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Taxon	Profile ID				$^{87}Sr/^{86}Sr$	SD (2σ)	Sr/Ca*10^3	SD (2σ)	Ba/Ca*10^3	SD (2σ)
Early *Homo*	SKX 334	Swartkrans Member 2	RM^1	P1	0.73165	0.00200	0.614	0.058	0.087	0.022
				P2	0.73165	0.00263	0.576	0.020	0.075	0.012
				P3	0.72983	0.00281	0.527	0.056	0.096	0.028
	SKW 268	Swartkrans Member 2	RM^1	P1	0.74060	0.00143	0.578	0.052	0.149	0.038
				P2	0.73917	0.00188	0.517	0.061	0.148	0.053
	KB 5223	Kromdraai Member 3	RM$_1$	P1	0.73011	0.00120	0.305	0.025	0.160	0.019
				P1b	0.73049	0.00123	-	-	-	-
				P2	0.73006	0.00097	0.384	0.029	0.193	0.045
P. robustus	SK 24605	Swartkrans Member 1	M$_1$	P1	0.72448	0.00188	0.413	0.042	0.171	0.031
	SK 24606	Swartkrans Member 1	RM^3	P1	0.72485	0.00235	0.448	0.057	0.232	0.037
	SK 1524	Swartkrans Member 1	LM^3	P1	0.73181	0.00186	0.864	0.292	0.221	0.088
				P2	0.73211	0.00146	0.760	0.154	0.243	0.085
	SKW 6	Swartkrans Member 1	LM^3	P1	0.73033	0.00121	0.728	0.133	0.266	0.054
				P2	0.73165	0.00096	0.674	0.112	0.258	0.035
	TMPAL 99	Swartkrans Member 4	RM^2	P1	0.72156	0.00101	0.365	0.028	0.270	0.054
				P2	0.71966	0.00304	0.404	0.054	0.307	0.064
	SKW 21841	Swartkrans Member 3	RM^3	P1	0.72958	0.00208	0.582	0.017	0.232	0.072
				P2	0.72857	0.00278	0.626	0.069	0.188	0.060
				P3	0.72961	0.00259	0.545	0.041	0.147	0.039
				P4	0.73034	0.00265	0.649	0.030	0.206	0.021
	TM 1517	Kromdraai Member 3	RM$_3$	P1	0.73513	0.00280	0.870	0.164	0.324	0.189
			RM$_1$	P1	0.73612	0.00158	0.510	0.092	0.365	0.120
				P2	0.74121	0.00197	0.430	0.050	0.352	0.056
A. africanus	STS 1881	Sterkfontein Member 4	RM^2	P1	0.73666	0.00137	1.183	0.406	0.174	0.062
				P1b	0.73590	0.00270	-	-	-	-
				P1c	0.73614	0.00131	-	-	-	-
				P2	0.73294	0.00197	1.245	0.264	0.152	0.027
	STS 31	Sterkfontein Member 4	RM^3	P1	0.7326	0.00194	0.595	0.150	0.167	0.106
				P1b	0.7336	0.00247	-	-	-	-
	STS 72	Sterkfontein Member 4	RM^3	P1	0.7308	0.00315	2.753	1.458	0.447	0.411
				P2	0.7293	0.00209	2.046	0.421	0.349	0.188
				P2b			1.458	0.376	0.296	0.145
	STS 45	Sterkfontein Member 4	RM^2	P1	0.7288	0.00122	0.543	0.142	0.103	0.023
				P1b	0.7275	0.00087	-	-	-	-
Bovidae sp.	SKX 30375	Swartkrans Member 3	-	P1	0.72662	0.00191	0.509	0.048	0.253	0.025
				P2	0.72856	0.00158	0.508	0.047	0.322	0.041
				P2b	0.72949	0.00180	-	-	-	-
				P3	0.72780	0.00188	0.502	0.104	0.329	0.093
				P4	0.73140	0.00138	0.551	0.075	0.381	0.065
	SE 1152	Sterkfontein Member 5	-	P1	0.73531	0.00198	0.713	0.205	0.484	0.128
				P2	0.73409	0.00178	0.827	0.173	0.462	0.152
				P3	0.73531	0.00161	0.859	0.180	0.485	0.120
				P4	0.73632	0.00190	0.805	0.184	0.531	0.198
				P5	0.73746	0.00226	0.727	0.158	0.478	0.204
	SK 1396	Swartkrans Member 2	-	P1	0.72538	0.00457	0.521	0.033	0.257	0.019
				P2	0.72452	0.00586	0.456	0.125	0.223	0.098
				P3	0.72228	0.00326	0.477	0.072	0.249	0.072
				P3b	0.72519	0.00329	-	-	-	-
				P4	0.72804	0.00151	0.518	0.066	0.288	0.065

Supplementary Table 1: Species, specimen, locality, type of tooth, $^{87}Sr/^{86}Sr$, Sr/Ca and Ba/Ca mean and standard deviation for the profiles measured in this study.

Sr/Ca	H	A	P	G	B	C
H						
A	0.007					
P	0.237	0.008				
G	$<10^{-3}$	0.135	0.002			
B	0.490	$<10^{-3}$	0.126	$<10^{-4}$		
C	0.135	0.027	0.574	0.008	0.023	

Ba/Ca	H	A	P	G	B	C
H						
A	0.038					
P	0.001	0.526				
G	$<10^{-4}$	$<10^{-4}$	$<10^{-5}$			
B	$<10^{-4}$	0.368	0.431	$<10^{-7}$		
C	0.892	0.069	0.005	$<10^{-6}$	$<10^{-3}$	

Supplementary Table 2: Results of *p* values for Wilcoxon tests performed between mean Sr/Ca and Ba/Ca values for different groups of samples. H, A, P, G, B and C stand for Early *Homo*, *A. africanus, P. robustus*, grazers, browsers and carnivores, respectively.

Sr/Ca	H	A	P	B
H	-			
A	<.001	-		
P	0.092	<.001	-	
B	0.006	0.024	0.098	-

Ba/Ca	H	A	P	B
H	-			
A	0.097	-		
P	0.945	0.032	-	
B	0.757	0.056	0.928	-

Supplementary Table 3: Results of *p* values for Wilcoxon tests performed between %CV Sr/Ca and Ba/Ca values for different groups of samples. H, A, P and B stand for Early *Homo*, *A. africanus, P. robustus* and bovids, respectively.

Supplementary Appendix:

Samples and standard preparation

All the analyzed teeth samples were housed at the Transvaal Museum (Ditsong National Museum of Natural History) in Pretoria, South Africa. The bovid molar teeth (SKX30375, Swartkrans Member 3; SKX1396, Swartkrans Member 2; SE1152, Sterkfontein Member 5) were embedded in epoxy resin and sectioned longitudinally with a diamond wafering wheel saw. The resulting surfaces were gently polished manually on wet fine-grained sandpaper. The hominid teeth that were selected were naturally broken (or already cut for microstructural studies purposes, as in the case of KB5223, SKX268, SKX21841). This strategy of sampling allows measuring chemical variations along profiles from the enamel dentin junction (EDJ) to outer enamel (OE). The international standard SRM-1400 (''Bone Ash") was used as a bracketing reference to correct for instrumental biases. The solid form of the standard was obtained by sintering powder at 2 GPa and 700°C in a belt apparatus at the Centre des Hautes Pressions of the Claude Bernard Lyon1 University[7]. The samples and the standard were mounted on plasticine at equal height. The laser focalization was optimized on the standard in order to obtain a similar efficiency of ablation for both samples and standard.

