

Supporting Information

The role of surface hydrolysis of ferricyanide anions in crystal growth of snowflake-shaped α -Fe₂O₃

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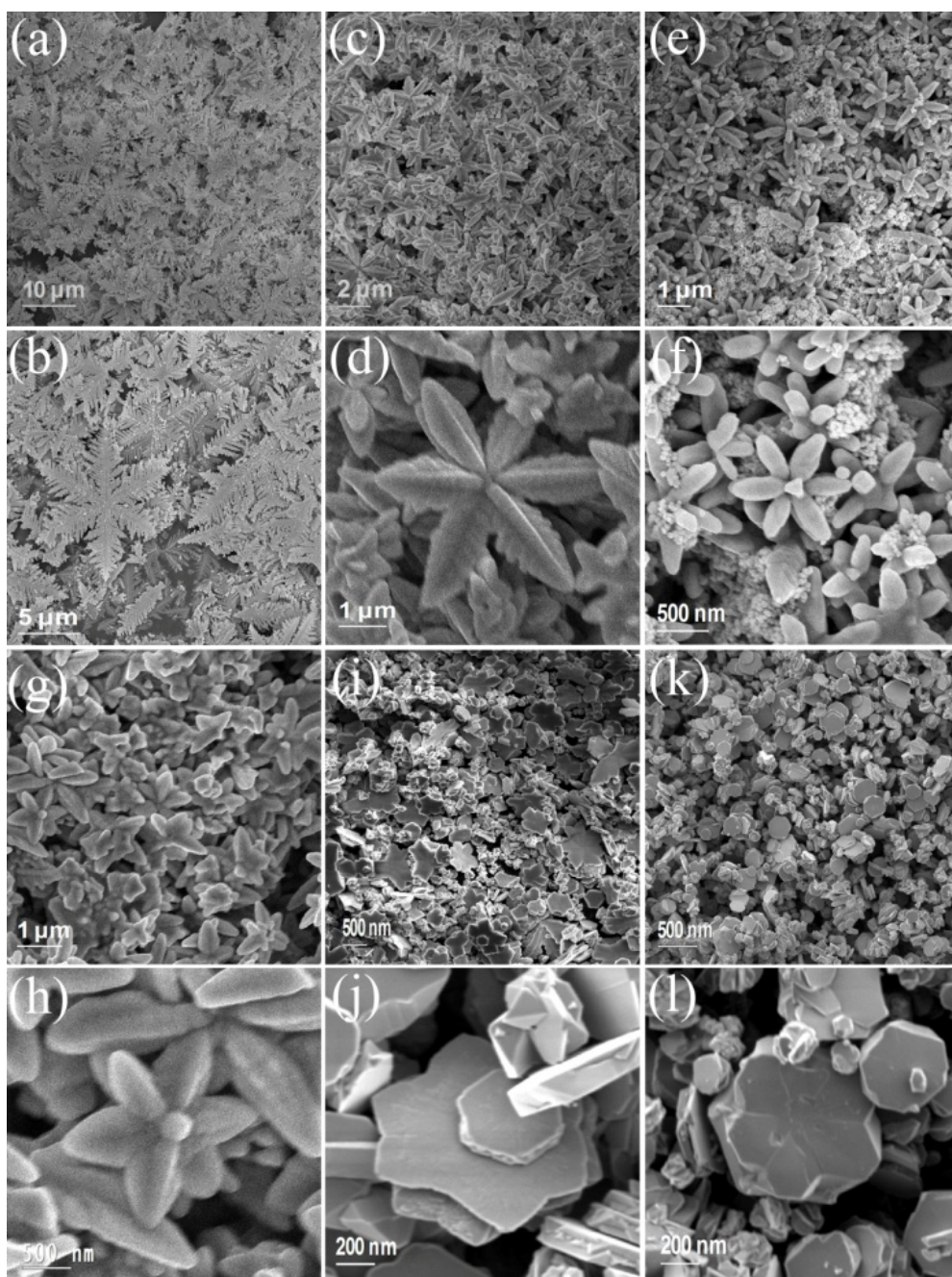


Figure S1 SEM images of synthesized α -Fe₂O₃ particles in samples prepared with a constant concentration of K₃Fe(CN)₆ (3.8 mmol/L) and different concentrations of octylamine: (a) and (b) 0, (c) and (d) 0.12, (e) and (f) 0.24, (g) and (h) 0.36, (i) and (j) 0.48 mol/L, (k) and (l) 0.60 mol/L.

