Supporting Figures:

**Figure S1.** \( \text{N}_2 \) adsorption isotherms of Fe\(_3\)O\(_4\)@P123 samples from different weight ratios of P123/iron nitrate. For example, P123/Fe=0.2 means 0.2 g P123 and 1 g Fe(NO\(_3\))\(_3\)•9H\(_2\)O used as precursors.

**Figure S2.** \( \text{N}_2 \) adsorption isotherms of Fe\(_2\)O\(_3\)@P123 sample at 77 K.
**Figure S3.** Pore size distribution of Fe$_2$O$_3$@P123

**Figure S4.** Small-angle X-ray scattering results of Fe$_3$O$_4$@P123 and Pt-Fe$_3$O$_4$@P123