence of sacrificial reagent (methanol) using CdMoS₄ 400 °C and MoS₂ 400 °C.