

Fig. S1 XRD pattern of the local magnification urchin-like  $\text{Co}_3\text{O}_4/\text{CoFe}_2\text{O}_4$  nanocomposites  $(\text{Fe})/(\text{Fe}+\text{Co})=0.16$ .

Table 1. ICP analysis results of the  $\text{Co}_3\text{O}_4/\text{CoFe}_2\text{O}_4$  nanocomposite

	Co	Fe	$(\text{Fe})/(\text{Fe}+\text{Co})$
$(\text{Fe})/(\text{Fe}+\text{Co})=0.16$	15.25 mg/L	2.57mg/L	0.15
$(\text{Fe})/(\text{Fe}+\text{Co})=0.60$	21.58 mg/L	22.36 mg/L	0.52

Element	Atomic%	Atomic%
	a	b
Fe K	15.3	54.7
Co K	84.7	45.3

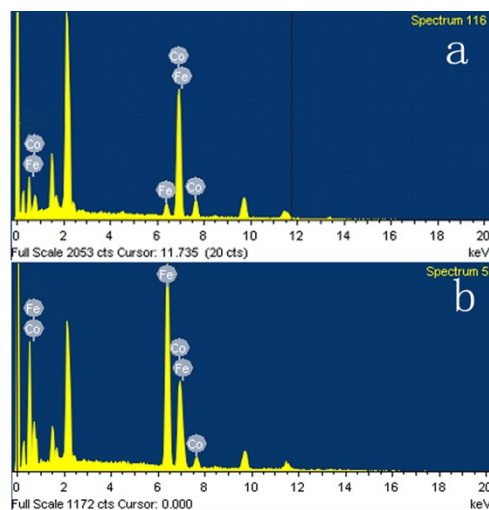


Fig. S2 EDS analysis results, (a)  $(\text{Fe})/(\text{Fe}+\text{Co})=0.16$ , (b)  $(\text{Fe})/(\text{Fe}+\text{Co})=0.60$ .

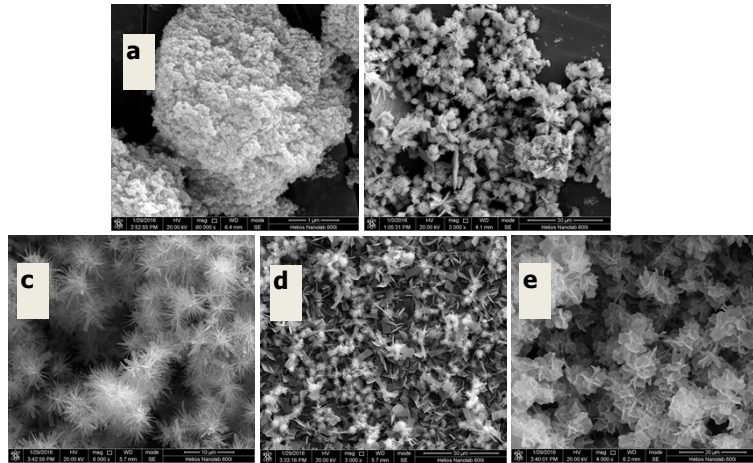


Fig.S3 FESEM micrographs of the as-prepared samples prepared at(a) 70°C, (b) 80°C, (c) 110°C, (d) 130°C and (e) 150°C.

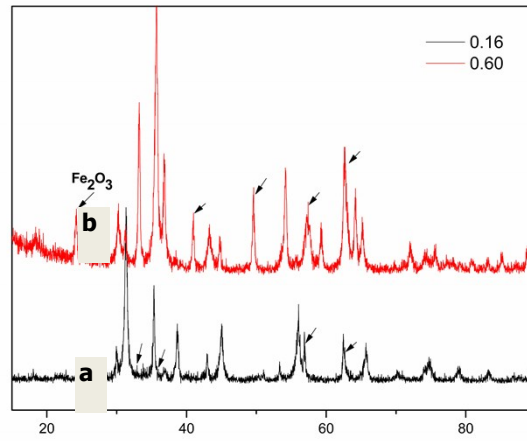


Fig. S4 XRD pattern of a real solid-solid reaction only by grinding the solid  $\text{Co}_3\text{O}_4$  and  $\text{CoFe}_2\text{O}_4$  mixture. (a)  $(\text{Fe})/(\text{Fe}+\text{Co})=0.16$ , (b)  $(\text{Fe})/(\text{Fe}+\text{Co})=0.60$ .