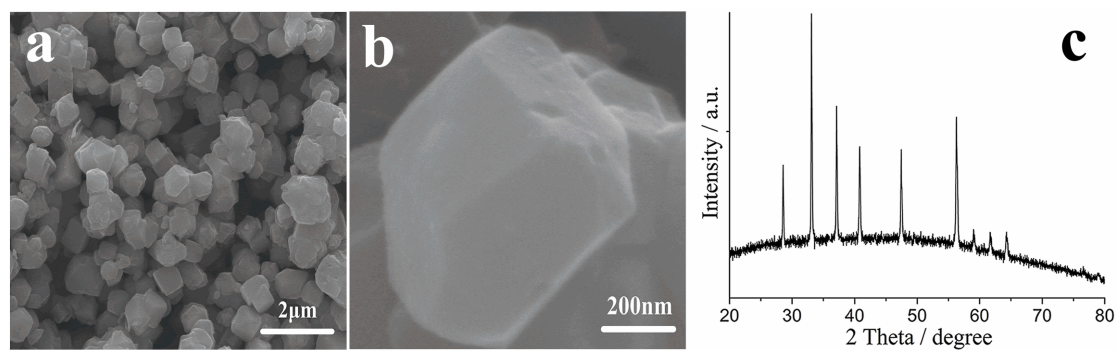
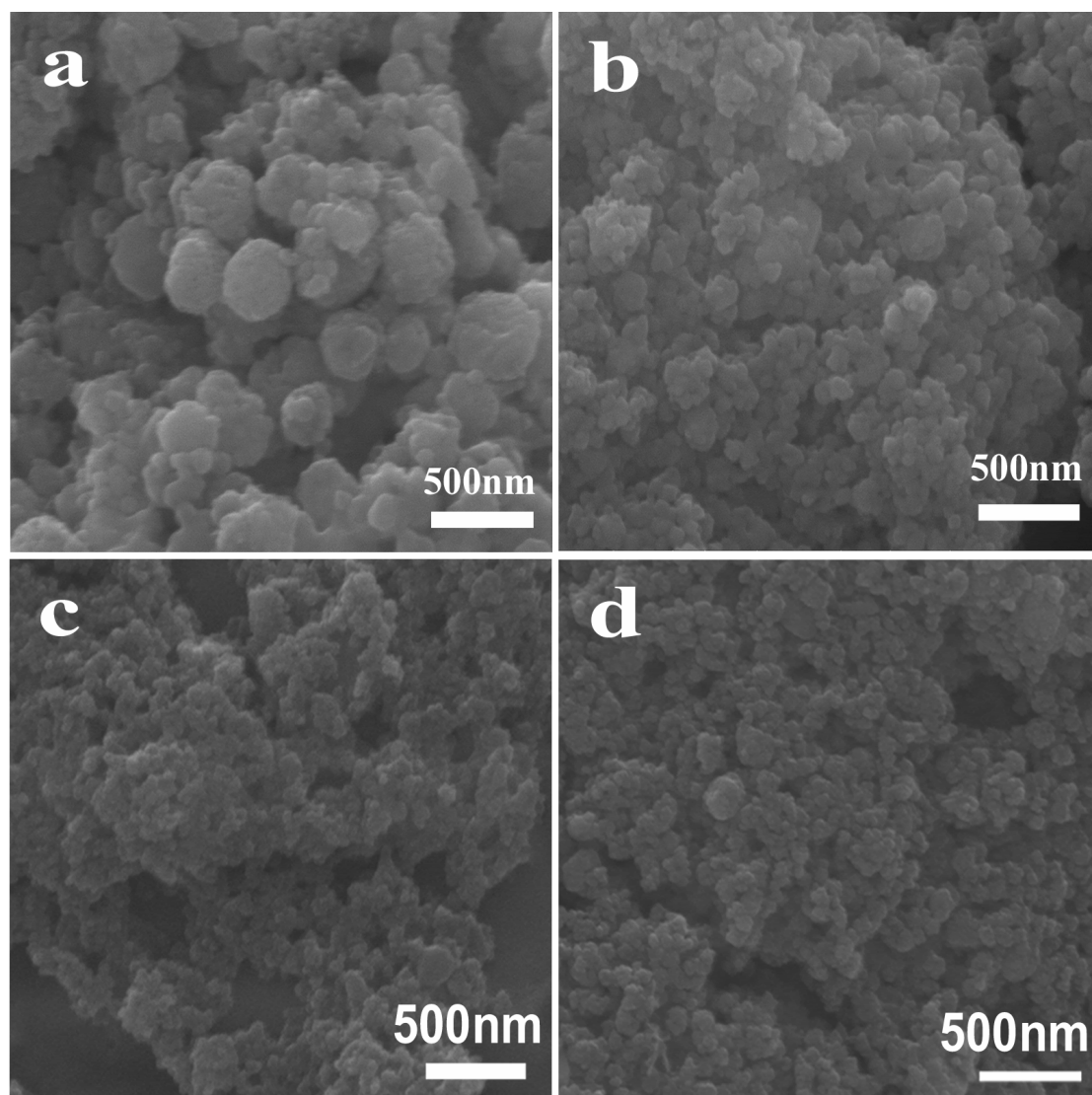


