

Supplementary Materials

Table S1. Detail information of the shape-controlled Fe₂O₃ catalysts.

Shape	d _{Fe} [nm]	Surface area [m ² /g]	SDIAs [Fe/nm ²]	A _{H₂O₂} ^a [mmol/L]	A' _{H₂O₂} ^b [mg/m ²]
HNPs	54	23	268.75	0.95	1.20
HNRs	69	22	280.97	1.00	0.99
HNCs	79	11	561.93	0.37	0.32
HNTs	51	25	247.25	0.29	0.39

^a H₂O₂ maximum adsorption amount; ^b H₂O₂ adsorption amount per unit area.

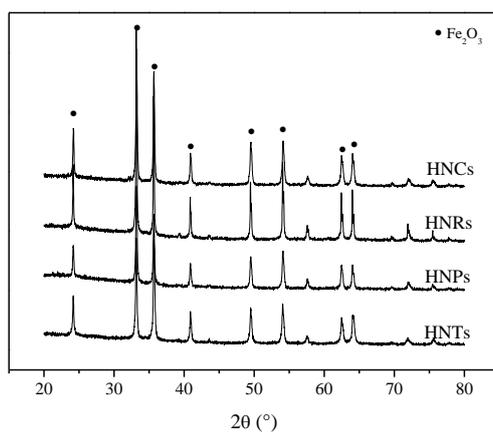


Figure S1. XRD patterns of the shape-controlled Fe₂O₃ catalysts.

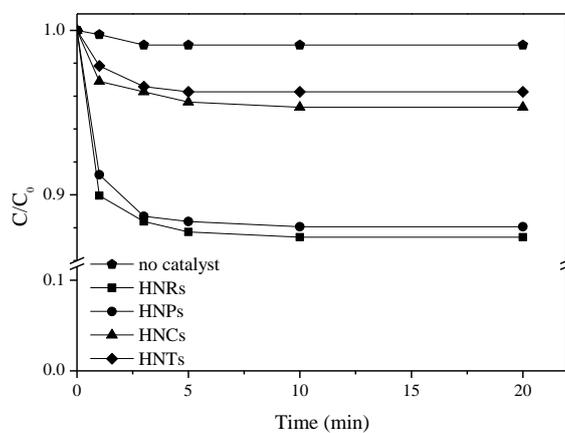


Figure S2. The H₂O₂ absorption with the shape-controlled Fe₂O₃ catalysts. ([Catalyst] = 0.5 g/L, [H₂O₂]₀ = 8 mmol/L, pH = 3, T = 5 °C).

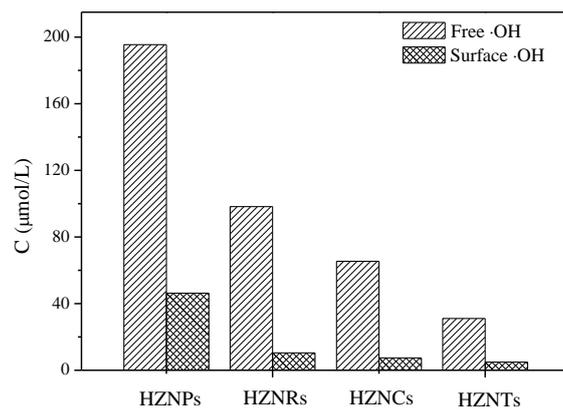


Figure S3. Free ·OH radicals and surface ·OH radicals generated by the shape-controlled Fe₂O₃-ZrO₂ catalysts in the presence of H₂O₂. ([Catalyst] = 0.5 g/L, [H₂O₂]₀ = 8 mmol/L, pH = 3, T = 45 °C).

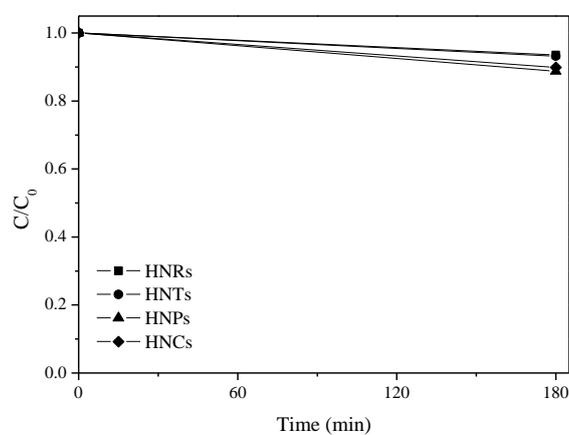


Figure S4. The SMT removal in the Fenton-like reaction over the shape-controlled Fe₂O₃ catalysts. ([SMT]₀ = 10 mg/L, [Catalyst] = 0.5 g/L, [H₂O₂]₀ = 8 mmol/L, pH = 3, T = 45 °C).