Special attention was made to expose the area of analysis of the broken teeth perpendicular to the laser beam axis. The elemental or the isotopic compositions of the samples were bracketed using the SRM1400 standard for every two or three samples. Prior to the analysis of samples, the total duration of the acquisition time for a given profile was estimated according to the length between the EDJ and OE, an average of 20 seconds of acquisition time per spot and a distance of 100 microns between spots. For the analysis of standards, the total acquisition time was set at one minute and corresponds therefore to five spots that were performed randomly.

Analytics

A quadrupole-ICPMS (Q-ICPMS, ThermoElement X7) was used for the measurement of trace elements concentrations. Selected monitored elements were Ca, Mn, Zn, Rb, Sr, Y, Ba, La, Sm, Yb, Th and U. The $^{87}Sr/^{86}Sr$ ratio was measured on a Nu-HR (Nu-instrument) multicollector-ICPMS (MC-ICPMS). Strontium isotope data were obtained in static mode. Masses 88, 87, 86, 85, 84 and 83 were measured on Faraday cups. The isobaric interference of ^{87}Rb was corrected using the ^{85}Rb signal, which is extremely small (<1 mV). Krypton interferences at masses 84 and 86 (<1 mV) were corrected using ^{83}Kr. Prior to each measurement, blanks were measured within 5 seconds, the laser being switched off. The laser is a 157 nm F_2/He excimer laser LPF202 of Lambda Physiks[9]. The main operational conditions are summarized in Supplementary Table S1.

Laser (Lambda Physiks IPF 202)	
Wavelength	157 nm
Power	40 mJ
Repetition rate	10 Hz
Energy density	~1 J cm^{-2}
Pulse width	9 ns
Ablation cell	Round Teflon cell with an internal volume of 30 cm^3, CaF_2 window
Focusing	Plano-convex lens with 40 mm focal length
Q-ICPMS (Thermo X7 series)	
RF power	1300 W
Gaz flows	
Sample	He, 1 l min^{-1}
Coolant	Ar, 13 l min^{-1}
Auxiliary	Ar, 0.8 l min^{-1}
Isotopes monitored	^{44}Ca, ^{55}Mn, ^{66}Zn, ^{85}Rb, ^{88}Sr, ^{89}Y, ^{138}Ba, ^{139}La, ^{147}Sm, ^{172}Yb, ^{232}Th, ^{238}U
MC-ICPMS (Nu Instruments Nu 500)	
RF power	1400 W
Gaz flows	
Sample	He, 1 l min^{-1}
Coolant	Ar, 13 l min^{-1}
Auxiliary	Ar, 0.8 l min^{-1}
Cup configuration	H4(^{88}Sr), H2(^{87}Sr+^{87}Rb),Ax(^{86}Sr+^{86}Kr), L3(^{84}Sr+^{84}Kr),L4(^{83}Kr)

Supplementary Table S1: Operating conditions for LA-Q-ICP-MS or LA-MC-ICPMS

Profiles acquisition and treatment of data

Contrary to our previous study[7], we did not measure trace element concentrations and isotopic ratios on the same spot using the tandem Q-MC-ICPMS method, because the Sr concentrations were too low in some of the samples, resulting in poor signal intensity on the MC-ICPMS. The trace elements and the isotopic ratios were therefore measured separately in two different sessions. However, for a given transect between EDJ and OE, the profiles used for trace elements and isotopic ratios were performed as close as possible to each other. In our previous study[7], we demonstrated that the lateral variations of the Sr/Ca ratio for two adjacent profiles are negligible. In the present study, we performed additional adjacent profiles in order to evaluate the extent of the lateral variation of the ^{87}Sr/^{86}Sr ratio. These are denoted by a postfix "b" or "c" at the end of the profile #ID.

For the samples and the standards, the first step of the treatment was to remove blank values. The data were then processed using a 3-sigma filter in order to remove outliers. The Sr/Ca and Ba/Ca ratios were calculated using natural abundances of ^{44}Ca, ^{88}Sr and ^{138}Ba, and the ^{87}Sr/^{86}Sr ratio was calculated using ^{87}Rb-correction based on measured ^{85}Rb. The Sr/Ca, Ba/Ca and $^{87}Sr/^{86}Sr$ ratios were then corrected for the average value of the bracketing standards. For the samples, the variations of the Sr/Ca, Ba/Ca and $^{87}Sr/^{86}Sr$ ratios were finally filtered using a moving average filter with a subset size of 50 measurements. The values of ^{55}Mn, ^{66}Zn, ^{85}Rb, ^{89}Y, ^{139}La, ^{147}Sm, ^{172}Yb, ^{232}Th and ^{238}U were not corrected because these elements are present at very low concentrations in the SRM 1400 standard and were not accurately detected (except for Zn for which $\approx 2*10^3$ cps can be measured). The statistical correlations between elements concentrations were therefore performed without correction using the bracketing standard values.

Results

Elemental and isotopic analysis

All the results are expressed at the 95% confidence level (2σ). The standard bone ash SRM-1400 which is certified to contain 250 ppm of Sr, produces typical signals of ^{88}Sr of $\approx 5*10^4$ cps on the Q-ICPMS and ≈700 mV on the MC-ICPMS. For a total of sixteen SRM 1400 standards, we obtain an average $Sr/Ca*10^3$ value of 0.668±0.042 and an average $Ba/Ca*10^3$ value of 0.578±0.054. These numbers are close to the certified values of the $Sr/Ca*10^3$ and the $Ba/Ca*10^3$ ratios, i.e. 0.652 and 0.629, respectively[25]. For one run, the average internal error on the $Sr/Ca*10^3$ and the $Ba/Ca*10^3$ ratios of the SRM 1400 standard is ±0.021 and ±0.026, respectively. For a total of seventeen SRM 1400 standards, we obtain an average $^{87}Sr/^{86}Sr$ value of 0.713068±0.000728. This number is close to a TIMS value of 0.713104±0.000019 reported by Schweissing and Grupe[26]. For one run, the average internal error on the $^{87}Sr/^{86}Sr$ ratio for the SRM 1400 standard is ±0.000647.

