

## Supplementary Materials

### **Experimental and theoretical study of catalytic dye degradation and bactericidal potential of multiple phases Bi/MoS<sub>2</sub> doped SnO<sub>2</sub> quantum dots**

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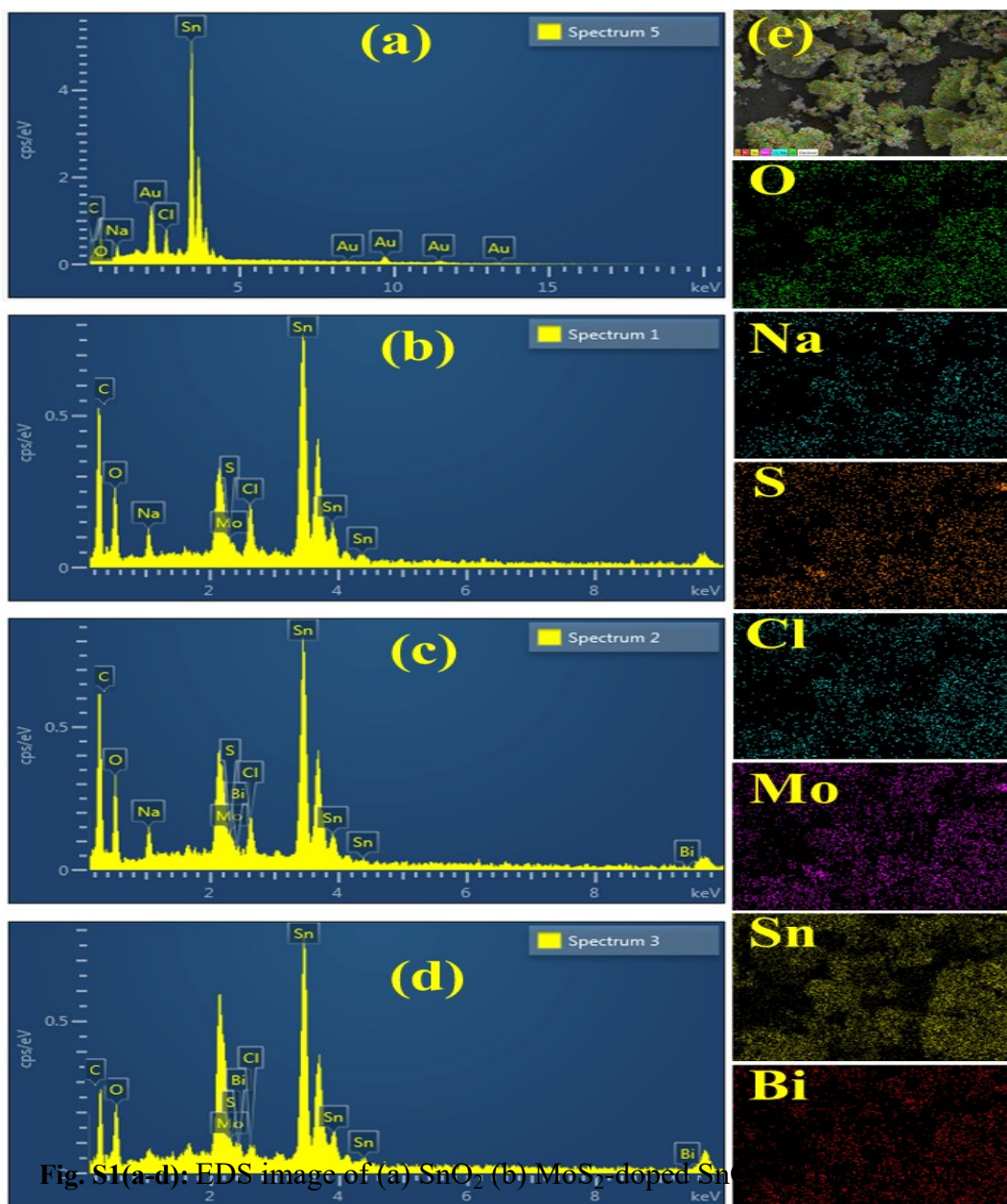


