

Supporting information.

Extraordinary U(VI) sorption capacity of high surface area super-oxidized carbons.

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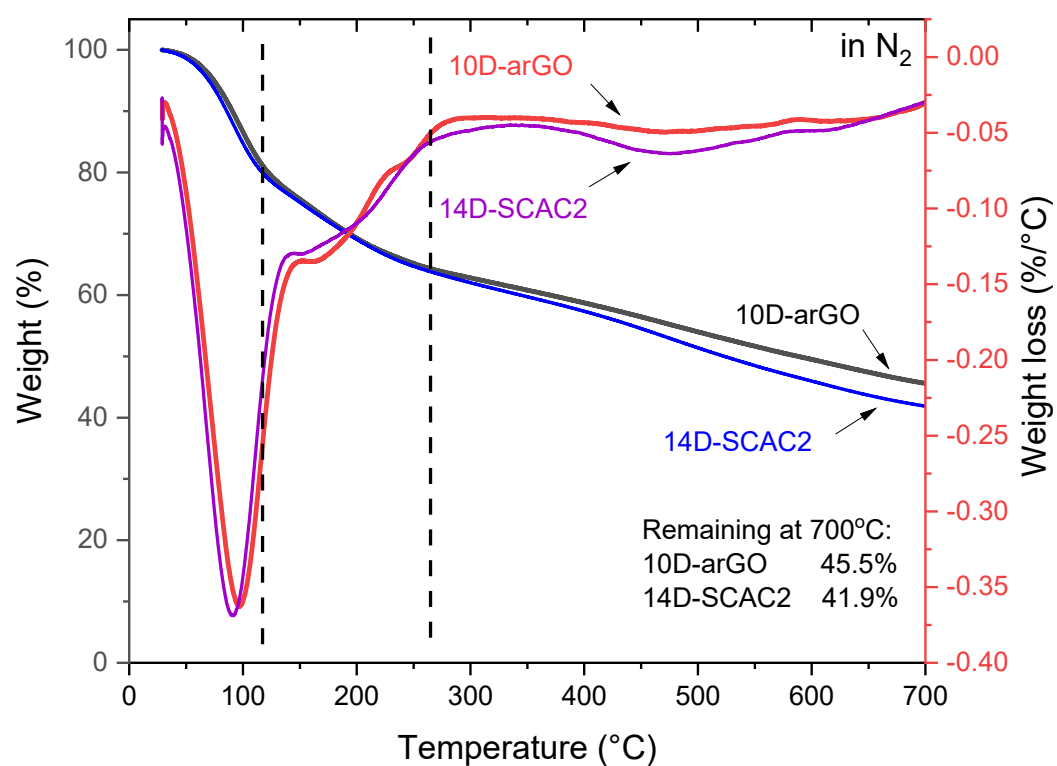


Fig. S1 TGA traces recorded for super-oxidized samples of arGO and SCAC (10 days oxidation using ammonia persulphate).

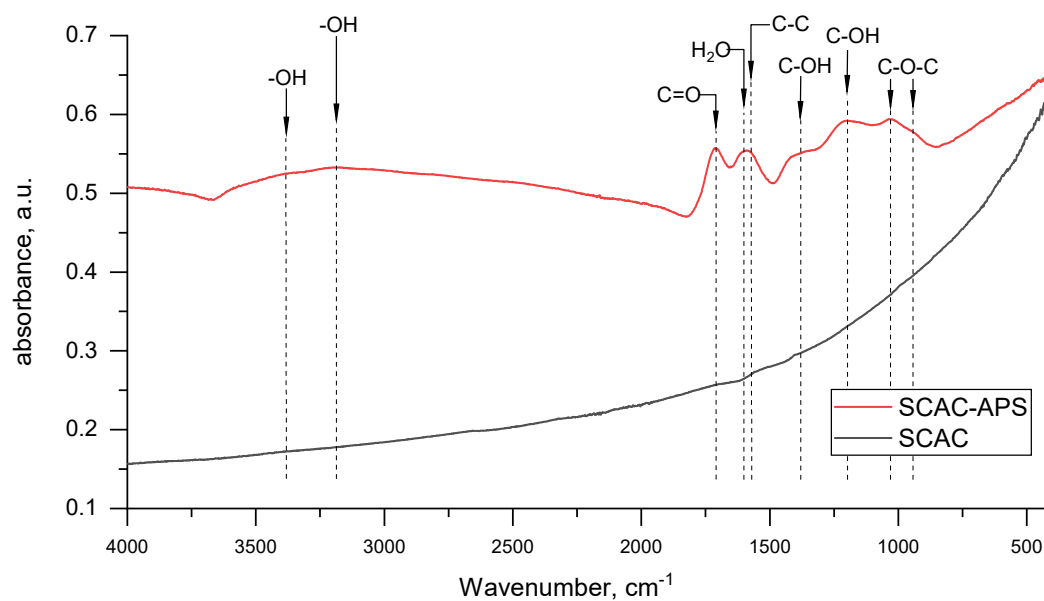


Fig.S2 FTIR spectra of SCAC sample before and after oxidation.