**Fig. S1** XPS analysis of the Fe<sub>3</sub>O<sub>4</sub> purchased from Aladdin Co. Ltd.

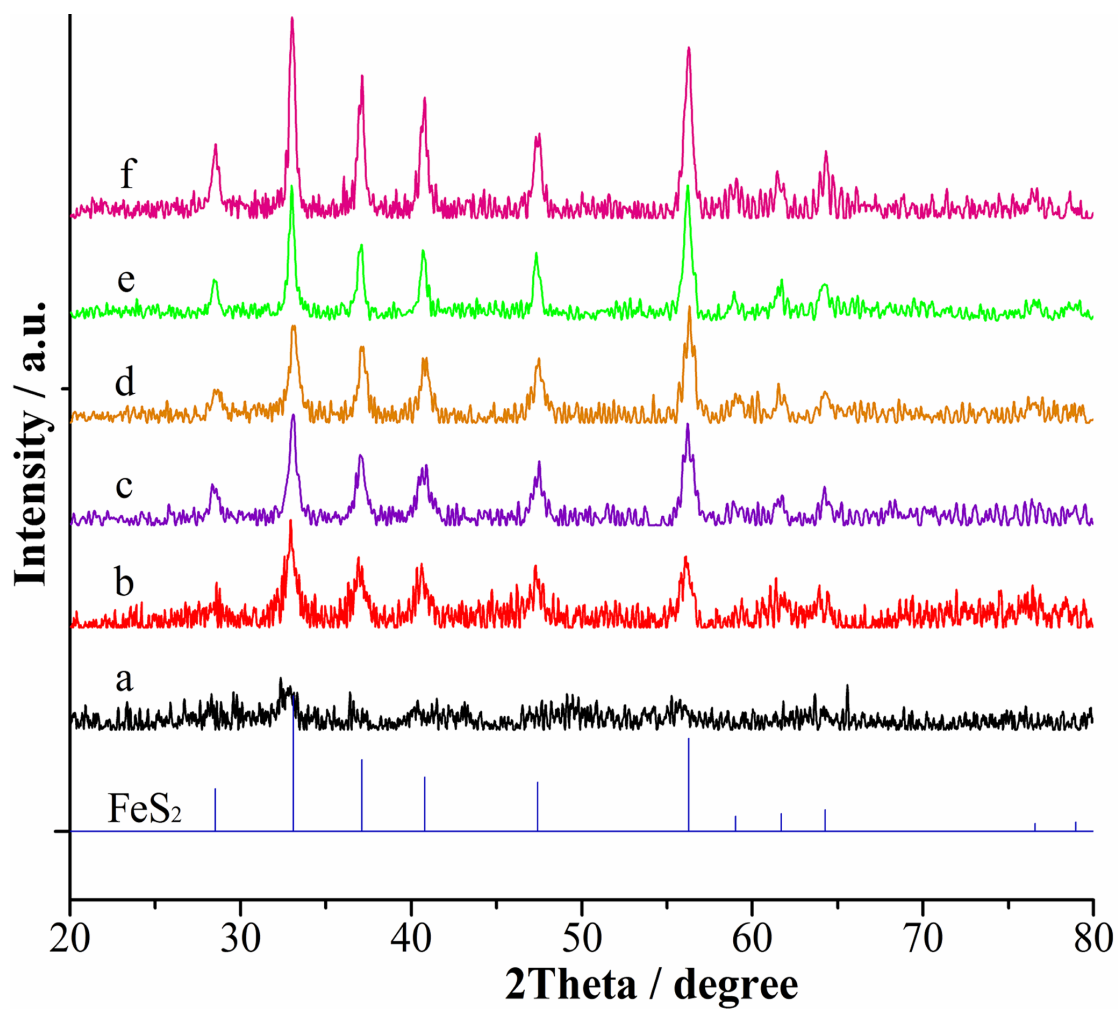


**Fig. S2** SEM images and XRD pattern of the FeS<sub>2</sub> NCs prepared from nano-Fe<sub>3</sub>O<sub>4</sub> without 1-octylamine.