Fig. S1(a-d): EDS image of (a) SnO<sub>2</sub> (b) MoS<sub>2</sub>-doped SnO<sub>2</sub> (c) Bi (3%)-doped SnO<sub>2</sub> (d) Bi (3%)/ MoS<sub>2</sub>-doped SnO<sub>2</sub> and (e) mapping of Bi/MoS<sub>2</sub>-doped SnO<sub>2</sub>.

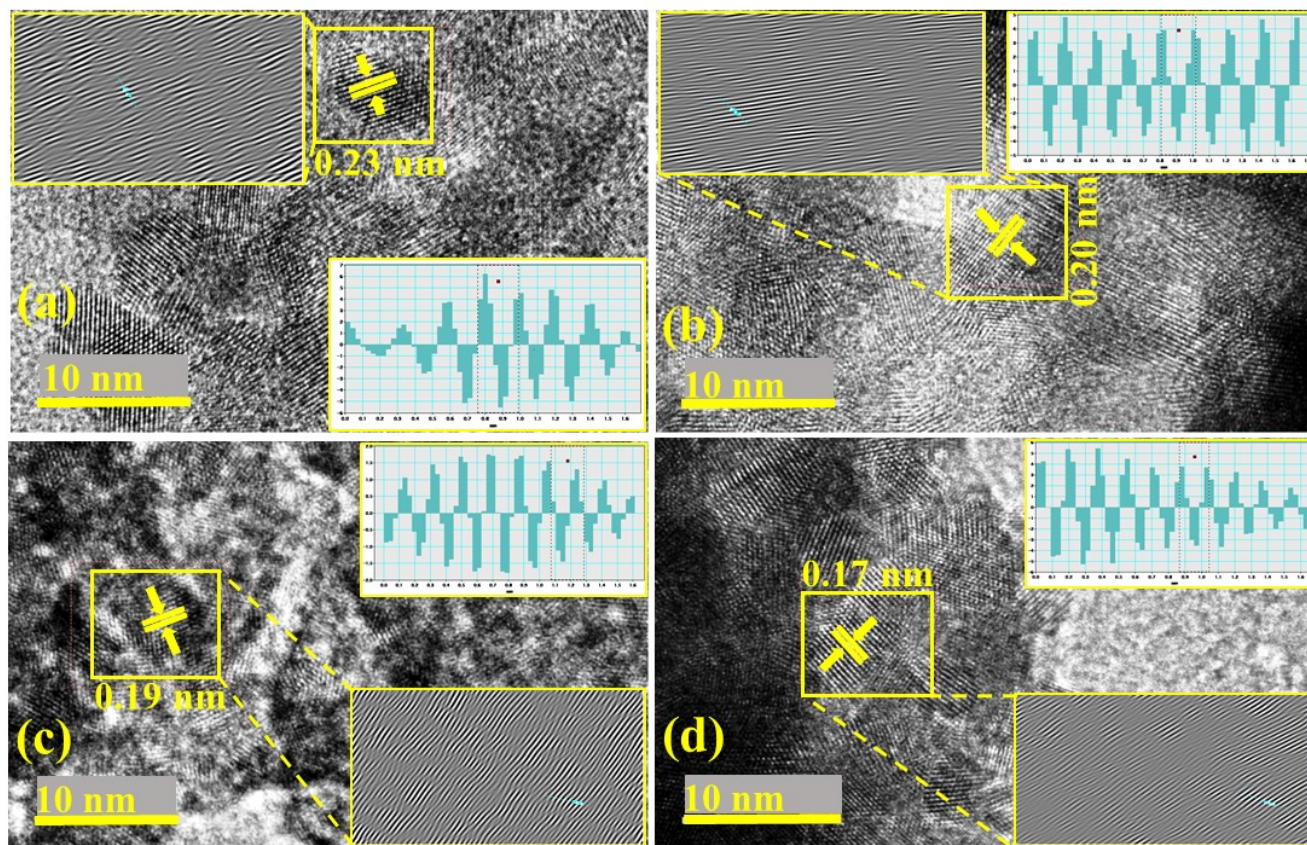


Fig. S2: (a-d) interlayer d-spacing of SnO<sub>2</sub>, MoS<sub>2</sub>-doped SnO<sub>2</sub>, and Bi (1% and 3%)/MoS<sub>2</sub>-doped SnO<sub>2</sub> QDs.

