## **Electronic Supplementary Information:**

#### Entrapment of uranium-phosphorus nanocrystals inside root cells of *Tamarix* plants from a mine waste site

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## SI.1 Table

	U-O1	U-011	U-C1
N	2	6	$1.8{\pm}0.8$
D (Å)	1.78(1)	2.36(2)	2.87(3)
$\sigma^2$ (Å <sup>2</sup> )	0.0016(1)	0.012(1)	0.004

Table S1. EXAFS fitting parameters for root section exposed to 100  $\mu$ M U

N: number of scatterers, D: distance to the scatterer (Å), and  $\sigma^2$ : Debye-Waller factor for each shell (Å<sup>2</sup>).

## **SI.2** Figures



Figure S1  $\mu$ XRF studies show that uranium is accumulated in the intersection between the cortex and the epidermis in the roots incubated in the *in vitro* experiment.



Figure S2 Microprobe mapping of a salt cedar root incubated with 100 uM U for 24 in an *in vitro* experiment.



Figure S3 High-resolution TEM of a root incubated with 100 uM uranium during 24 h shows uranium accumulation in the cell walls of the root.



**Figure S4** EDS mapping a particle encapsulated inside a cell. (a) The white square indicates the location of the EDS maps and U particles. (b) Overlay of the U, P, and O EDS maps. (c) EDS spectrum from the U-P particle. In the EDS spectrum, the peaks marked in green were used to build the corresponding element maps.



**Figure S5** EDS mapping a particle aggregate inside the cell. The maps of elements detected in the EDS spectrum are shown. Note that Cu is from the grid holding the sample and Os are from sample preparation.