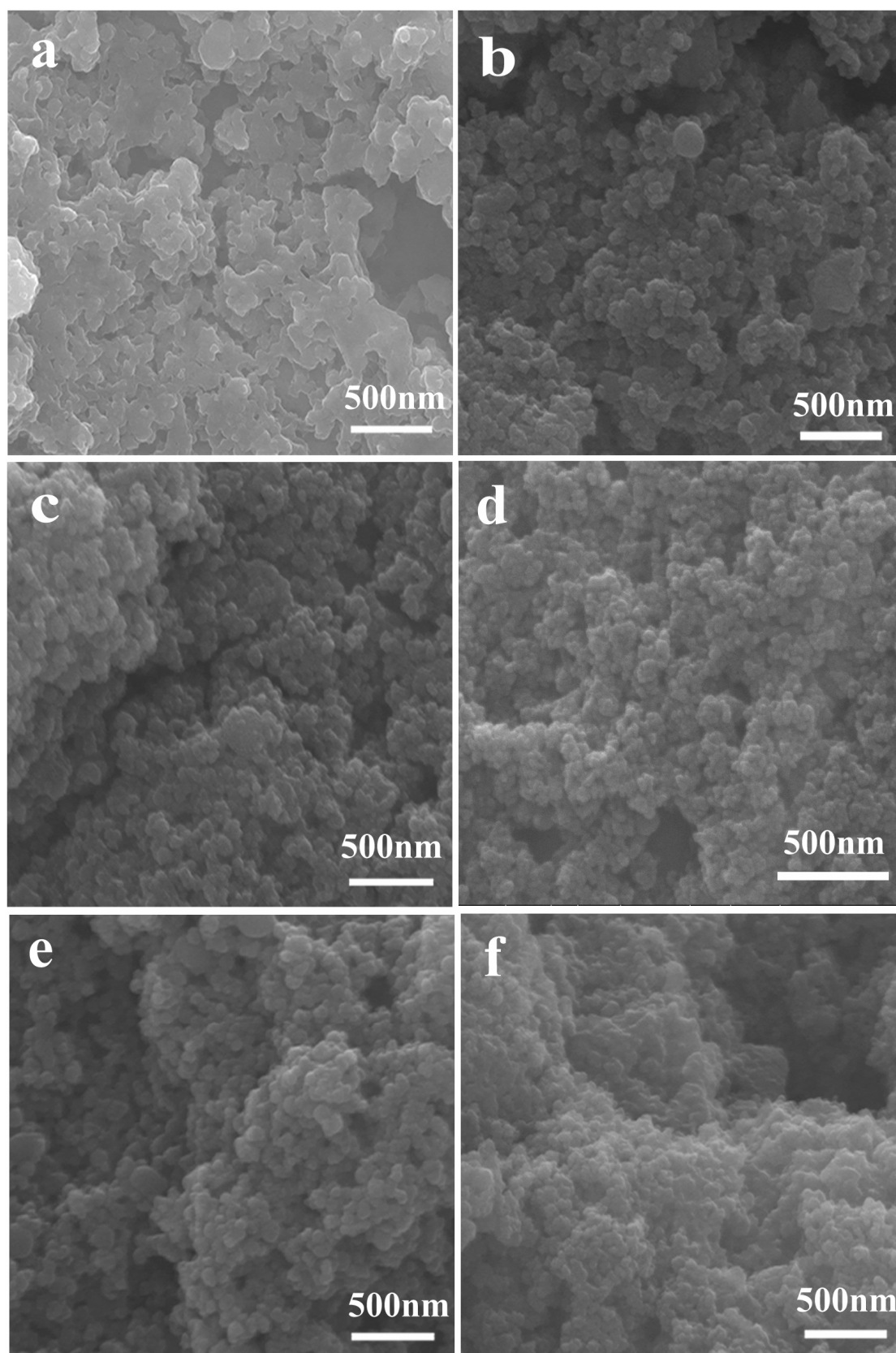


**Fig. S3** FeS<sub>2</sub> NCs synthesized from Fe(acac)<sub>3</sub> with different amount of 1-octylamine

(a) 0.5 mL, (b) 2 mL, (c) 4 mL, (d) 8 mL.



**Fig. S4** XRD patterns of the FeS<sub>2</sub> NCs synthesized from Fe(acac)<sub>3</sub> with different reaction time. (a) 0.5h, (b) 1h, (c) 3h, (d) 6h, (e) 12h, (f) 24h.



**Fig. S5** SEM images of the FeS<sub>2</sub> NCs synthesized from Fe(acac)<sub>3</sub> with different reaction time. (a) 0.5h, (b) 1h, (c) 3h, (d) 6h, (e) 12h, (f) 24h.

