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Environmental Chemistry

Supplementary Material

Size evolution of Eu^{III}–fulvic acid complexes with pH, metal, and fulvic acid concentrations: implications for modelling of metal–humic substances interactions

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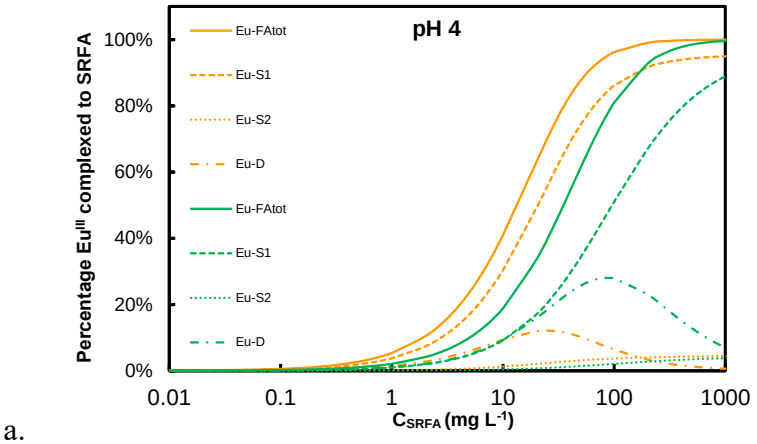
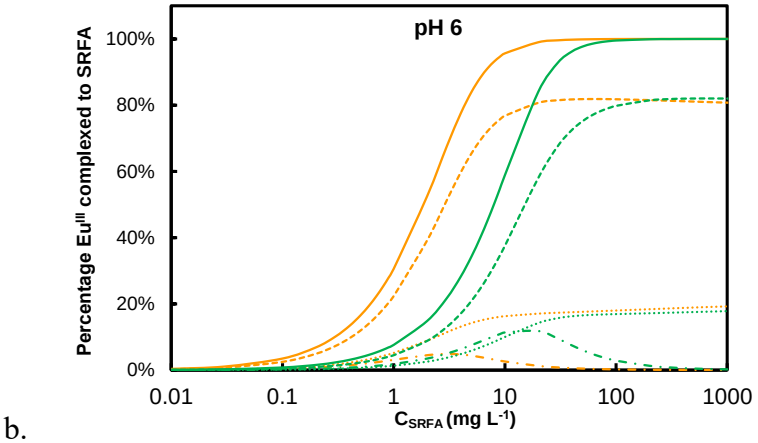
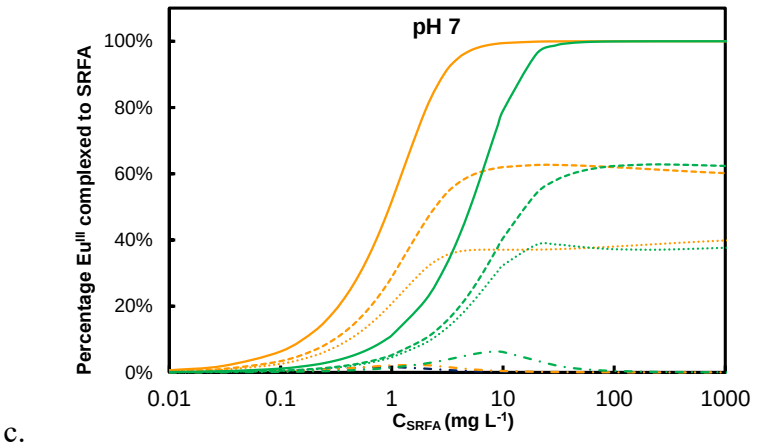
The supplementary data contains one figure and one table. The figure shows the simulation of the proportion of Eu^{III} bound to a generic fulvic acid for $C_{Eu^{III}}$ of 1 µM and 10 µM at pH 4, 6 and 7, using generic NICA–Donnan parameters. The table shows the hydrodynamic radii as function of C_{SRFA} for SRFA samples and Eu^{III}–SRFA complexes, for C_{Eu} of 1 and 10 µM, at pH 4, 6 and 7.



a.



b.



c.

Fig. S1. Simulation of the proportion of Eu^{III} bound to a generic fulvic acid for $C_{Eu^{III}}$ of 1 µM (orange lines) and 10 µM (green lines) at pH 4 (a), 6 (b), and 7 (c). Simulation of Eu^{III} distribution on S_1 sites (dashed lines) and S_2 sites (dotted lines) of SRFA. Solid lines are the sum of S_1 and S_2 sites. Generic NICA–Donnan parameters are given in Table 1.

Table S1. Hydrodynamic radii (R_H) as function of C_{SRFA} for SRFA samples and Eu^{III}–SRFA complexes, for C_{Eu} of 1 and 10 µM, at pH 4, 6 and 7.

R_H (nm)

	C_{SRFA} (mg L^{-1})	**SRFA** **R_H** (nm)	**$Eu_{1\ \mu M}$-SRFA** **R_H** (nm)	**$Eu_{10\ \mu M}$-SRFA** **R_H** (nm)
pH 4	**30**	0.91	0.92	0.78
	50	0.98	0.95	0.86
	100	0.98	0.88	0.90
	300	0.97	0.93	0.98
	500	0.92	0.91	0.90
pH 6	**30**	0.99	1.01	0.80
	50	0.97	0.98	0.86
	100	0.98	0.99	0.91
	300	0.98	0.97	0.93
	500	0.92	0.92	0.89
pH 7	**30**	1.01	0.99	0.83
	50	1.00	1.03	0.88
	100	0.98	1.00	0.91
	300	0.95	0.95	0.93
	500	0.88	0.90	0.89

Viscosity used for calculation is 0.00089 kg s^{-1} m^{-1}.