A total of 42 profiles have been analyzed for trace elements. The average $Sr/Ca*10^3$ ratio calculated for each profile ranges from 0.305 to 2.753, and the mean standard deviation from 0.017 to 1.458 (Supplementary Table 1). This corresponds to an average coefficient of variation calculated within a profile of 17%, which is three times higher than the variation of the external reproducibility calculated using the SRM 1400 standard (6.3‰). The situation is similar for the Ba/Ca ratio, for which the average coefficient of variation within a profile (29.3%) is three times higher than the variation of the external reproducibility (9.3%). A total of 48 profiles have been analyzed for isotope ratios. The average $^{87}Sr/^{86}Sr$ ratio calculated for each profile ranges from 0.7197 to 0.7410, and the mean standard deviation from 0.0024 to 0.0074 (Supplementary Table 1). This corresponds to an average coefficient of variation calculated within a profile of 0.59%, which is six times higher than the variation of the external reproducibility calculated using the SRM 1400 standard (0.10%). The observed intratooth variations of the Sr/Ca, Ba/Ca and $^{87}Sr/^{86}Sr$ ratios are therefore not attributable to measurement uncertainties.

Control of diagenesis

Three lines of evidence suggest that the diagenetic effects on the teeth samples are not significant. First, we have measured along with Sr, B and Ca several elements (Mn, Zn, Rb, Y, La, Sm, Yb, Th and U) that were used as diagenetic proxies because their concentration is very low in modern enamel and increase post-mortem[10]. The accurate measurement of the concentration for these elements using LA-Q-ICPMS was not possible because the concentration were below the detection level in the SRM1400 standard, as well as in most of the samples. Considering that the concentrations of the diagenetic proxies in the SRM1400 standard are measured with solution ICMPS at the ppb level[7,25], we conclude that these are present at similar concentration in the fossil teeth samples. However, significant amount of U can be detected in some of the fossil teeth samples (i.e., KB5223, SKX21841). The comparison with previously measured U concentration by means of solution ICPMS on fossil enamel coming from the same caves[11], suggests that detectable signals should correspond to concentrations around 1-3 ppm. Second, we have conducted correlation tests between all the elements. For a given tooth, the results are provided for each profile in the section C (see below). For none of the profiles is any co-variation found between Ca, Sr or Ba and the diagenetic proxies. In some cases (i.e. SK 1524, SK 268), Sr concentrations are negatively correlated with REE, but this results from an asymptotic relationship, which does not relate to additional diagenetic incorporation of Sr. Positive significant correlation are only found between diagenetic proxies. Lastly, we do not found any correlation between the Sr/Ca and the $^{87}Sr/^{86}Sr$ ratios, which would have traduced a mixing between a diagenetic and a biogenic end-members.

Presentation of the results

A plate summarizing all the results has been constructed for each tooth sample. The plate includes a photo of the whole tooth (the white bar is one centimeter), with close-ups corresponding to the areas where the profiles have been performed. Each profile is oriented from the EDJ to the OE using an arrow and is annotated with a "Q" or "MC" prefix which stands for "quadrupole" or "multicollector", respectively. For each plate, four sections have been created. The section A shows the evolution of selected isotopes along the specified profile. The units for X and Y axes correspond to the number of cycles (≈ 250 ms) and the number of counts per second (cps). Only ^{44}Ca, ^{55}Mn, ^{88}Sr, ^{138}Ba, ^{139}La, ^{172}Yb, ^{232}Th and ^{238}U data are shown for the sake of clarity. Section B shows the evolution of the Sr/Ca (pink) and Ba/Ca (green) corrected ratios along the specified profile. Section C presents the correlation coefficients results between all the isotopes. The presence of the NaN symbol (not a number) traduces the fact that the measurement of the isotope always yields zero cps. The correlation coefficient has been highlighted in grey when its associated probability is < 0.05. Section D shows the evolution of the ^{87}Sr/^{86}Sr corrected ratio along the specified profile. The X axis corresponds to the number of cycles (1 s). The thin and the thick lines represent the 3-sigmas and the moving average filtered data, respectively.

A- Trace elements profiles

The intensities of the selected isotopes cover more than five orders of magnitude, rare Earth elements (REE) being the less concentrated with generally no more than 10^2 cps, and Ca the more concentrated with about $> 10^5$ cps. Intermediate intensities are observed for Mn, Sr and Ba, such that Ca > Sr ≥ Ba ≥ Mn > REE, U, Th. It is interesting to note that for Ca, which is stoechiometric in apatite, the evolution is always flat while it can be very variable for other trace elements. This demonstrates that the ablation efficiency along transects from EDJ to OE was always regular.

B- Sr/Ca and Ba/Ca ratios profiles

The evolution of the Sr/Ca and Ba/Ca ratios along transects from EDJ to OE always mimic each other. The only noticeable exception should be the two profiles of the *Australopithecus africanus* specimen STS1881, for which sharp variations of the Ba/Ca ratio are observed. The similarity of the evolution of the Sr/Ca and Ba/Ca ratios is not surprising since both elements are proportionally segregated relative to Ca in biological processes[4,20]. The overall trend of the Sr/Ca and Ba/Ca ratios is to decrease from EDJ to OE, a pattern already observed by Humphrey et al.[8] in exfoliated deciduous teeth. These authors attributed the trend as a differential incorporation of Sr and Ca during enamel secretion and maturation. However, the present results show that this overall trend is associated with variations of higher frequencies that can be attributable to dietary changes during the secretory and/or maturational phases of enamel formation.

C- Correlation between elements

In addition to Ca, Sr, and Ba, we have measured Mn, Zn, Rb, Y, La, Sm, Yb, Th and U, which are elements representative of diagenetic incorporation. A matrix of correlation coefficients between all elements has been performed for each profile in order to test the potential effects of diagenesis on the Sr, Ba and Ca concentrations. We never found a significant correlation coefficient between Sr, Ba or Ca and the elements of diagenetic origin.

D- $^{87}Sr/^{86}Sr$ ratio profiles

The $^{87}Sr/^{86}Sr$ ratio profiles from EDJ to OE do not exhibit systematic trends, as is the case for the Sr/Ca and Ba/Ca ratios. This suggests that the Sr isotope composition is quantitatively incorporated during enamel secretion and maturation without any preferential incorporation of a Sr isotope. The extent of lateral variations of the $^{87}Sr/^{86}Sr$ ratio for two adjacent profiles is small. This is illustrated for instance by the three profiles P1/P1b/P1c of the *A. africanus* STS 1881 specimen or by the two profiles P1/P1b of the *A. africanus* STS 31 specimen. The small $^{87}Sr/^{86}Sr$ variations are reproduced in each profile with an offset, which never exceeds 2‰. The coefficients of variations of the $^{87}Sr/^{86}Sr$ ratio are rather constant among hominids (Early *Homo*, 0.57%±0.08%; *P. robustus*, 0.55%±0.10%; *A. africanus*, 0.54%±0.08%) and are similar for hominids and bovids (hominids, 0.55‰±0.09‰; bovids, 0.62%±0.19%).