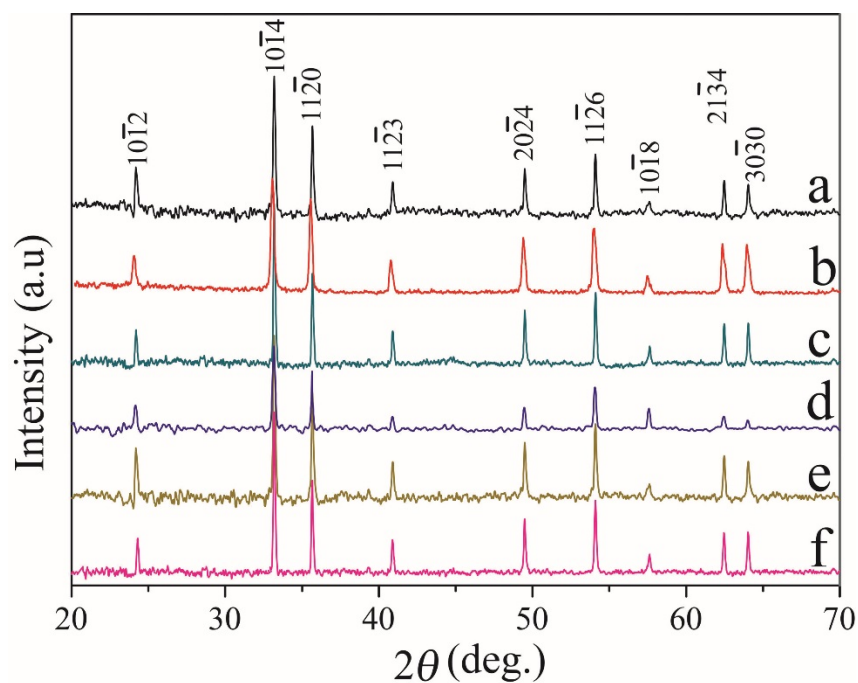


Figure S2 XRD patterns of as-prepared samples with different amounts of octylamine in the synthetic system: (a) 0, (b) 0.12, (c) 0.24, (d) 0.36, (e) 0.48 and (f) 0.60 mol/L. The pattern of (a) is indexed to the hexagonal structure of α -Fe₂O₃.

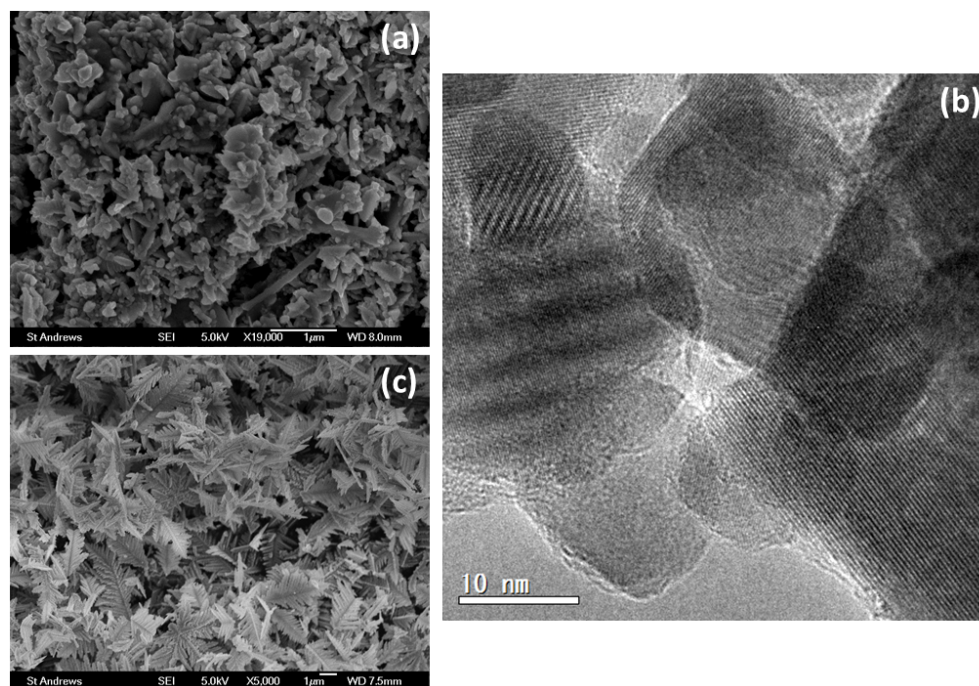


Figure S3 (a) SEM image of 1 h sample showing small irregular particle. (b) HRTEM image of 1 h sample showing spherical crystallites. (c) SEM image of 2 h sample showing large snowflake-like particles.

