

Supplement

High Magnetisation, Monodisperse and Water-dispersible CoFe@Pt Core/shell Nanoparticles

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Table S1: Experimental conditions for synthesis of CoFe NPs

Precursors (mmol)		Surfactants (mmol)			Reaction time	Size	
Co	Fe	OA	OLA	TOPO	(min)	(nm)	
0.75	1.5	0.6	0.6		5	7.2±0.7	
					30	8.7±0.7	
					45	8.6±0.6	
					60	8.9±0.7	
		0.3	0.3		30	9.3±0.9	
		0.1	0.1		30	9.9±1.2	
					0.3	30	11.4±1.2
		03			03	30	9.8±0.8
				03	03	30	6.7±0.7
		06			03	30	7.3±0.7
		06	03	30	5.6±0.5		

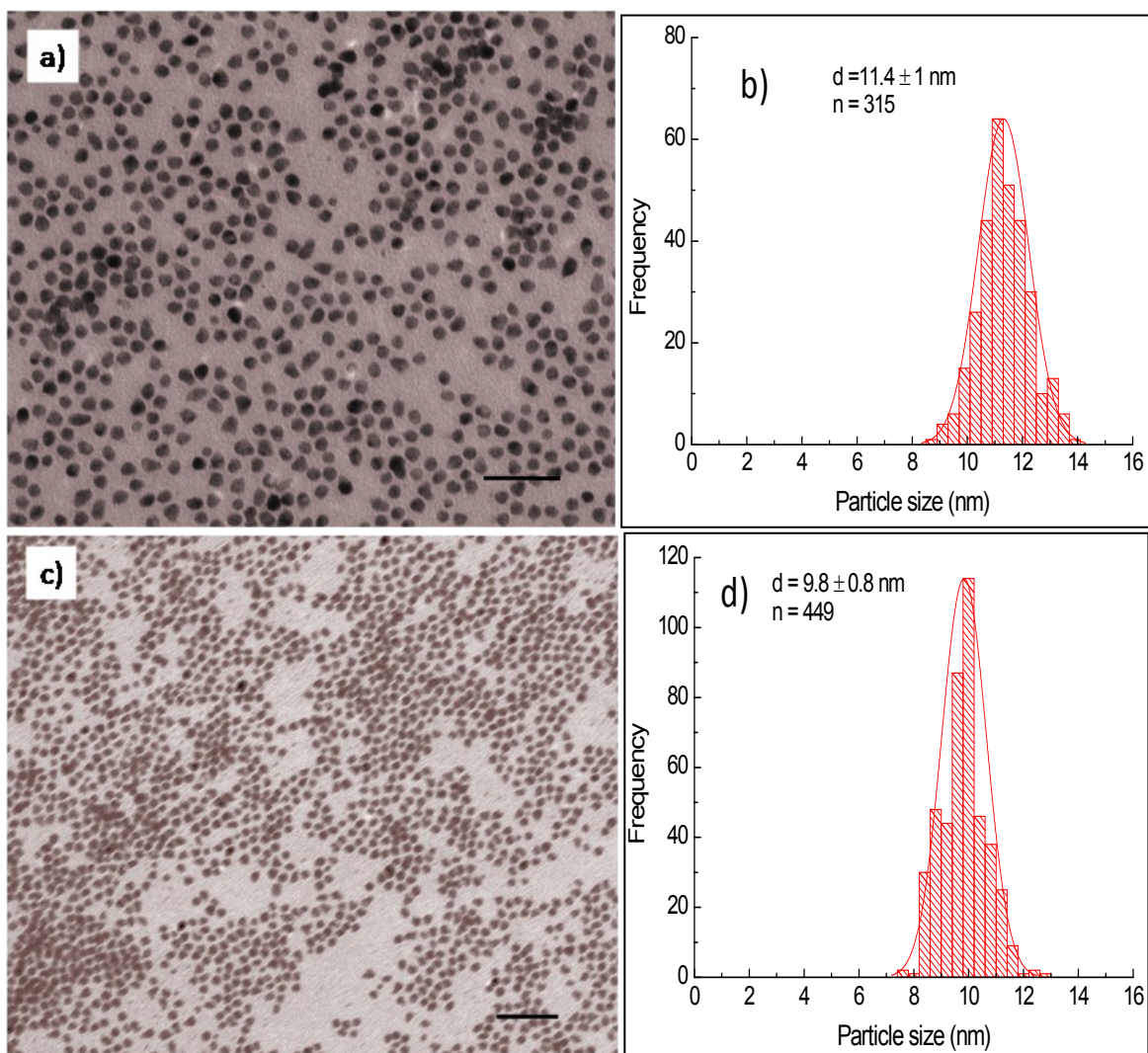


Figure S1: TEM images and size distribution histograms of CoFe nanoparticles synthesised in: a,b). 0.3 mmol TOPO and c,d) 0.3 mmol OA+0.3 mmol TOPO. Scale bar: 50 nm.