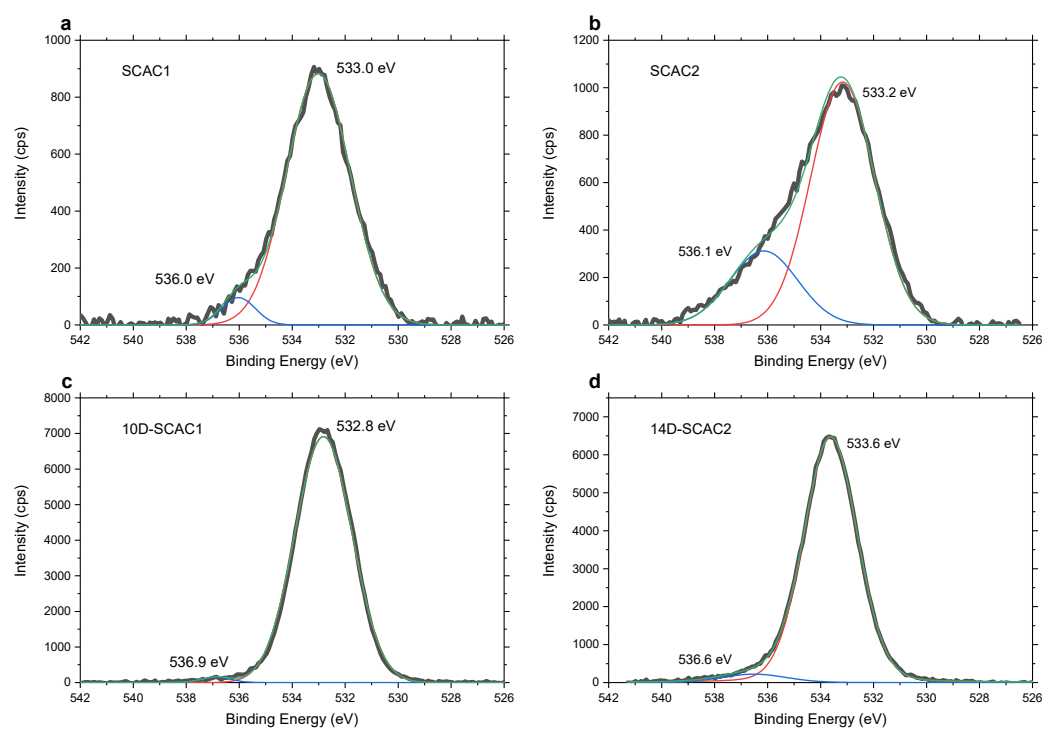


Fig.S3 O1s XPS spectra of SCAC1 and SCAC2 before and after (10D-SCAC1 and 14D-SCAC2) oxidation treatment.

