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Supplementary Table 1. Surface tension and surface excess of humic/fulvic acid samples at different concentrations of humic/fulvic acids

Surface tension of water at 31°C = 71.09 dyne/cm

HA/FA Sample	Concentration (%) (c)		Surface tension in water (dyne/cm) (γ)		Surface tension in presence of 0.1 M NaCl solution (dyne/cm) (γ')		Surface excess in water (mol/cm^2) (τ x 10^{11})		Surface excess in presence of 0.1 M NaCl solution (mol/cm^2)(τ' x 10^{11})	
	HA	FA	HA	FA	HA	FA	HA	FA	HA	FA
HA_1/FA_1	0.4	0.20	64.7	66.1	64.5	65.9	9.68	1.27	10.65	1.56
	0.3	0.10	66.4	66.3	65.5	66.3				
	0.2	0.05	67.4	66.7	66.9	66.6				
	0.1	0.025	68.3	66.7	68.2	66.7				
HA_2/FA_2	0.4	0.20	64.6	66.2	64.3	66.0	10.22	1.45	10.66	1.56
	0.3	0.10	66.9	66.2	66.8	66.3				
	0.2	0.05	67.4	66.3	67.3	66.6				
	0.1	0.025	68.6	67.0	68.5	66.6				
HA_3/FA_3	0.4	0.20	64.6	66.1	64.2	66	8.51	0.926	10.06	0.868
	0.3	0.10	66.1	66.3	65.4	66.3				
	0.2	0.05	67.2	66.4	67.2	66.3				
	0.1	0.025	67.7	66.6	67.7	66.5				
HA_4/FA_4	0.4	0.20	66.1	65.3	65.4	65.2	11.50	4.34	12.23	4.46
	0.3	0.10	65.3	65.6	65.2	65.5				
	0.2	0.05	68.5	66.8	68.4	66.6				
	0.1	0.025	69.4	67.4	69.1	67.4				
HA_5/FA_5	0.4	0.20	64.9	66.0	64.1	65.9	10.90	2.66	11.24	2.72
	0.3	0.10	65.6	66.5	64.8	66.3				
	0.2	0.05	66.3	67.2	67.1	67.1				
	0.1	0.025	68.7	67.3	68.4	67.2				
HA_6/FA_6	0.4	0.20	64.7	66.4	64.3	66.4	10.65	1.62	10.98	1.51
	0.3	0.10	65.7	66.7	65.4	66.7				
	0.2	0.05	66.3	67.1	66.3	66.9				
	0.1	0.025	68.5	67.2	68.2	67.2				
SE	HA/FA		0.311	0.281	0.265	0.121	0.79		0.77	
	Concentration		0.153	0.071	0.154	0.06				
	HA/FA x Conc		0.376	0.173	0.378	0.147				

Cd at 5%	HA/FA	0.981	0.884	0.834	0.380	2.31	2.27
	Concentration	0.440	0.203	0.442	0.177		
	HA/FA x Conc	1.08	0.496	1.08	0.421		

Supplementary Table 2. Stability constant (log*K*) and mole ratio (*x*) of HA/FA-arsenic complexes at pH 5.0

HA*/FA** Sample	Mole ratio (x)	Stability constant (log*K*)
HA_1	0.600	2.3
HA_2	0.558	2.13
HA_3	0.307	0.682
HA_4	0.5097	1.94
HA_5	0.537	2.05
HA_6	0.537	2.04
FA_1	1.41	6.8
FA_2	1.44	6.997
FA_3	1.38	6.75
FA_4	1.65	8.32
FA_5	1.59	7.79
FA_6	1.47	7.27
SE	0.094	0.55
CD at 5%	0.276	1.62