

1 **Supporting information for**

2 **Highly active spherical amorphous MoS₂ nanoparticles : Facile synthesis and**
3 **application in photocatalytic degradation of rose bengal dye and**
4 **hydrogenation of nitroarenes**

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6 Namrata Saha,^a Arpita Sarkar,^a Abhisek Brata Ghosh,^a Amit Kumar Dutta,^a Gopala Ram Bhadu,^b
7 Parimal Paul,^{*,b} and Bibhutosha Adhikary^{*,a}

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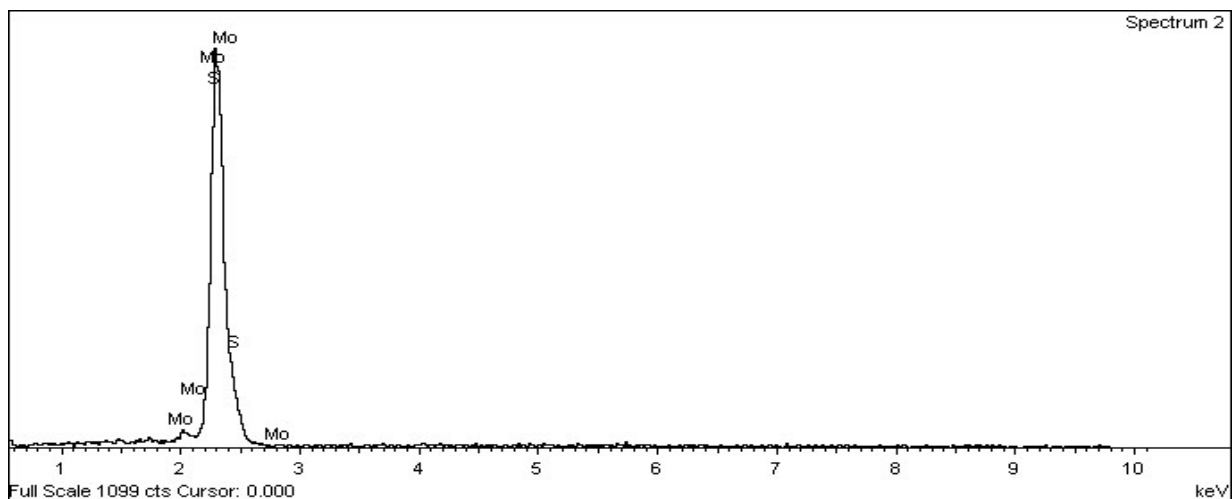
13 *^aDepartment of Chemistry, Indian Institute of Engineering Science and Technology, Shibpur,*
14 *Howrah -711 103, India.*

15 *^bDepartment of Analytical Science, Central Salt and Marine Chemicals Research Institute,*
16 *Gijubhai, Badheka Marg, Bhavnagar 364002, Gujarat, India*

17 *E-mail: bibhutoshadhikary@yahoo.in; Tel.: +91-033-2668-4561-64 ext: 512; Fax: +91-033-
18 2668-2916

19 †Electronic supplementary information (ESI) available: Figures S1–S6.

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Element	Weight%	Atomic%
S K	43.38	69.63
Mo L	56.62	30.37
Totals	100.00	

Fig. S1 EDX Spectral data of amorphous MoS₂.

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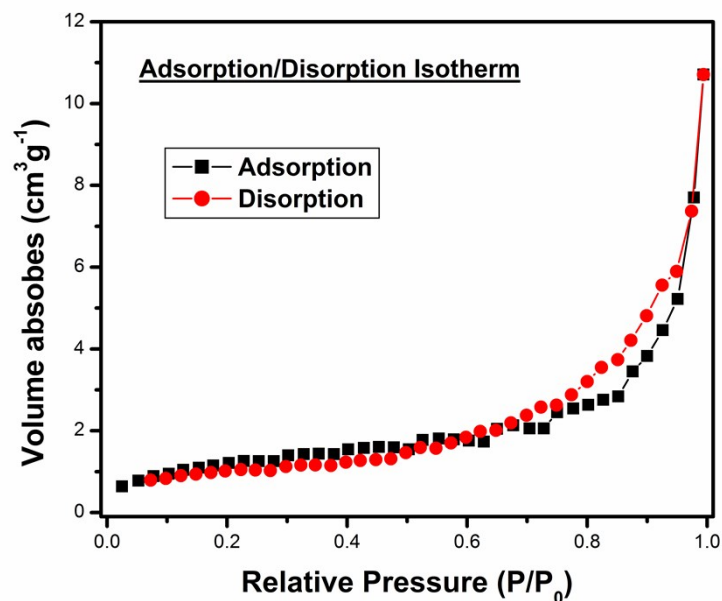
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48 **Fig. S2** Nitrogen adsorption-desorption isotherm study and BET surface area analysis of as
49 synthesized spherical amorphous MoS₂.