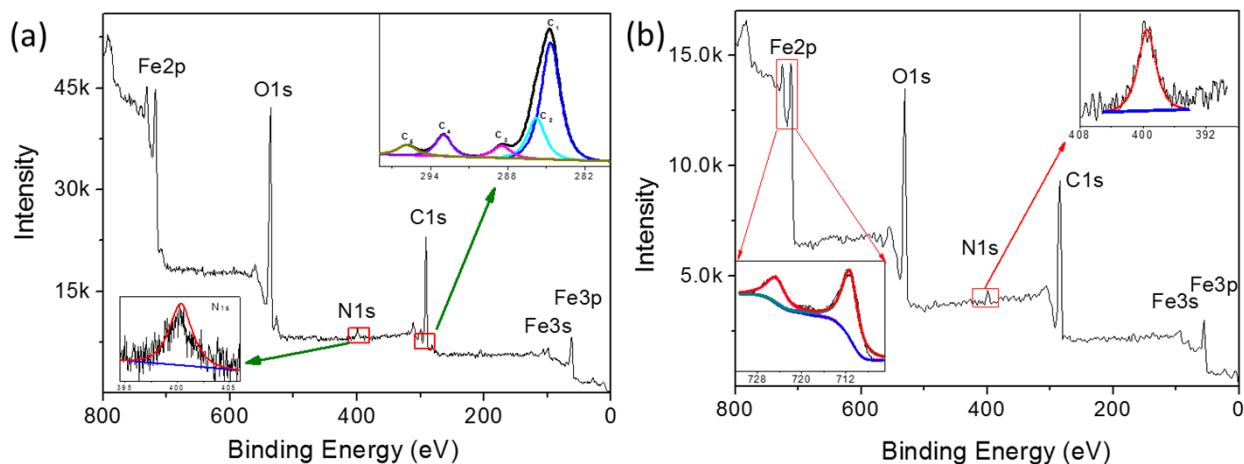


Figure S4 XPS spectra of (a) the snowflake-like and (b) the flower-like α -Fe₂O₃ particles. C 1s line at 284.8 eV is used as reference for the calibration.

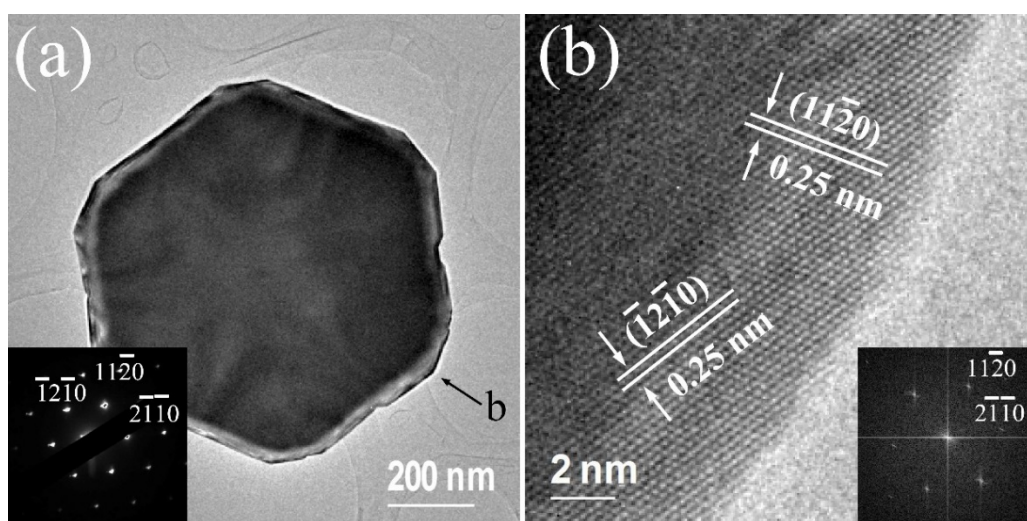


Figure S5 (a) TEM image of a single hexagonal α -Fe₂O₃ plate prepared with an addition of 0.60 mol/L octylamine. The inset is the corresponding SAED pattern. (b) HRTEM image of a selected corner 'b' in (a). The inset is the FFT pattern created from the image.

Specimens	pH values before and after crystal growth for 20 h	
	before	after
S1	7.27	6.76
S2	9.14	8.92
S3	9.82	9.68
S4	10.36	10.27
S5	10.52	10.45
S6	10.64	10.61

Table S1 pH values of the synthetic solution before and after crystal growth for 20 h. The different concentrations of octylamine in the solution are: (S1) 0, (S2) 0.12, (S3) 0.24, (S4) 0.36, (S5) 0.48, and (S6) 0.60 mol/L.