Article:

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Incorporation of strontium in earthworm-secreted calcium carbonate granules produced in strontium-amended and strontium-bearing soil

Supplementary information

Incorporation of strontium in earthworm-secreted calcium carbonate granules produced in strontium-amended and strontium-bearing soil

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Figure captions

Figure S1. (a)Sr XANES, (b) Sr k^3-weighted EXAFS and (c) Ca XANES of selected points from a well crystalline granule

Figure S2. (a)Sr XANES, (b) Sr k^3-weighted EXAFS and (c) Ca XANES of selected points from a granule with inclusions produced by *Lumbricus terrestris* in HSC100 experiment: Point 1, 5 and 9 are points A, B and C in the paper (not shown here). All spectra are offset for clarity.

Figure S3. (a)Sr XANES, (b) Sr k^3-weighted EXAFS and (c) Ca XANES of selected points from a well crystalline granule produced by *Lumbricus terrestris* in HSC150 experiment. All spectra are offset for clarity.

Figure S4. (a)Sr XANES, (b) Sr k^3-weighted EXAFS and (c) Ca XANES of selected points from a well crystalline granule produced by *Lumbricus terrestris* in HSC500 experiment. All spectra are offset for clarity.

Figure S5. (a)Sr XANES, (b) Sr k^3-weighted EXAFS and (c) Ca XANES of selected points from a well crystalline granule produced by *Lumbricus terrestris* in YSL experiment: point 5 is YSL point A in the paper (not shown here). All spectra are offset for clarity.

Figure S6. (a)Sr XANES, (b) Sr k^3-weighted EXAFS and (c) Ca XANES of selected points from a well crystalline granule produced by *Lumbricus terrestris* in YSH experiment: point 4 and 6 are YSH point B and YSH point A, respectively, in the paper (not shown here).

Figure S7. Ca XANES (fluorescence data) from a natural calcite single crystal of Iceland spar. The spectra were recorded with the crystal at two orientations to the X-ray beam before and after a 90° rotation of the crystal on the beam axis (c and d), to show the effect the polarised nature of the beam can have on the XANES. In the two orientations the ratio of the two peaks on the white line are different and the width of the oscillation at 4060 eV is different. Also in the figure are the same spectra after an approximate correction for the self-absorption effect (a and b) in the Athena program has been applied (Ravel, 2008) showing how the intensity of the oscillations is damped in the calcite XANES displayed in the paper and above. All spectra are offset for clarity.