

Supporting Information

Fe₃O₄ Nanoparticles entrapped in the inner Surfaces of N-doped Carbon microtubes with enhanced biomimetic activity

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Synthesis of MoO₃@PPy@FeOOH and NCMTs@Fe₃O₄

The preparation of MoO₃@PPy@FeOOH was based on a similar method for synthesizing MoO₃@FeOOH. Then, the as-synthesized MoO₃@PPy@FeOOH (50 mg) and ammonia aqueous solution (1 mL) were dispersed in 20 mL deionized water. After stirring for 10 min, the products were collected and washed with water and ethanol for several times and then dried at 60 °C overnight. Subsequently, the obtained PPy@FeOOH microtubes were annealed at 700 °C temperatures under N₂ gas for 5 h to obtain the NCMTs@Fe₃O₄ composites.

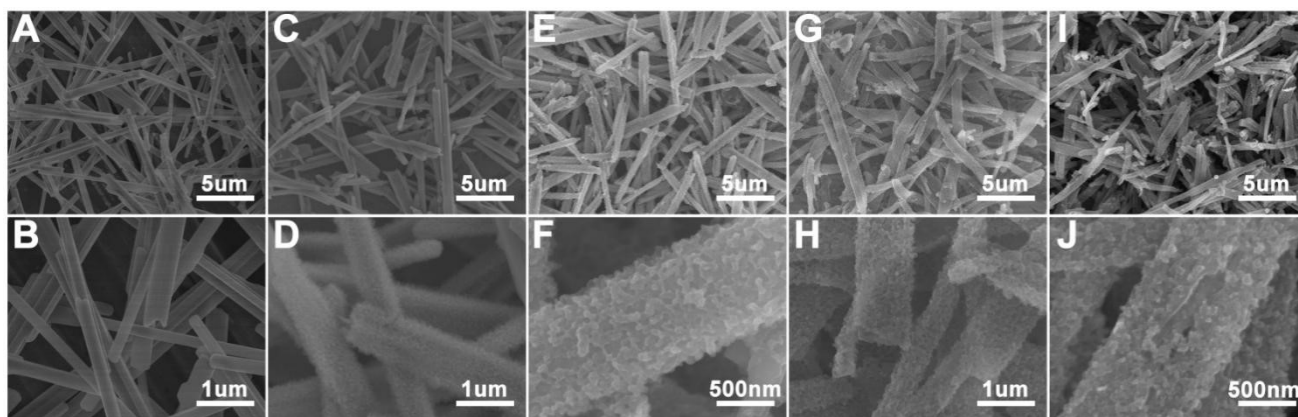


Fig. S1. SEM images of MoO₃ (A, B), MoO₃@FeOOH (C, D), MoO₃@FeOOH@PPy (E, F), FeOOH@PPy (G, H), and Fe₃O₄@NCMTs-700 (I, J).

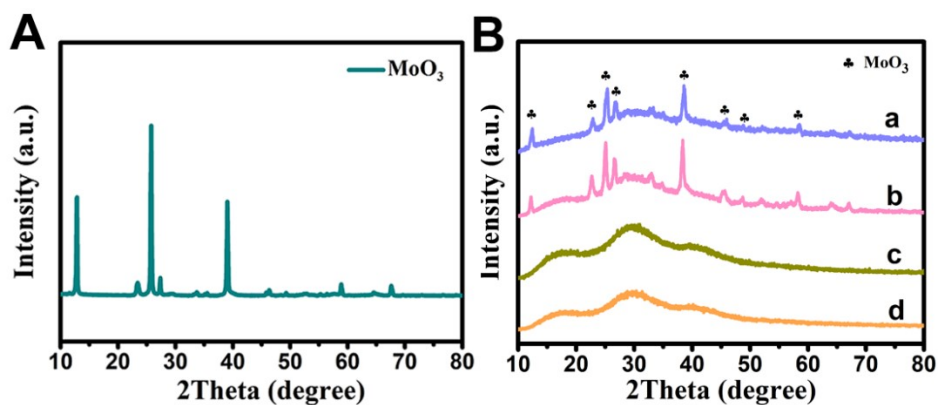


Fig. S2. XRD patterns of different products: (A) MoO_3 , (B) $\text{MoO}_3@FeOOH$ (a), $\text{MoO}_3@FeOOH@PPy$ (b), $FeOOH@PPy$ (c), $Fe_3O_4@NCMTs-700$ (d).

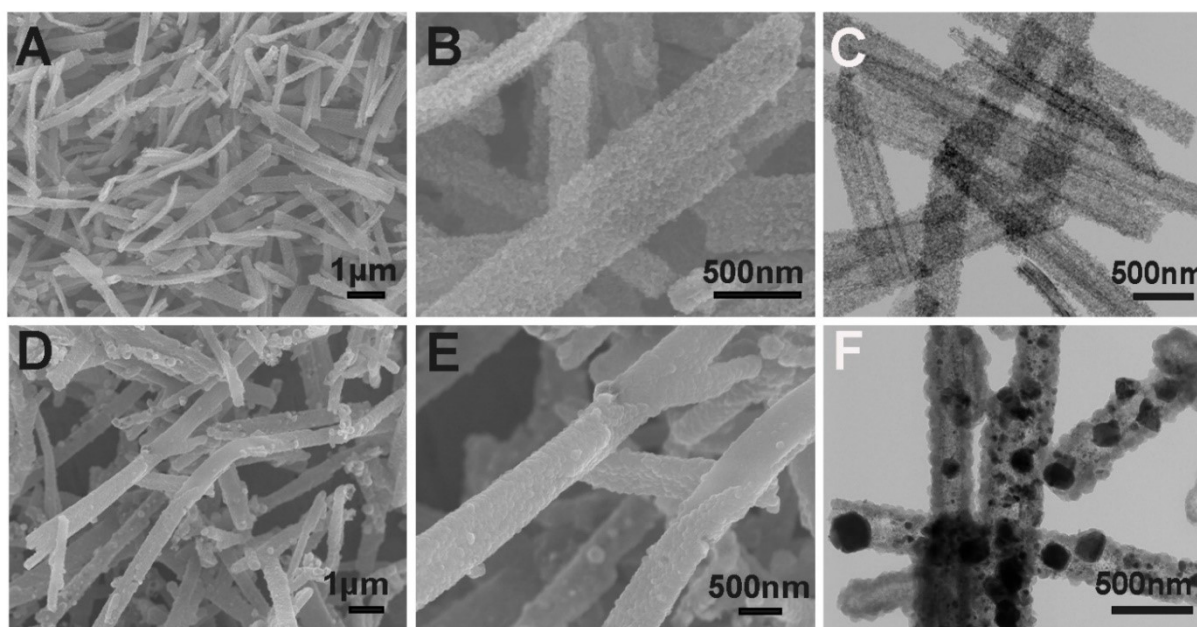


Fig. S3. SEM images of $Fe_3O_4@NCMTs-500$ (A, B) and $Fe_3O_4@NCMTs-900$ (D, E); TEM images of $Fe_3O_4@NCMTs-500$ (C) and $Fe_3O_4@NCMTs-900$ (F).