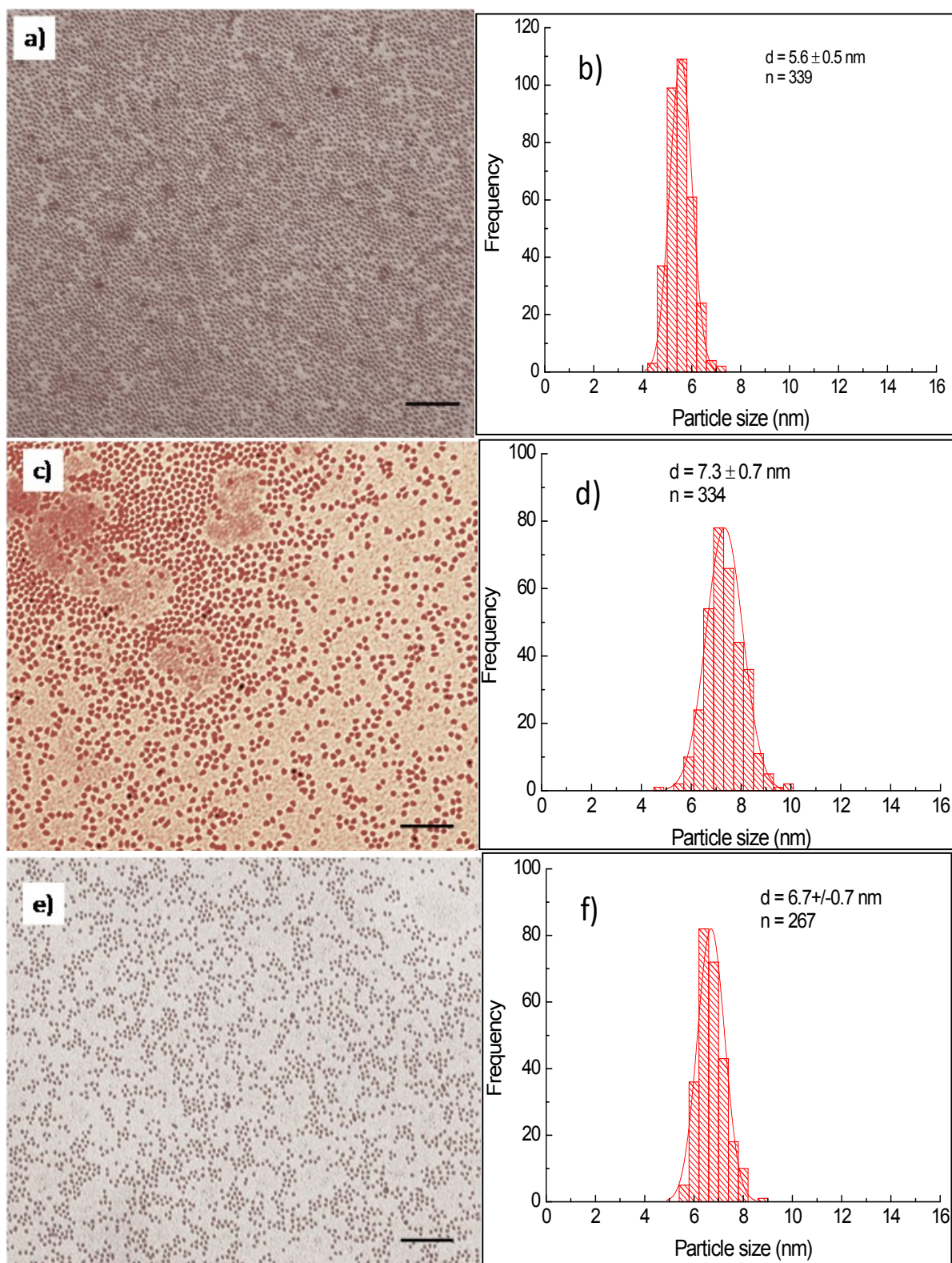


Figure S2: TEM images and size distribution histograms of CoFe nanoparticles synthesised in: a, b) 0.3 mmol TOPO + 0.6 mmol OLA; c, d) 0.3 mmol TOPO + 0.6 mmol OA and e, f) 0.3 mmol TOPO. Scale bar: 50 nm.

