

## Supporting Information

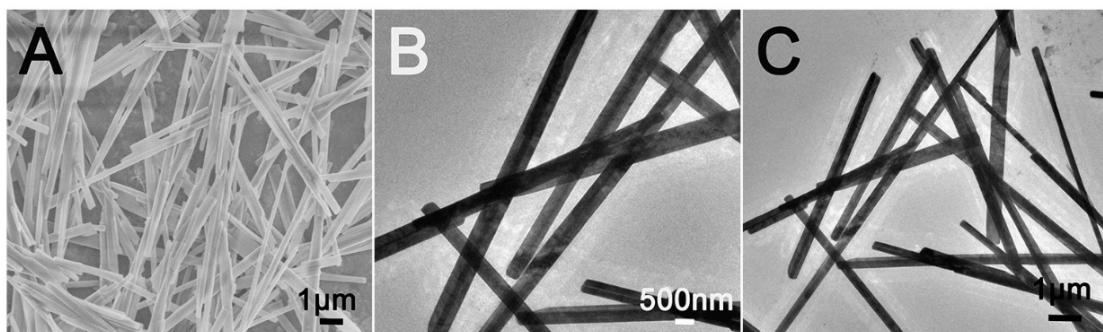
### Fe doped MoS<sub>2</sub>/Polypyrrole nanotubes towards efficient Peroxidase

#### Mimicking and Colorimetric Sensing Application

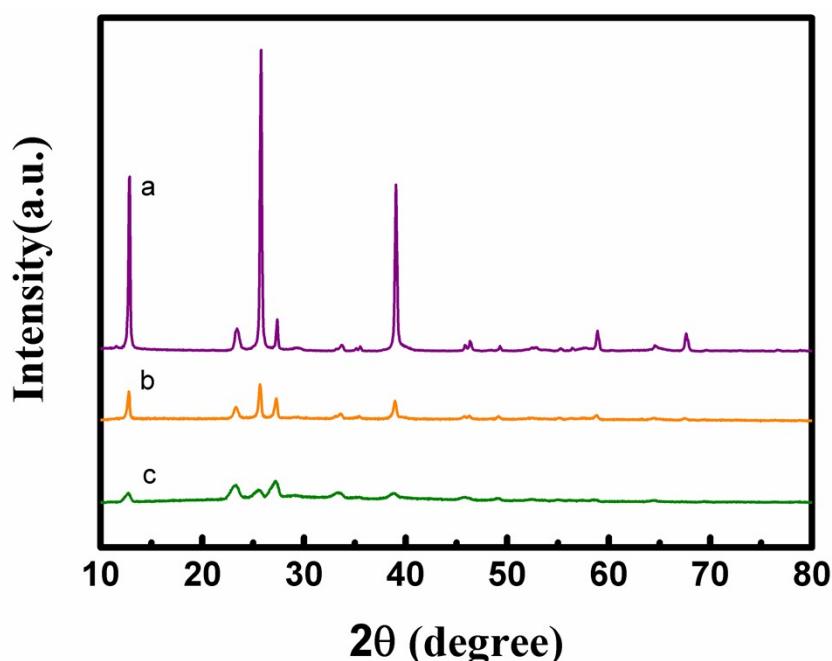
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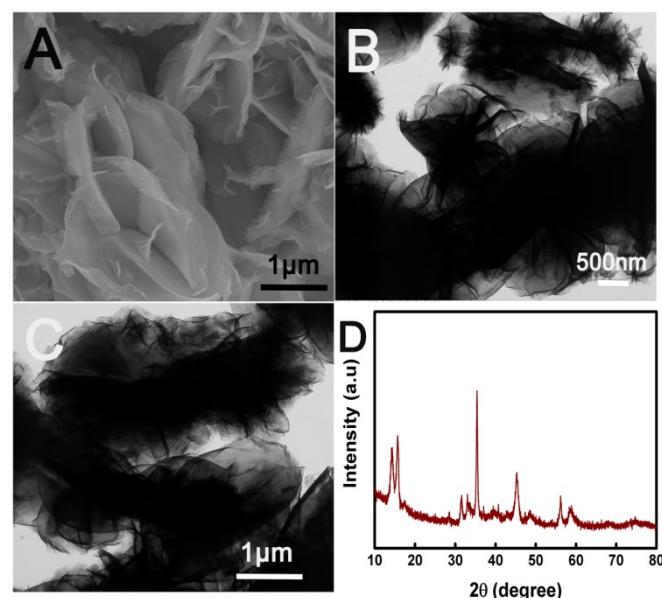
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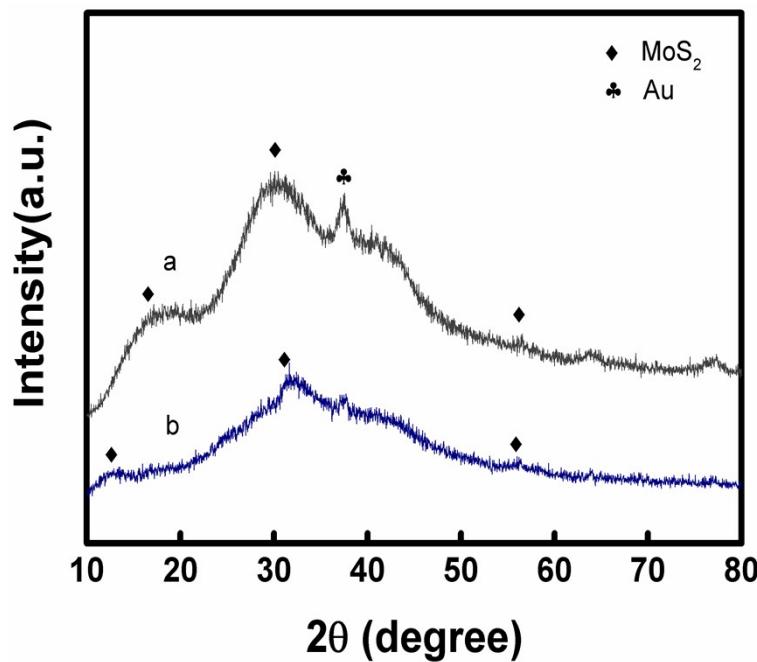
**Fig. S1** SEM and TEM images of MoO<sub>3</sub> (A, B ,C)



**Fig. S2** X-ray of diffraction patterns for MoO<sub>3</sub>(a); MoO<sub>3</sub>@FeOOH (b); MoO<sub>3</sub>@FeOOH@PPy(c)



**Fig. S3** SEM and TEM images of MoFeS<sub>x</sub> composites(A,B,C), XRD of diffraction patterns MoFeS<sub>x</sub> composites (D)



**Fig. S4** X-ray of diffraction patterns for Fe-MoS<sub>2</sub>/Au@PPy microtubes (a); Fe-MoS<sub>2</sub>/Ag@PPy microtubes(b)

**Table S1.** Comparison of L-cysteine detection results for various enzyme mimics and Fe-MoS<sub>2</sub>@PPy microtubes

Nanocomposite	Linear range (μM)	Detection limit (μM)	Reference
NiO NFs	20–100	1.1	[1]
Ce-DMTDC	0–1.0	0.15	[2]
Fe-MIL-88NH <sub>2</sub>	1–80	0.39	[3]
CuSe	0.5–20	0.20	[4]
UiO-66(NH <sub>2</sub> )	5–120	0.30	[5]
Fe-MoS <sub>2</sub> @PPy	10–100	0.10	This work

## References

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