Supplementary data

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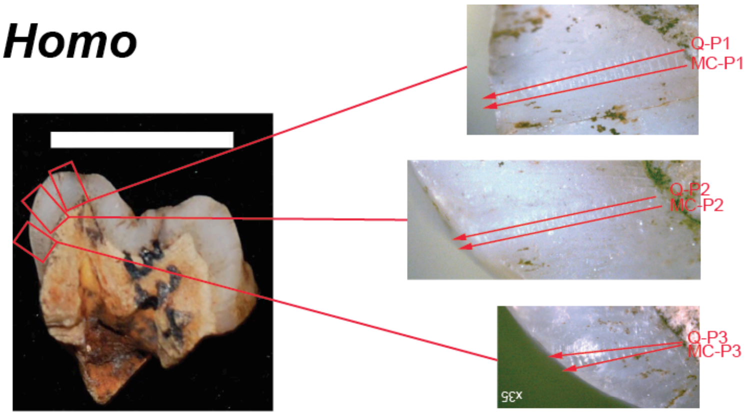
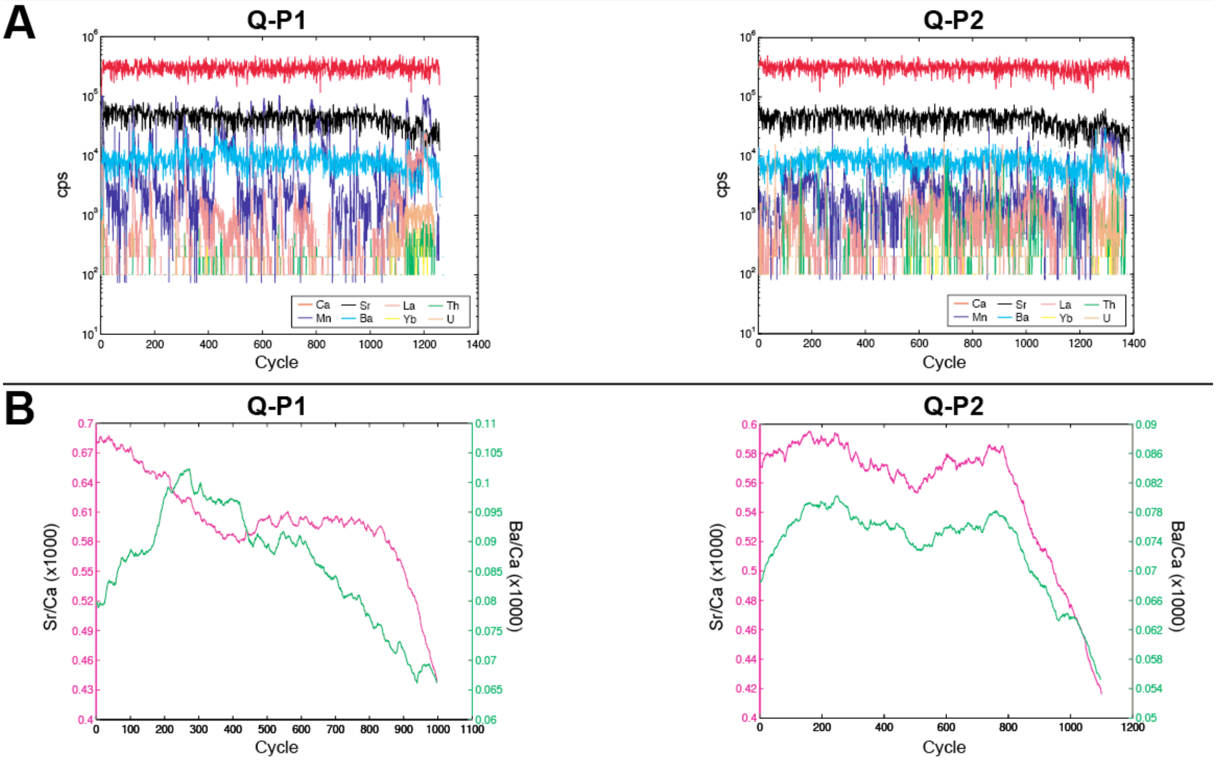
SKX 334 Early *Homo*

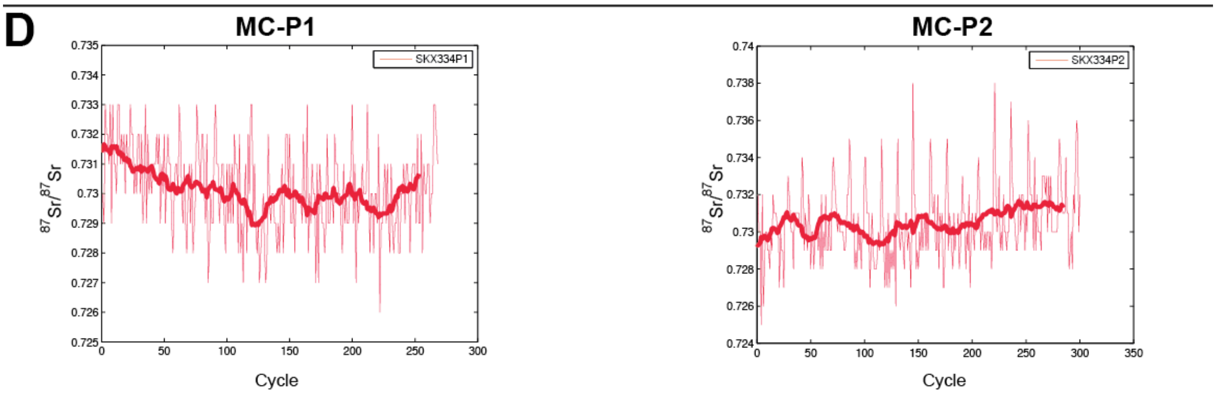




C

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.068	-										
Zn	-0.012	0.330	-									
Rb	-0.028	0.316	0.270	-								
Sr	-0.016	-0.219	-0.102	-0.133	-							
Y	-0.033	0.320	0.512	0.283	-0.322	-						
Ba	0.005	0.334	0.040	0.105	0.131	-0.050	-					
La	-0.053	0.399	0.483	0.307	-0.328	0.875	0.045	-				
Sm	-0.049	0.357	0.407	0.281	-0.296	0.688	0.009	0.643	-			
Yb	-0.036	0.276	0.412	0.225	-0.308	0.638	-0.058	0.605	0.614	-		
Th	-0.060	0.464	0.418	0.253	-0.280	0.448	0.060	0.467	0.416	0.378	-	
U	-0.017	0.327	0.511	0.281	-0.385	0.681	-0.125	0.671	0.527	0.559	0.542	-

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.004	-										
Zn	-0.045	0.599	-									
Rb	0.034	0.088	0.049	-								
Sr	0.112	-0.122	-0.284	0.020	-							
Y	0.051	0.573	0.517	0.050	-0.150	-						
Ba	0.112	0.060	-0.057	0.021	0.291	-0.022	-					
La	0.049	0.560	0.477	0.060	-0.123	0.909	0.047	-				
Sm	0.036	0.457	0.376	0.024	-0.114	0.733	0.014	0.714	-			
Yb	0.027	0.387	0.338	0.015	-0.073	0.533	-0.028	0.511	0.418	-		
Th	-0.012	-0.037	-0.029	-0.031	-0.053	-0.013	-0.039	-0.014	-0.008	-0.017	-	
U	0.023	-0.014	0.003	-0.026	-0.005	0.020	-0.006	0.013	0.000	-0.015	0.097	-