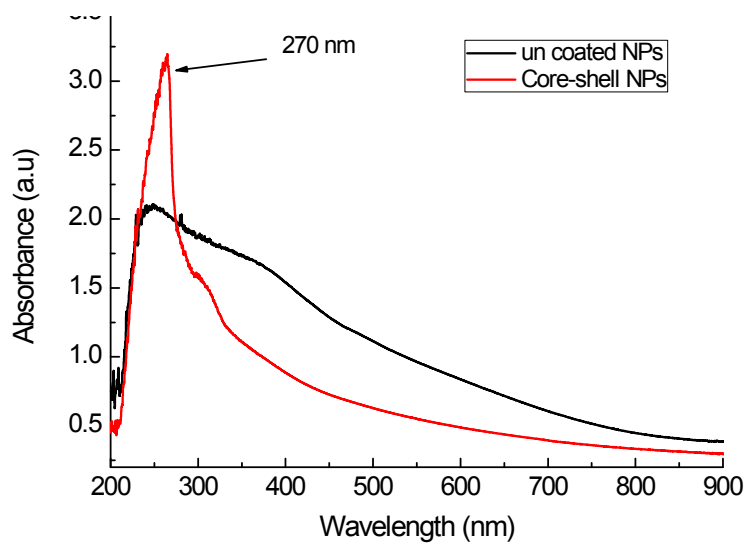


Figure S3: UV-vis spectra of the PMAO encapsulated CoFe (black line) and CoFe@Pt core/shell (red line) NPs.

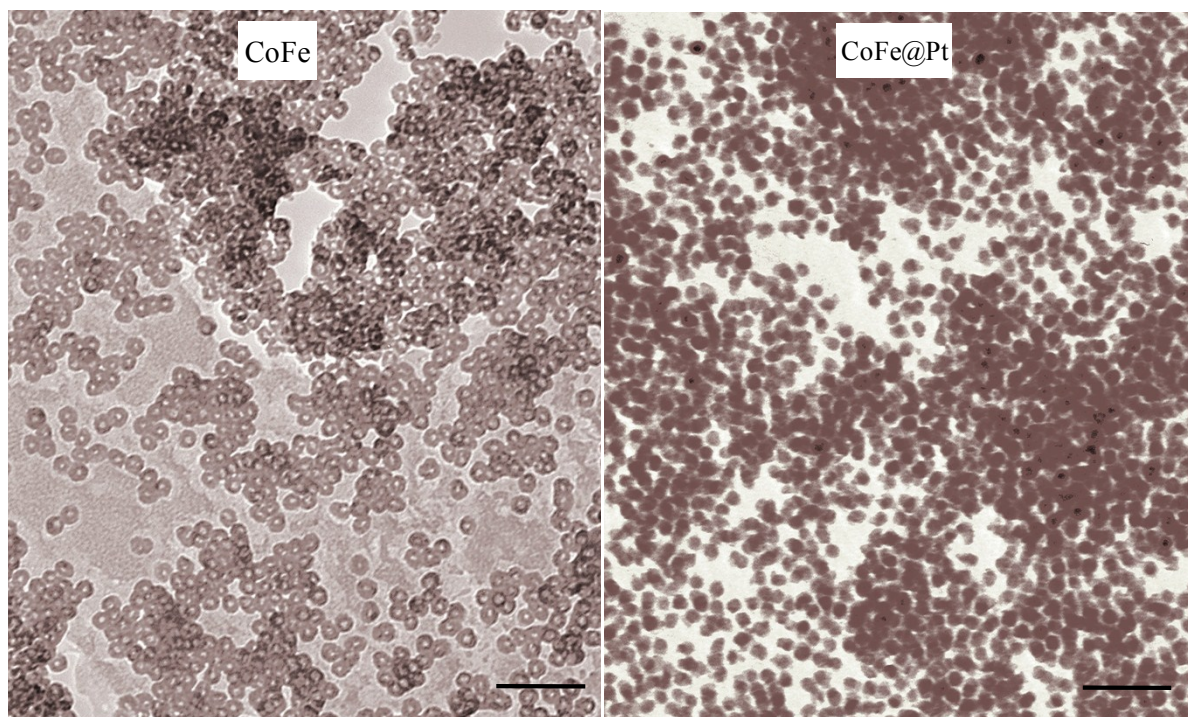


Figure S4: TEM images of CoFe nanoparticles (left) and CoFe@Pt core/shell nanoparticles (right) after exposing in air for one week. Scale bar: 50 nm.