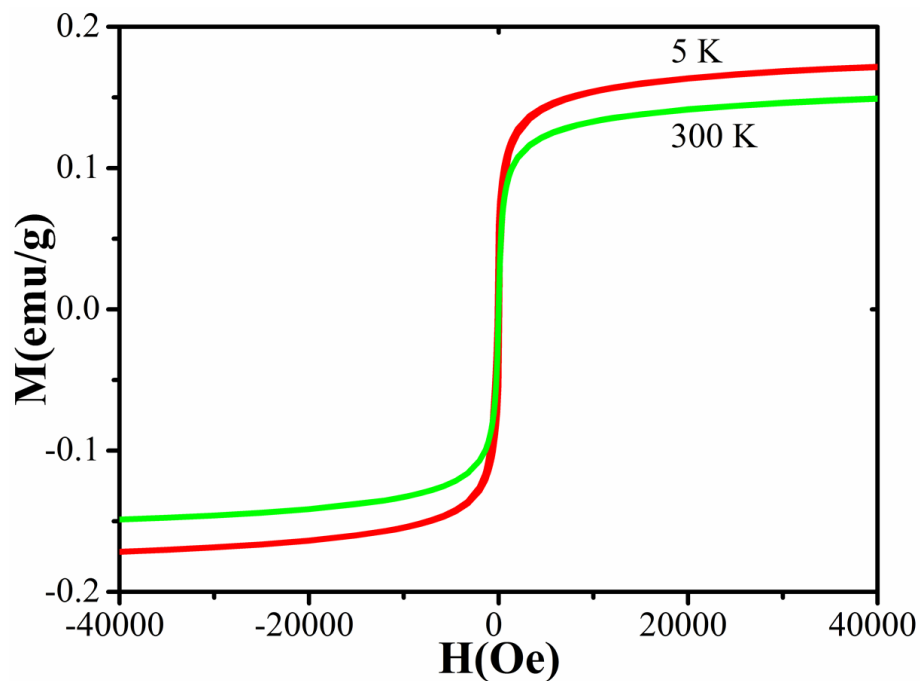


Fig. S6 Magnetic hysteresis curves of the nano-Fe<sub>3</sub>O<sub>4</sub> measured at 5 K and 300 K.