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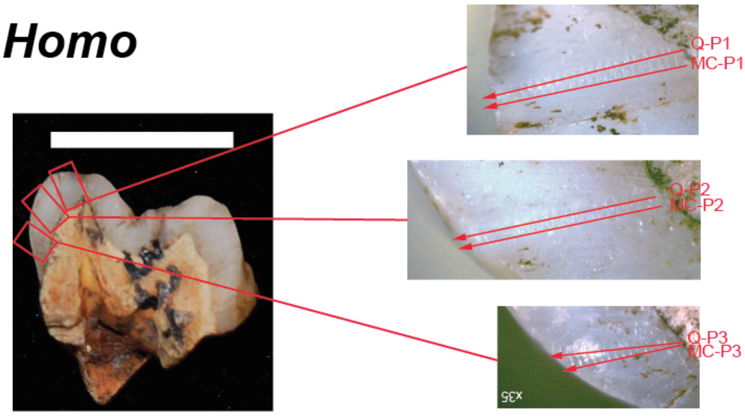
SKX 334 Early *Homo*



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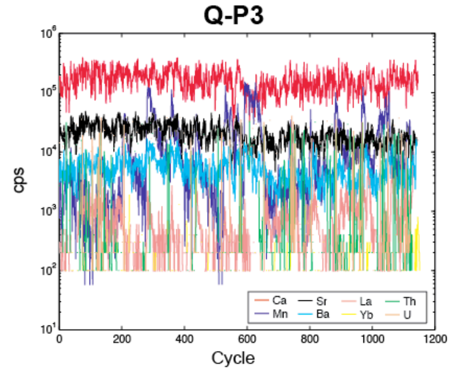

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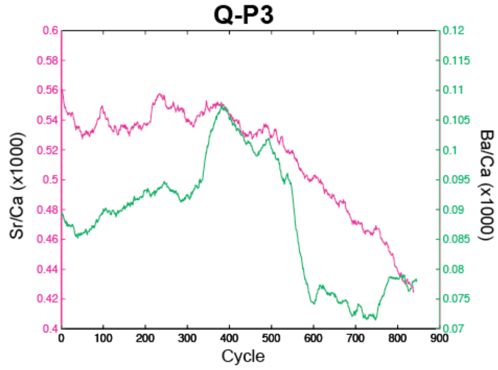
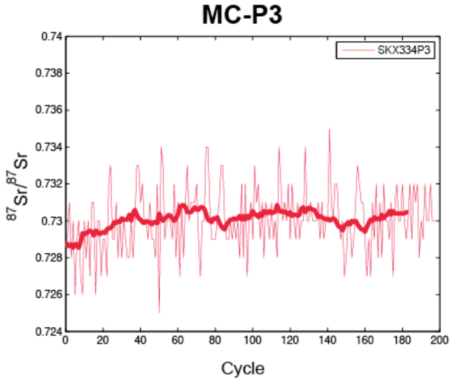


C

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.127	-										
Zn	0.007	0.019	-									
Rb	0.015	0.076	0.025	-								
Sr	0.371	-0.131	-0.170	0.058	-							
Y	0.093	-0.036	0.399	0.069	-0.014	-						
Ba	0.257	0.331	-0.070	0.187	0.350	0.029	-					
La	0.112	-0.034	0.405	0.105	0.019	0.631	0.043	-				
Sm	0.010	-0.044	0.116	0.057	0.038	0.145	0.060	0.194	-			
Yb	0.024	-0.049	-0.037	-0.069	-0.025	-0.001	0.025	0.013	-0.038	-		
Th	0.036	0.020	0.002	-0.027	-0.016	-0.035	0.006	-0.003	-0.044	0.039	-	
U	0.021	0.022	-0.047	0.036	-0.016	0.002	0.036	-0.023	0.001	-0.001	0.049	-

D



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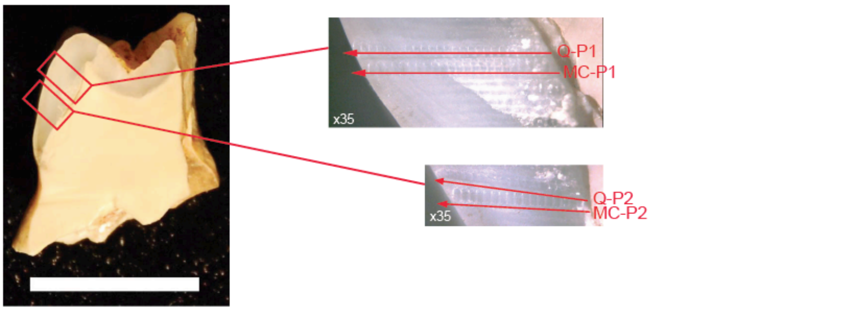
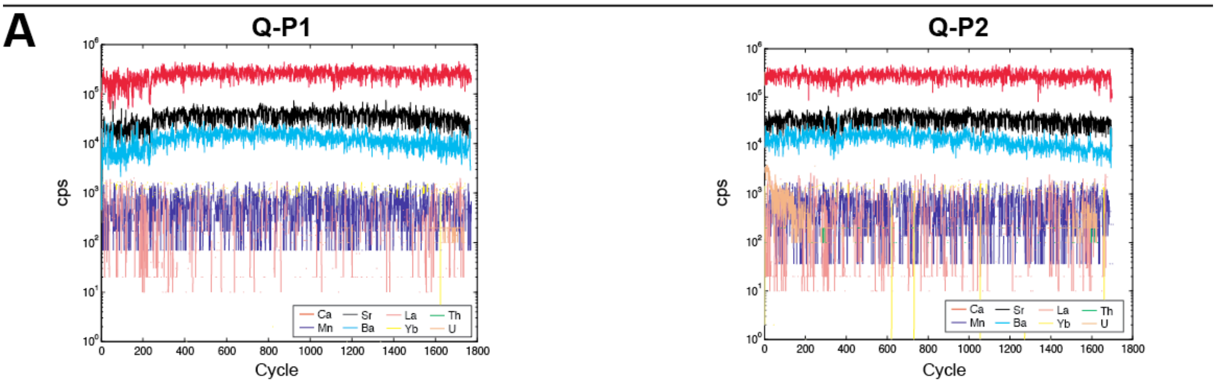
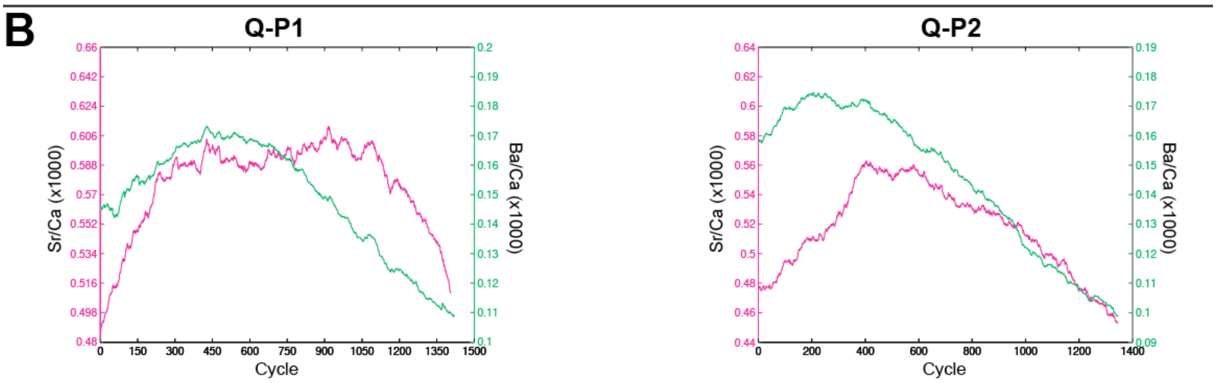
SKX 268 Early *Homo*



