

## Tailored Mesoporous $\gamma$ -WO<sub>3</sub> nanoplates: Unraveling their potential for highly sensitive NH<sub>3</sub> detection and Efficient Photocatalysis

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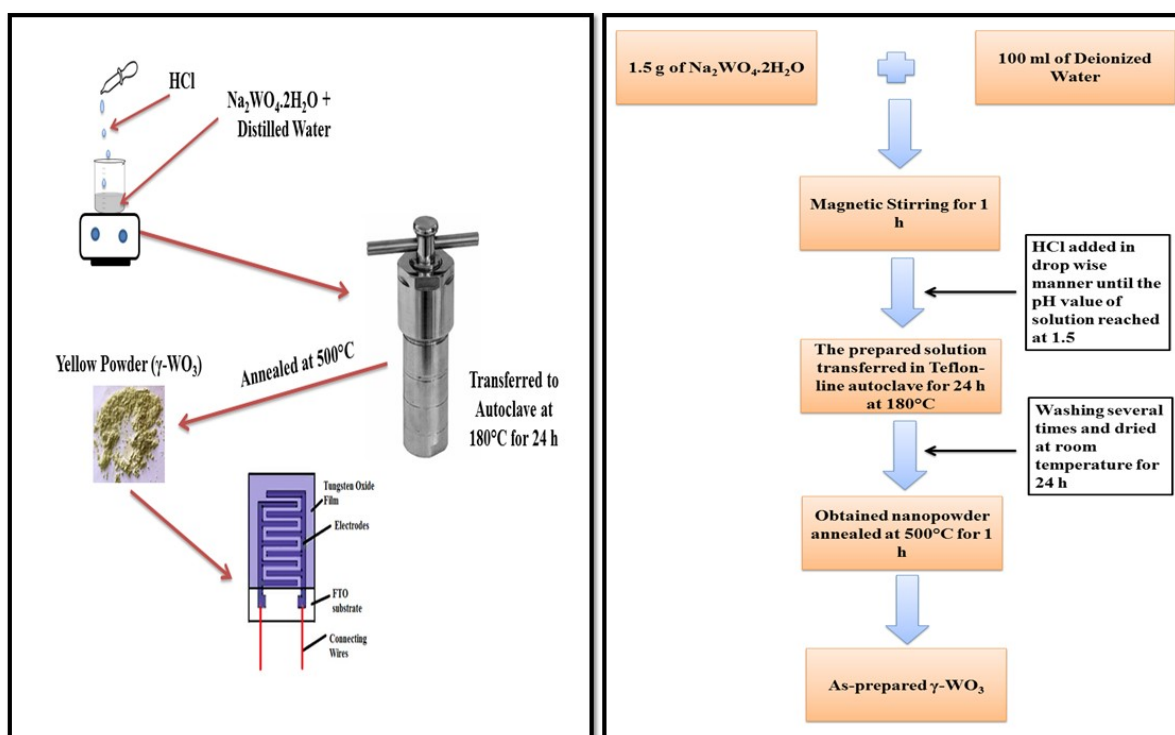


Fig.S1 Synthesis process and sensing film deposition on electrode (left), Schematic flow chart of synthesis of  $\gamma$ -WO<sub>3</sub> (right).

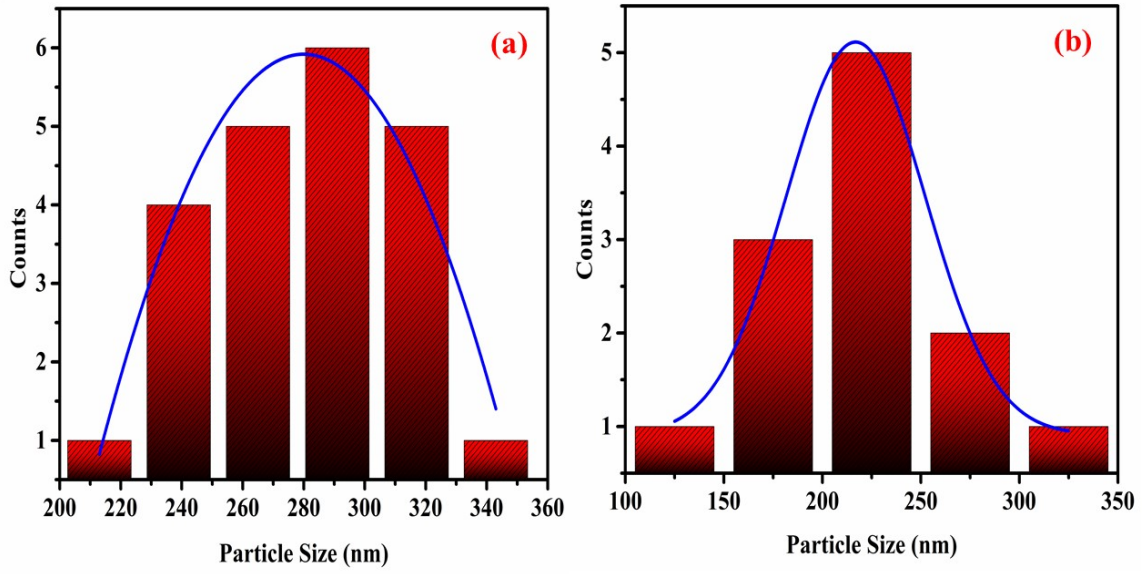


Fig.S2 Bar chart for average particle size distribution for sensing film of  $\gamma$ - $\text{WO}_3$  (a) FE-SEM (b) HR-TEM micrographs