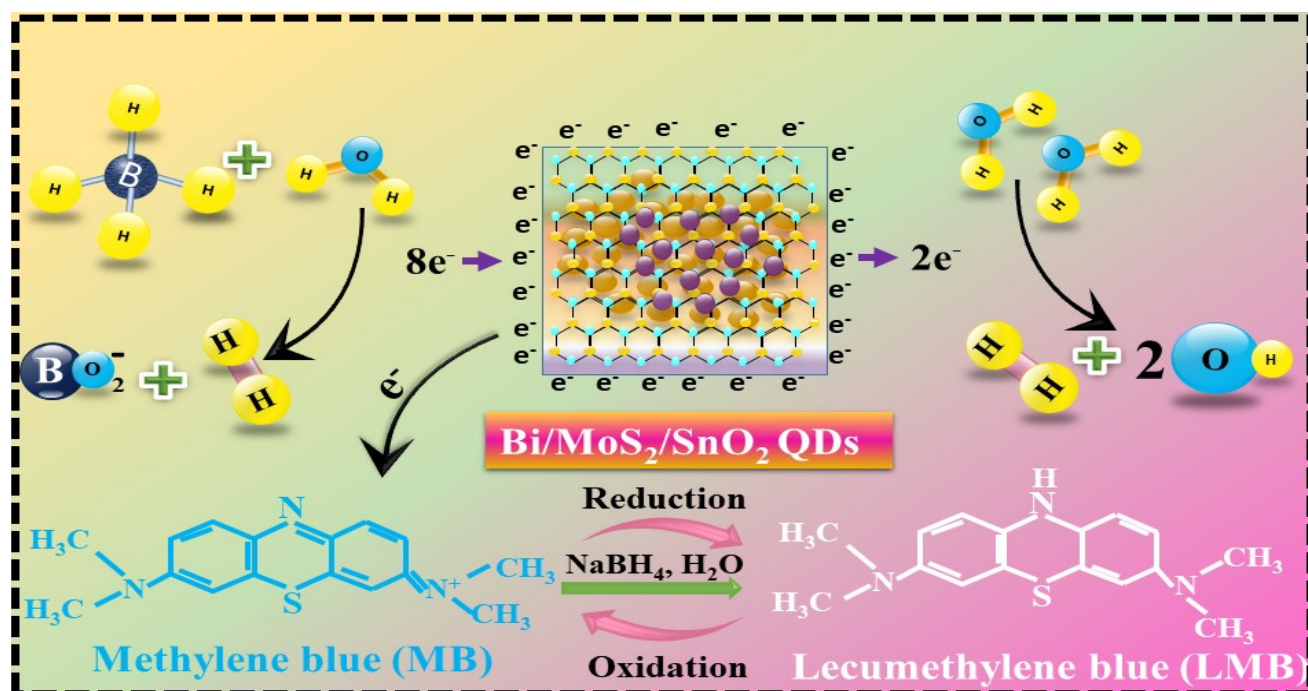


Fig. S3: Catalysis mechanism of Bi/MoS<sub>2</sub>-doped SnO<sub>2</sub> QDs