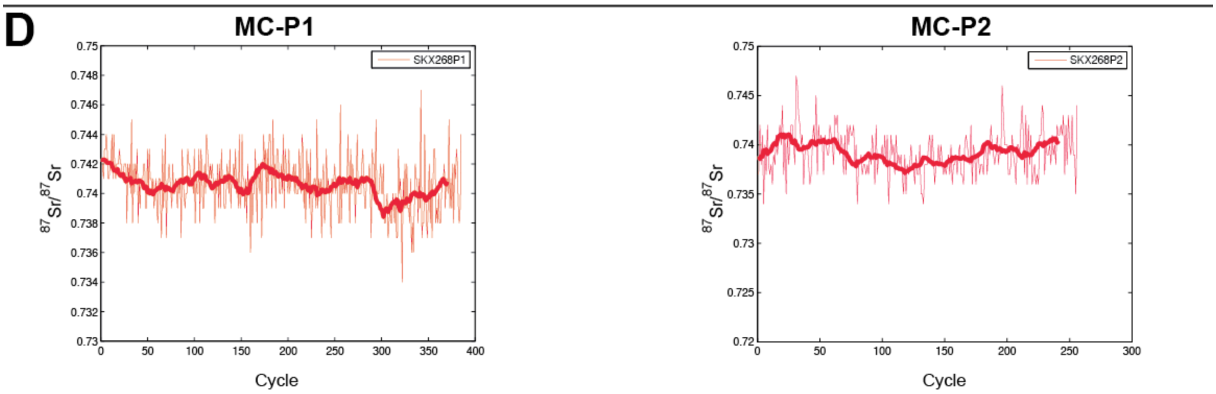




C

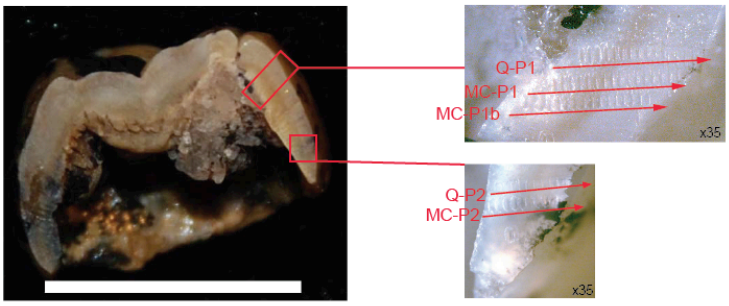
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.006	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.213	0.270	NaN	NaN	-							
Y	-0.014	0.070	NaN	NaN	0.065	-						
Ba	0.086	0.080	NaN	NaN	0.336	-0.010	-					
La	-0.192	-0.210	NaN	NaN	-0.390	-0.056	0.318	-				
Sm	-0.206	-0.256	NaN	NaN	-0.462	-0.065	0.226	0.881	-			
Yb	-0.009	-0.296	NaN	NaN	-0.416	-0.065	-0.260	0.187	0.313	-		
Th	-0.052	-0.030	NaN	NaN	-0.056	0.029	-0.037	-0.011	-0.011	0.025	-	
U	0.033	-0.009	NaN	NaN	-0.082	0.045	-0.138	0.058	0.060	0.027	-0.022	-

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.020	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.205	0.326	NaN	NaN	-							
Y	-0.016	0.071	NaN	NaN	0.097	-						
Ba	-0.023	-0.066	NaN	NaN	0.091	-0.009	-					
La	-0.136	-0.257	NaN	NaN	-0.456	-0.085	0.238	-				
Sm	-0.097	-0.331	NaN	NaN	-0.547	-0.098	0.165	0.857	-			
Yb	0.028	-0.276	NaN	NaN	-0.449	-0.094	-0.065	0.207	0.333	-		
Th	0.044	0.048	NaN	NaN	-0.028	0.021	0.028	-0.001	0.000	-0.017	-	
U	0.029	-0.027	NaN	NaN	-0.084	0.032	0.004	0.004	0.012	-0.008	0.014	-