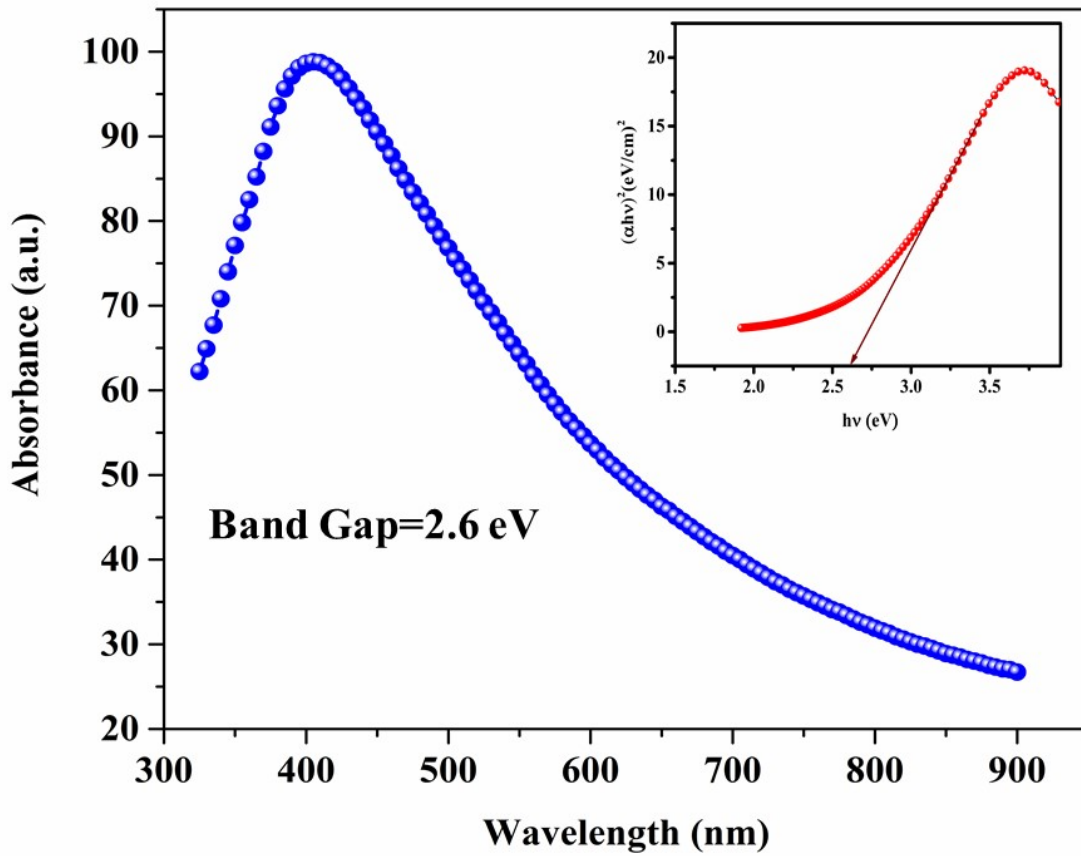


Fig.S3 UV- Visible spectrum and Tauc plot

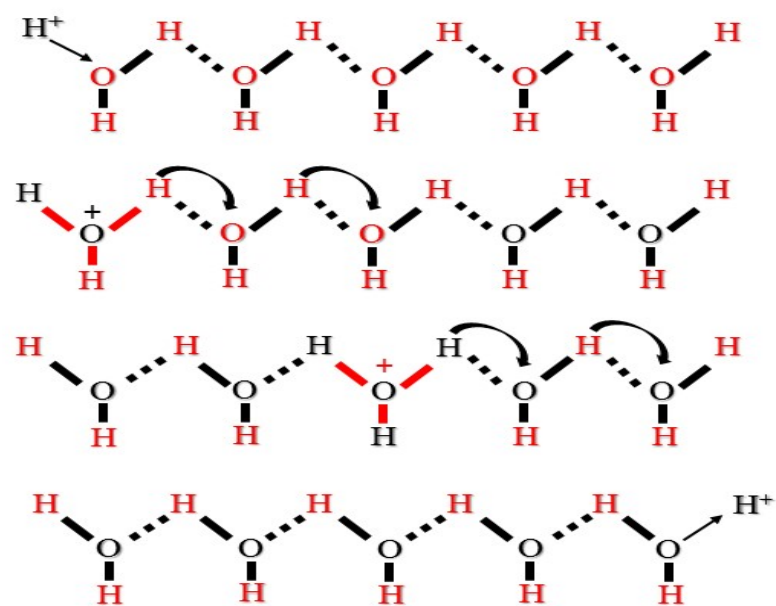


Fig.S4 Grotthuss mechanism