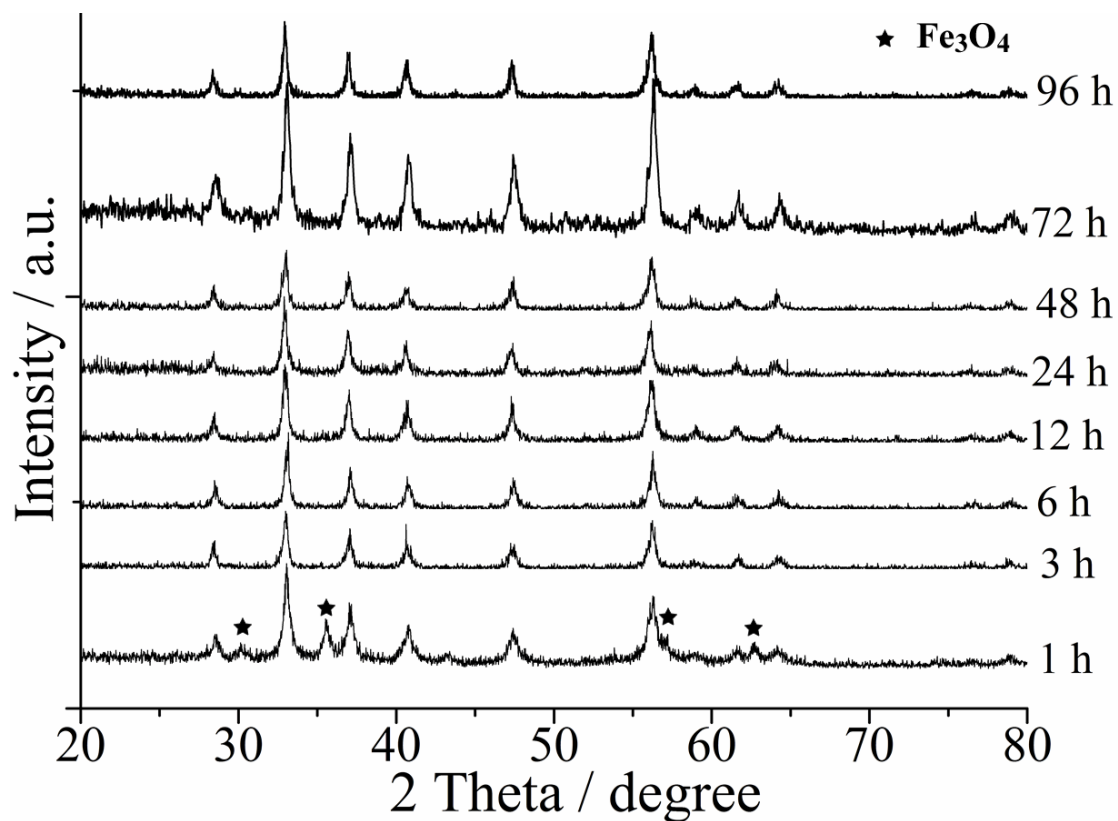


Fig. S7 XRD patterns of the FeS<sub>2</sub> NCs prepared from nano-Fe<sub>3</sub>O<sub>4</sub> with different reaction time.