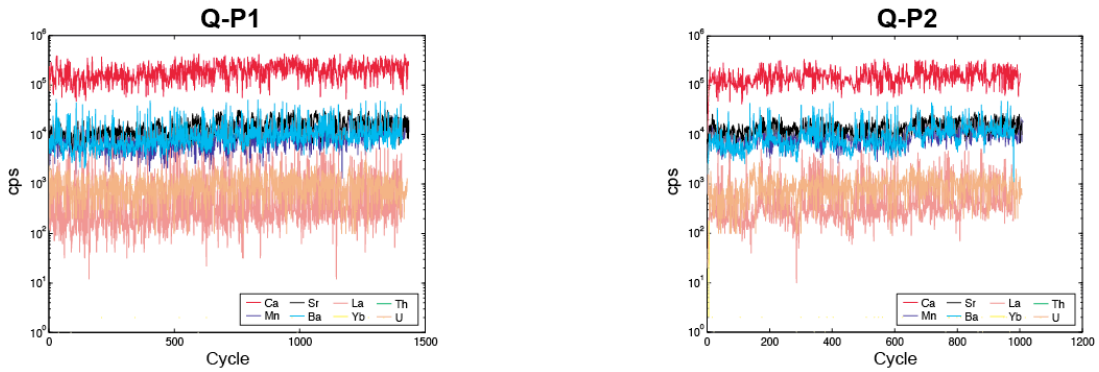


doi:10.1038/nature11349

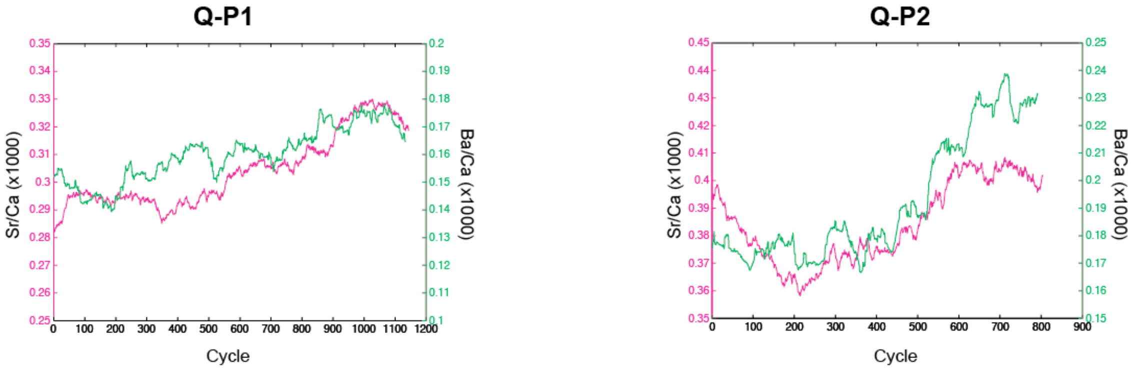
KB 5223 Early *Homo*



A



B

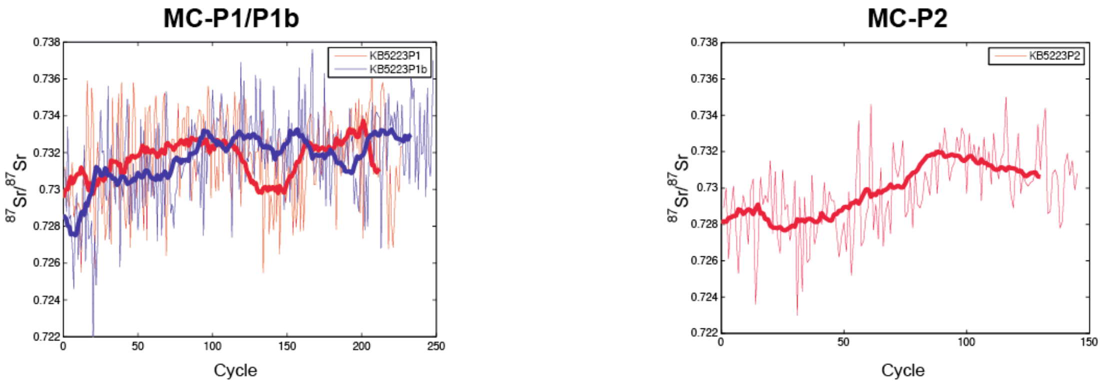


C

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.286	-										
Zn	0.309	0.395	-									
Rb	-0.039	0.097	0.015	-								
Sr	0.383	0.430	0.345	0.025	-							
Y	0.052	0.080	0.059	-0.015	0.058	-						
Ba	0.138	0.095	0.076	-0.067	0.136	0.013	-					
La	0.051	0.049	0.022	-0.010	0.078	-0.016	0.240	-				
Sm	-0.018	0.006	0.002	0.005	0.014	-0.025	0.148	0.131	-			
Yb	-0.041	-0.021	0.023	-0.025	-0.065	-0.031	0.011	-0.050	0.028	-		
Th	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-	
U	0.154	0.197	0.179	-0.011	0.202	0.018	0.092	0.031	0.091	0.025	NaN	-

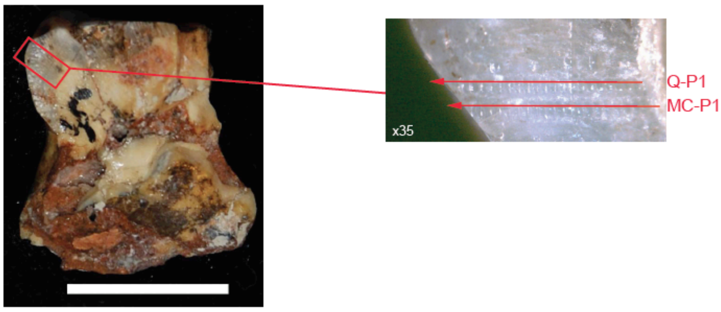
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.241	-										
Zn	0.139	0.233	-									
Rb	-0.041	-0.058	-0.032	-								
Sr	0.260	0.276	0.188	0.120	-							
Y	0.119	0.152	0.086	-0.027	0.124	-						
Ba	0.075	0.235	0.105	-0.028	0.159	0.045	-					
La	0.046	0.076	-0.002	-0.018	0.042	-0.023	0.214	-				
Sm	-0.008	0.042	0.064	0.037	0.022	-0.033	0.071	0.163	-			
Yb	-0.029	0.006	-0.049	0.041	-0.005	-0.078	-0.010	-0.032	-0.025	-		
Th	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-	
U	0.056	0.172	0.066	0.003	0.116	0.092	0.104	-0.001	-0.034	-0.032	NaN	-

D



doi:10.1038/nature11349

SK 24605 *P. robustus*



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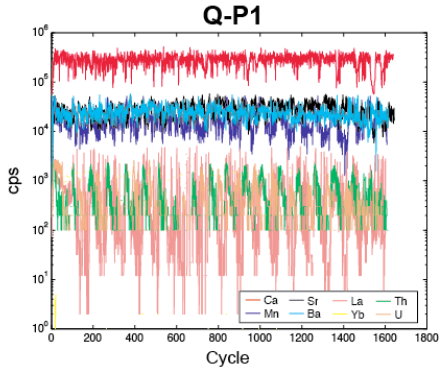

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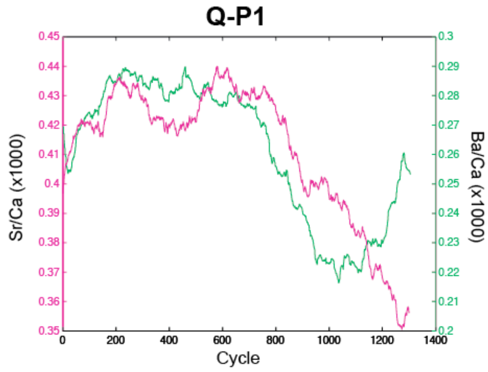
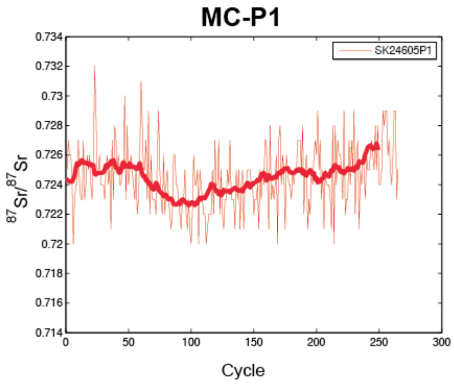


C

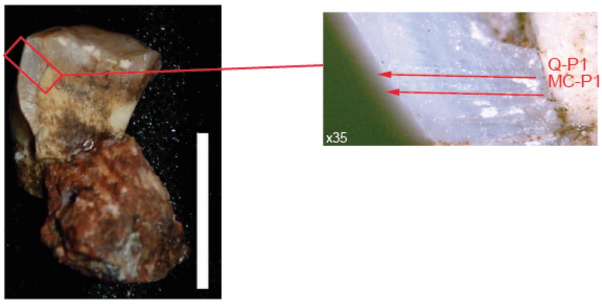
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.062	-										
Zn	0.015	0.469	-									
Rb	-0.061	0.064	0.035	-								
Sr	0.192	0.023	-0.059	0.054	-							
Y	0.105	0.453	0.560	-0.020	0.002	-						
Ba	0.064	0.043	-0.049	0.061	0.137	-0.020	-					
La	-0.051	0.163	0.171	0.026	-0.042	0.125	0.051	-				
Sm	-0.051	0.031	-0.019	-0.029	-0.041	0.040	-0.061	0.115	-			
Yb	0.002	0.009	0.037	-0.034	-0.035	0.028	0.003	0.027	0.047	-		
Th	-0.043	0.546	0.509	0.094	-0.013	0.415	0.026	0.230	0.051	0.026	-	
U	0.069	-0.019	0.077	-0.072	0.101	0.071	0.036	0.045	-0.032	0.016	-0.089	-