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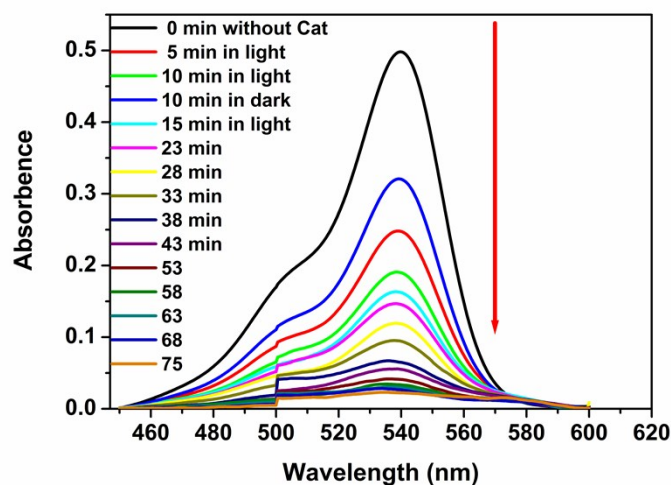
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58 **Fig. S3** Degradation of RB in terms of relative concentration vs. time plots in presence of
59 amorphous MoS₂ under light irradiation.

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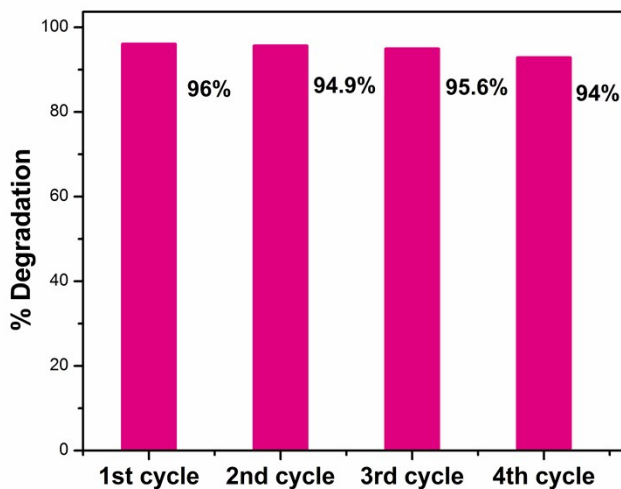


Fig. S4 Cyclic run for the catalytic decomposition of RB with amorphous MoS₂.

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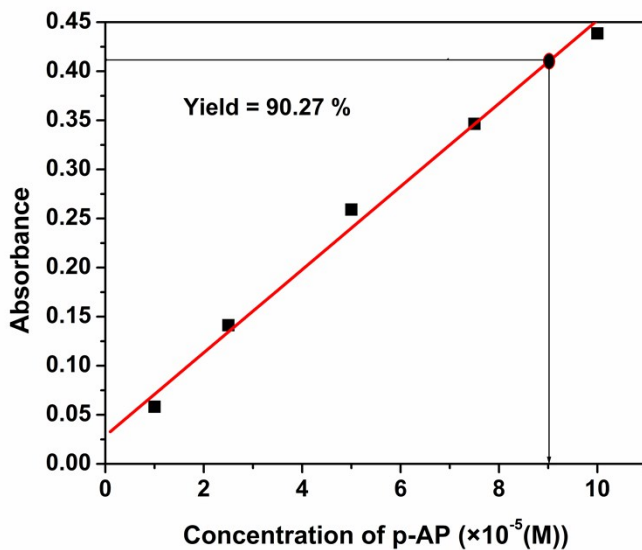
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Fig. S5 Absorbance measurement of p-AP at different concentration to determine the percentage of yield in the reduction of p-NP.

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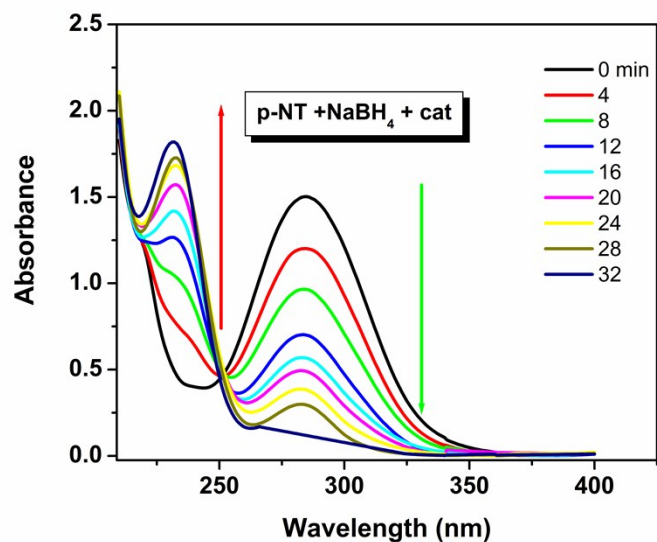


Fig. S6 Time dependent absorption spectra for the catalytic reduction of p-NT by NaBH₄ in presence of amorphous MoS₂ [Conditions: [4-NT] = 1.0 × 10⁻⁴M; [Catalyst] = 0.4 g/L; [NaBH₄] = 0.1M].

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133 **Fig. S7** Time dependent absorption spectra for the catalytic reduction of p-NA by NaBH₄ in
134 presence of amorphous MoS₂ [Conditions: [p-NA] = 1.0 × 10⁻⁴M; [Catalyst] = 0.4 g/L; [NaBH₄]
135 = [0.1M].

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