Supporting information

Prediction of nanomagnetite stoichiometry (Fe(II)/Fe(III)) under contrasting pH and redox conditions

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Table S1. Model parameters used

	Magnetite (Fe_3O_4)	**Maghemite (Fe_2O_3)**
$\Delta_f G^0_{bulk}$ (kJ mol^{-1})	-1012.719	-727.83
γ (J m^{-2})	0.52	0.57

Table S2. Effective Fe(II)/Fe(III) ratio R_{eff} obtained from chemical analysis and average particle size by TEM for stoichiometric nanomagnetite (R0.5) equilibrated at pH 8 and 4 during 20 days, oxidized products (R0.1), recharged sample (R0.1 + Fe(II) = R0.5).

Sample	**R_{eff} in solid phase**	**Particle size by TEM (nm)**
R0.5 at pH 8	0.50 ± 0.01	11.5 ± 1.5
R0.5 at pH 4	0.13 ± 0.01	8.9 ± 1.9
R0.1	0.10 ± 0.01	9.6 ± 2.3
R0.1+Fe(II)=R0.5	0.50 ± 0.01	11.3 ± 2.0

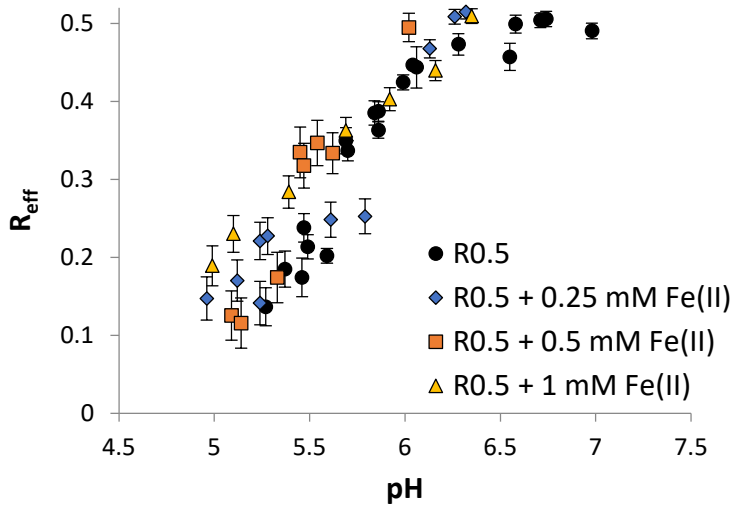

Figure S1. Effect of pH and addition of dissolved Fe(II) excess (0.25 to 1 mM) on magnetite effective stoichiometry (for R_{ini} = 0.50).

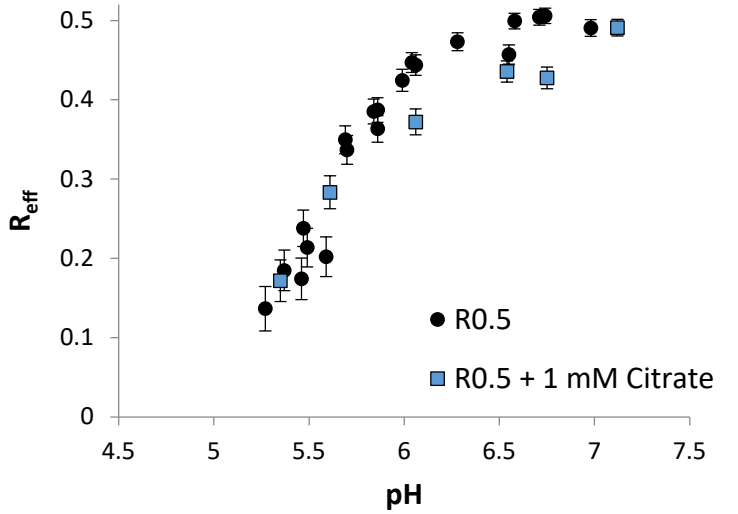

Figure S2. Effect of pH and citrate (1 mM) on magnetite effective stoichiometry (for R_{ini} = 0.50).