

## Electronic Supplementary Information

### Soft-templated synthesis of Mn<sub>3</sub>O<sub>4</sub> microdandelions for the degradation of alizarin red under visible light irradiation

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#### ESI 1. Comparative account of surface area in bulk and nano dimension

A comparative account of the surface area in the bulk and nano dimension of the Mn<sub>3</sub>O<sub>4</sub> microdandelions and some other manganese oxides-based catalysts (H. Rahaman, R. M. Laha, D. K. Maiti and S. K. Ghosh, *RSC Adv.*, 2015, **5**, 33923–33929; S. K. Sahu, B. Huang, K. Lilova, B. F. Woodfield and A. Navrotsky, *Phys. Chem. Chem. Phys.*, 2015, **17**, 22286–22295; D. Su, H. –J. Ahn and G. Wang, *J. Mater. Chem. A*, 2013, **1**, 4845–4850) is shown in SI Table 1.

**SI Table 1.** A comparative account of the surface area in the bulk and nano dimension of the Mn<sub>3</sub>O<sub>4</sub> microdandelions and some other manganese oxides based catalysts

Materials	Particle size (nm)	Surface area in the bulk (m <sup>2</sup> g <sup>-1</sup> )	Surface area in nano dimension (m <sup>2</sup> g <sup>-1</sup> )	Nano-to-bulk ratio	Particles employed in physicochemical processes	Reference
Mn <sub>3</sub> O <sub>4</sub> nanoparicles	23 ± 2.7	0.9 ± 1.8	40.9 ± 0.9	45.44	–	Sahu et al. [61]
Mn <sub>2</sub> O <sub>3</sub> nanorods	1000 ± 300, 50 ± 10	1.1 ± 2.0	22.27	20.24	Selective oxidation of alcohols to aldehydes	Rahaman et al. [53]
α-MnO <sub>2</sub> nanorods	1000 ± 300, 50 ± 10	1.4 ± 1.0	14.15 ± 1.8	10.10	Cathode materials for sodium ion batteries	Su et al. [63]
β-MnO <sub>2</sub> nanorods	1000 ± 300, 50 ± 10	1.9 ± 1.0	33.54 ± 0.5	17.65	Cathode materials for sodium ion batteries	Su et al. [63]
Mn <sub>3</sub> O <sub>4</sub> microdandelions	1000 ± 200	0.9 ± 1.8	25.8 ± 1.0	28.67	Photodegradation of alizarin red	Present work