

Electronic Supplementary Information (ESI)

Photonic nanorods with magnetic responsiveness regulated by lattice defects

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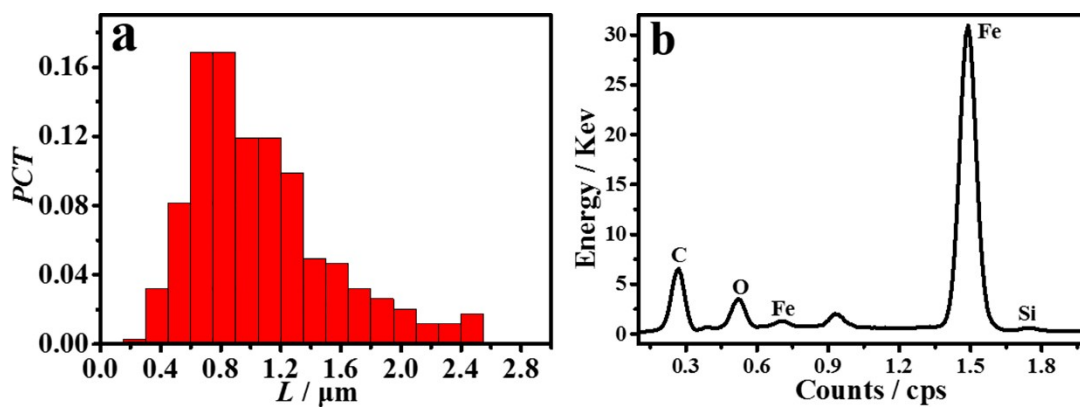


Fig. S1 The length distribution diagram (a) and EDS spectrum of the typical $\text{Fe}_3\text{O}_4@\text{PVP}@\text{SiO}_2$ photonic nanorods.

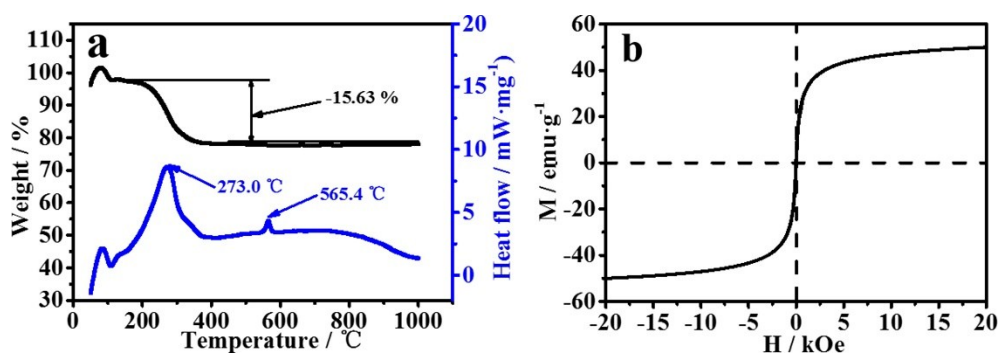


Fig. S2 (a) TG-DSC curves and (b) hysteresis loop at 300 K of $\text{Fe}_3\text{O}_4@\text{PVP}$ CNCs particles.

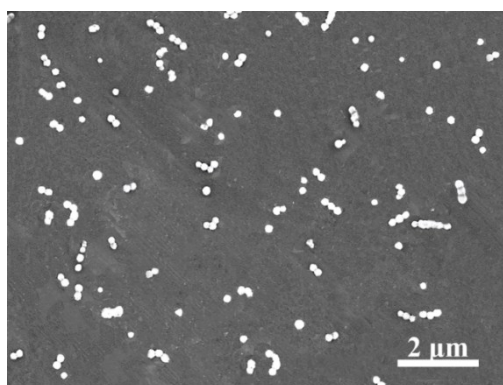


Fig. S3 SEM image of the sample obtained after reacting 5 minutes under 200 Gs.

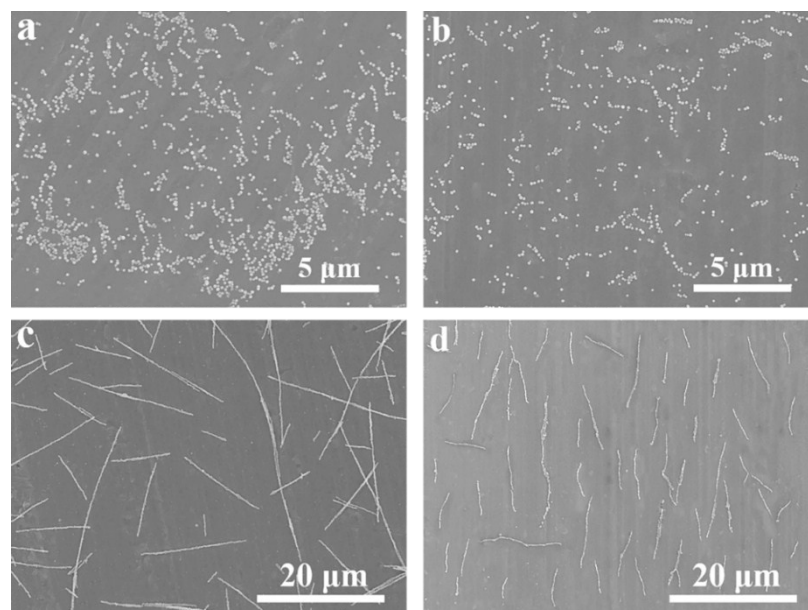


Fig. S4 SEM images of the samples obtained by the catalyzed hydrolysis-condensation of (a, b) WD-80 with (a) ammonia, (b) HCl aqueous solution; (c, d) TEOS with (c) ammonia or (d) PAA aqueous solution.

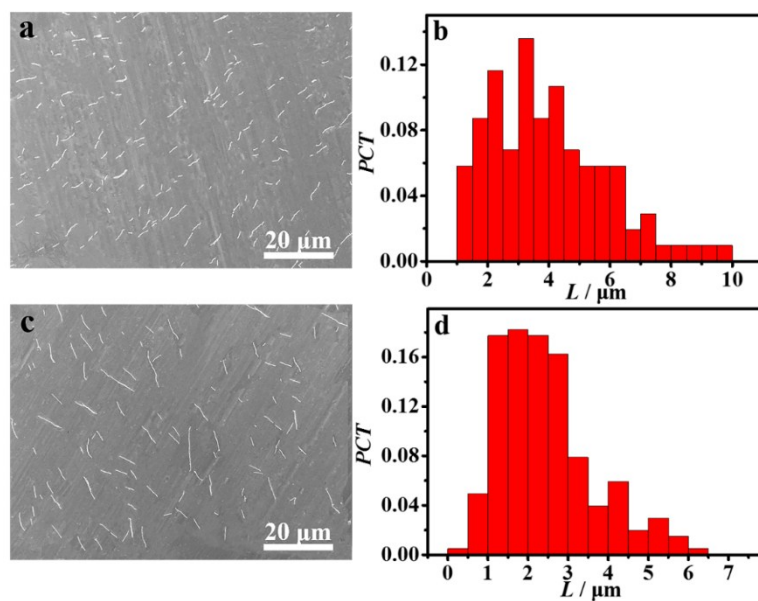


Fig. S5 (a, c) SEM images and (b, d) length distribution diagrams of the $\text{Fe}_3\text{O}_4@\text{PVP}@\text{SiO}_2$ photonic nanorods sample with different average length of 2.44 and 3.98 μm .