

Supporting Information

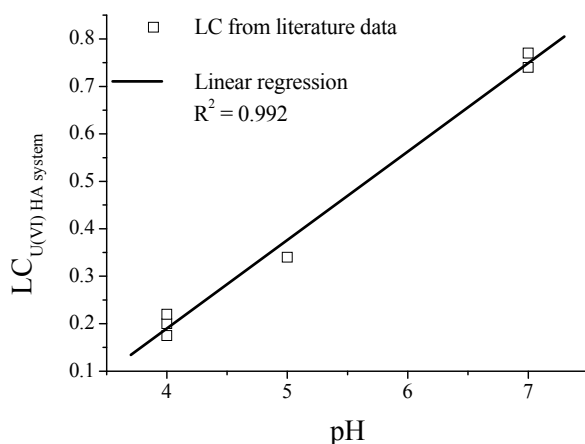


Figure SI-1. Loading capacities (LC) of HA as a function of pH^{24, 38, 41, 55}.

The loading capacities (LC) represent the mole fraction of complexing sites of a HA accessible for metal ion complexation. By plotting the LC of the literature data for the $\text{UO}_2\text{HA}(\text{II})$ ^{24, 38, 55} and $\text{UO}_2(\text{OH})\text{HA}(\text{I})$ ⁴¹ complex as a function of pH the pH-dependence of the LC can be obtained by linear regression (Eq. (1)).

$$\text{LC} = -0.555 + 0.186 \cdot \text{pH} \quad \text{Eq. (1)}$$

Using PCS and ultracentrifugation, the solutions were controlled for precipitation. Figure SI-2 shows the IR spectra of U(VI) HA solutions in the presence of carbonate at pH 5 and 9. The IR spectra of solutions showed no significant spectral differences between the freshly prepared solution before and after ultracentrifugation (32,000 rpm, 1 hour). Therefore, the formation of precipitates can be ruled out.

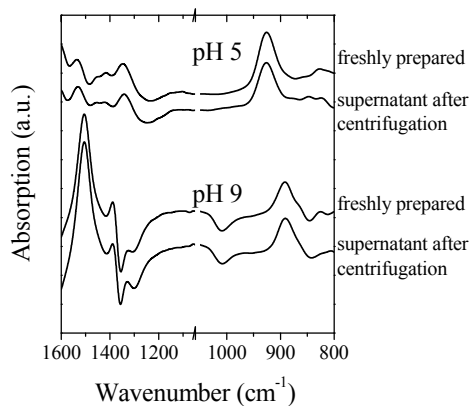


Figure SI-2. Infrared spectra of U(VI) HA solutions before and after ultracentrifugation at 32,000 rpm for 1 hour ([U(VI)] = 1 mM, [HA] = 1 g/L, I = 0.1 M (NaCl))