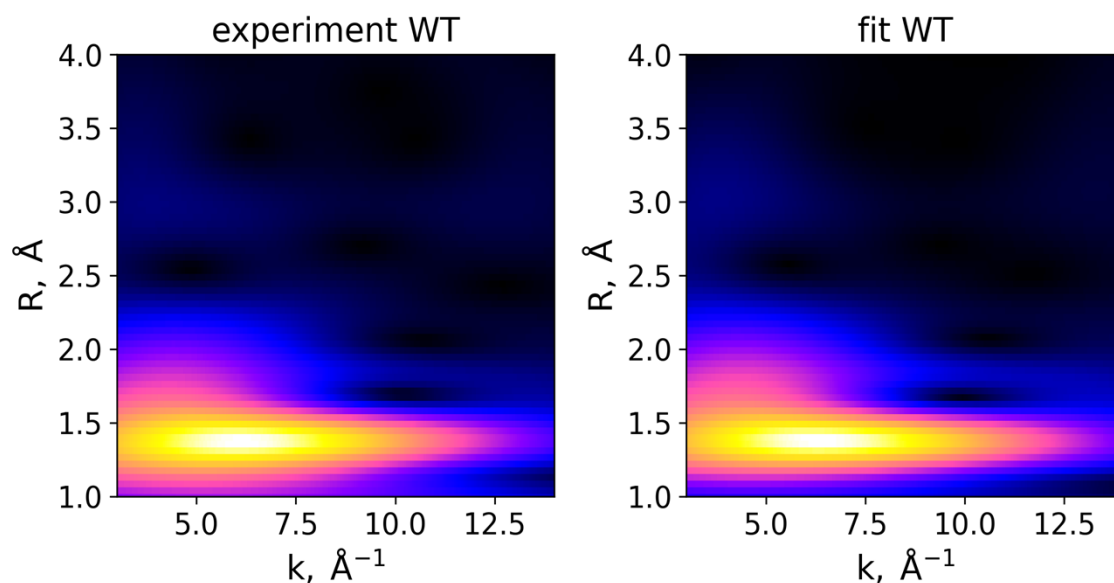


Fig.S4 Experimental and calculated wavelet transformations of EXAFS spectra of U(VI) sorbed onto 14D-SCAC2 .

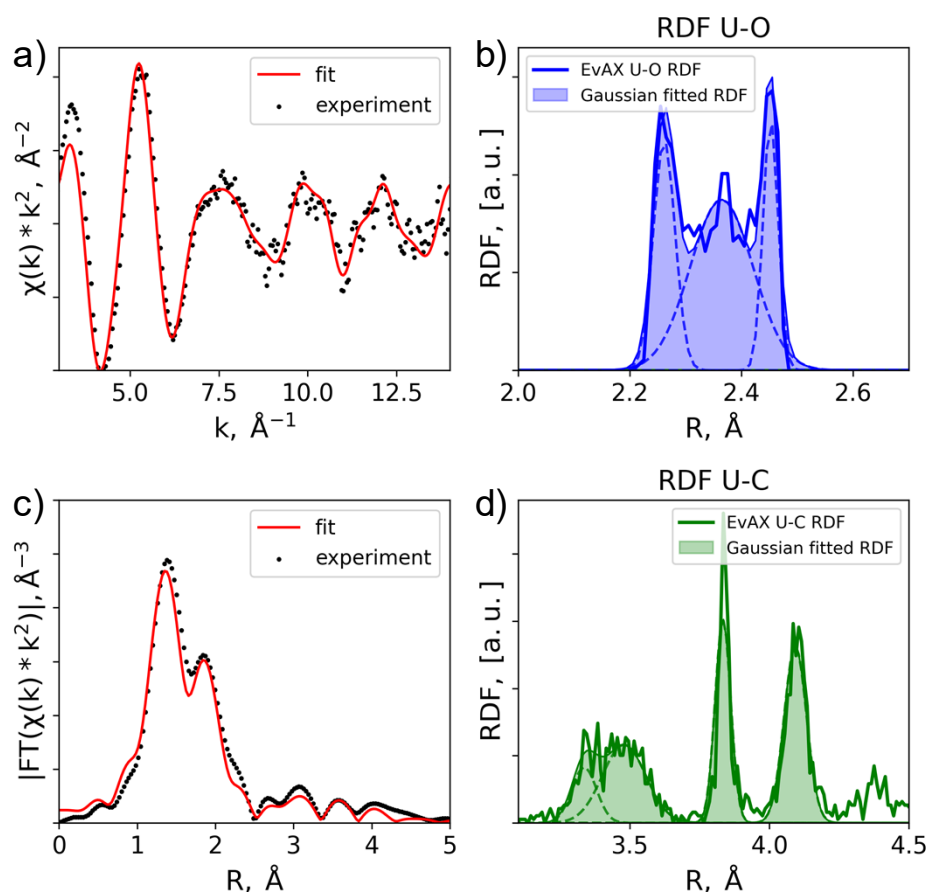


Fig. S5. Comparison of experimental and calculated EXAFS spectra of U(VI) sorbed onto 14D-SCAC2: (a) the oscillating part of the EXAFS spectrum, and (c) its Fourier transform modules; the radial distribution functions of (b) oxygen and (d) carbon around uranium.

Table S1. Structural parameters obtained from the decomposition of the radial distribution function of atoms around the absorbing atom into Gaussians in EXAFS spectra of U(VI) sorbed onto 14D-SCAC2.

Shell	Coordination number, N	Distance R, Å	Gaussian width σ^2 , Å ²
U-O	2.00	1.77	0.001
U-O	1.3	2.26	0.019
U-O	2.7	2.36	0.056
U-O	0.9	2.45	0.013
U-C	1.4	3.33	0.004
U-C	2.8	3.48	0.006
U-C	2.4	3.83	0.005
U-C	3.4	4.09	0.005