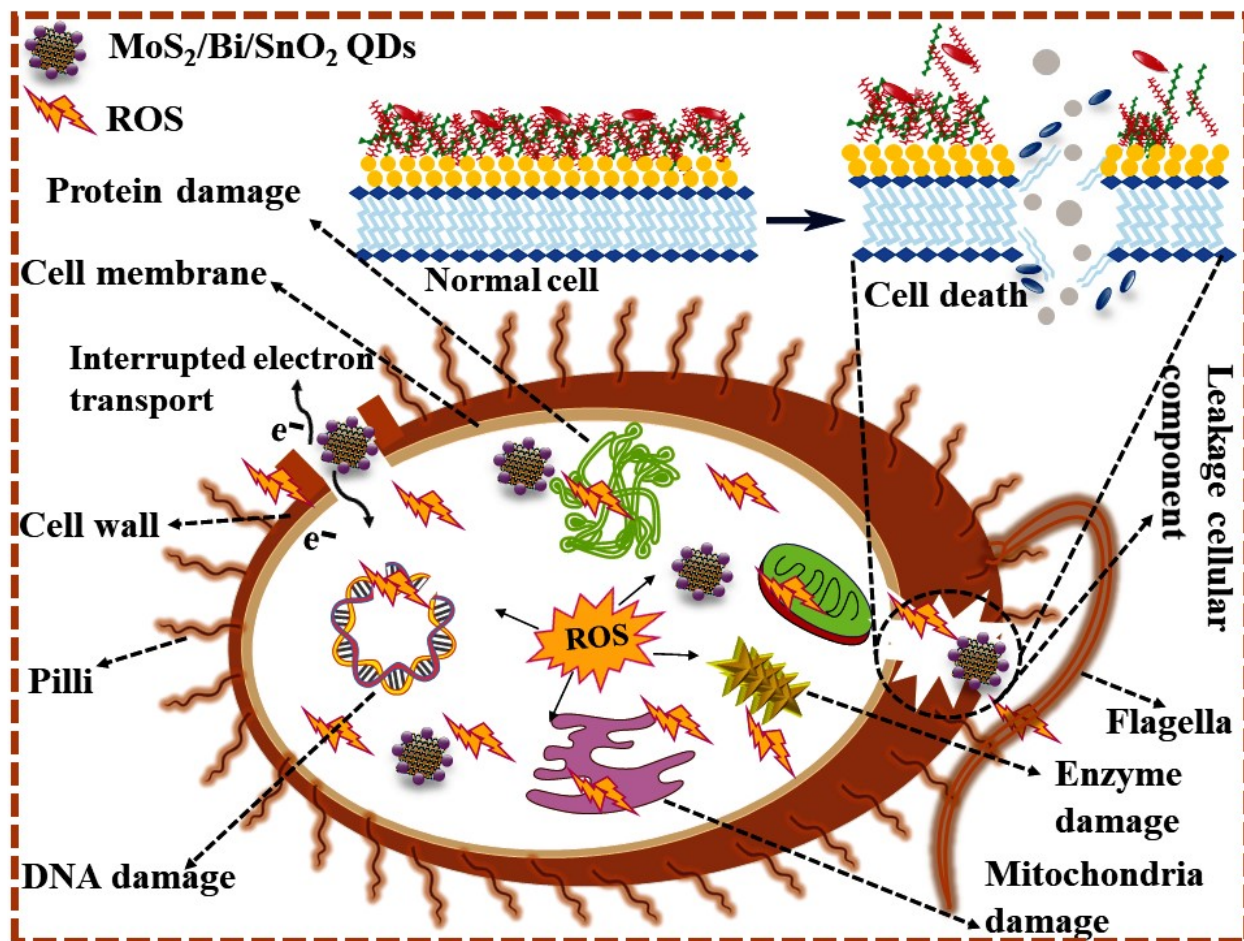


FIG. S4: Schematic of mechanism for antimicrobial activity of the prepared Bi/MoS<sub>2</sub>-doped SnO<sub>2</sub>.