D



doi:10.1038/nature11349

SK 24606 *P. robustus*



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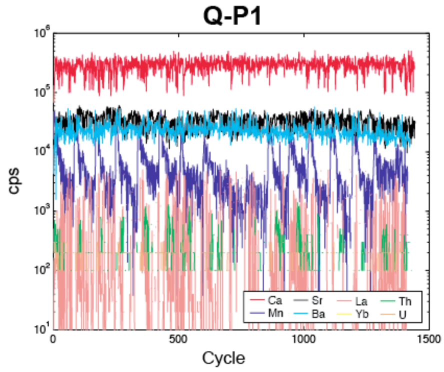

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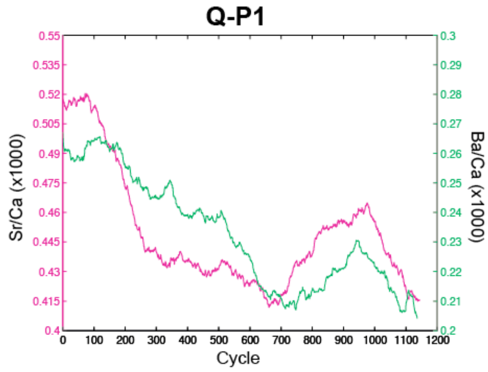
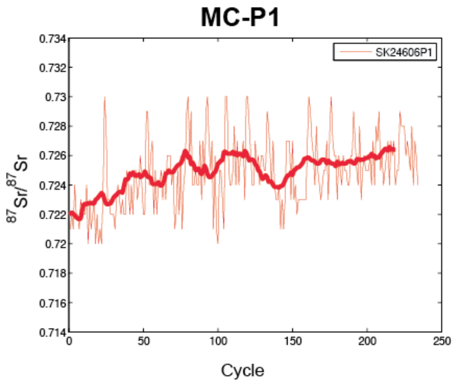


C

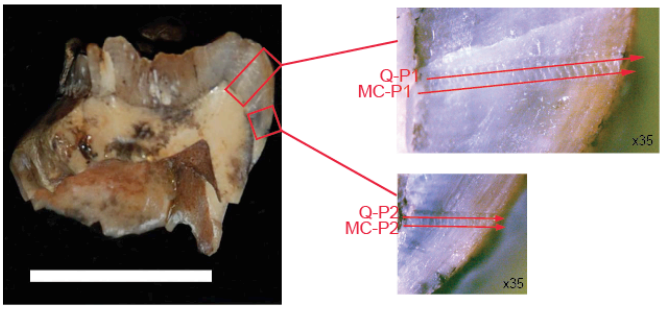
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.098	-										
Zn	0.008	-0.026	-									
Rb	0.031	-0.055	0.080	-								
Sr	0.202	-0.081	-0.020	0.096	-							
Y	-0.052	0.033	0.128	0.040	-0.085	-						
Ba	0.001	0.005	-0.092	-0.035	0.056	0.047	-					
La	0.013	-0.036	-0.049	-0.033	-0.029	0.023	0.035	-				
Sm	0.018	-0.063	-0.048	-0.009	-0.053	0.027	0.023	0.075	-			
Yb	0.031	0.019	-0.029	0.004	0.052	0.009	0.011	-0.021	-0.009	-		
Th	-0.026	-0.021	0.372	0.069	-0.053	0.136	-0.046	-0.025	-0.016	0.003	-	
U	-0.036	0.215	0.070	0.032	-0.049	0.035	-0.020	-0.030	-0.024	0.042	0.037	-

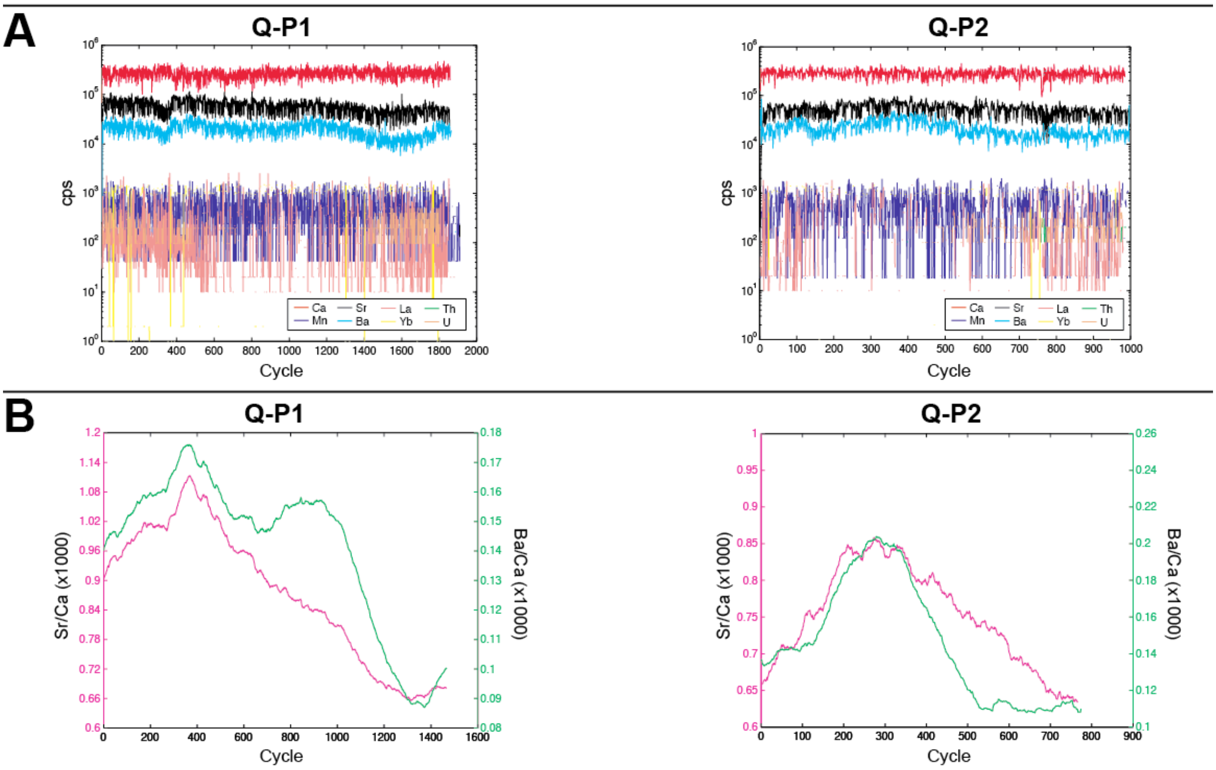
D



doi:10.1038/nature11349

SK 1524 *P. robustus*

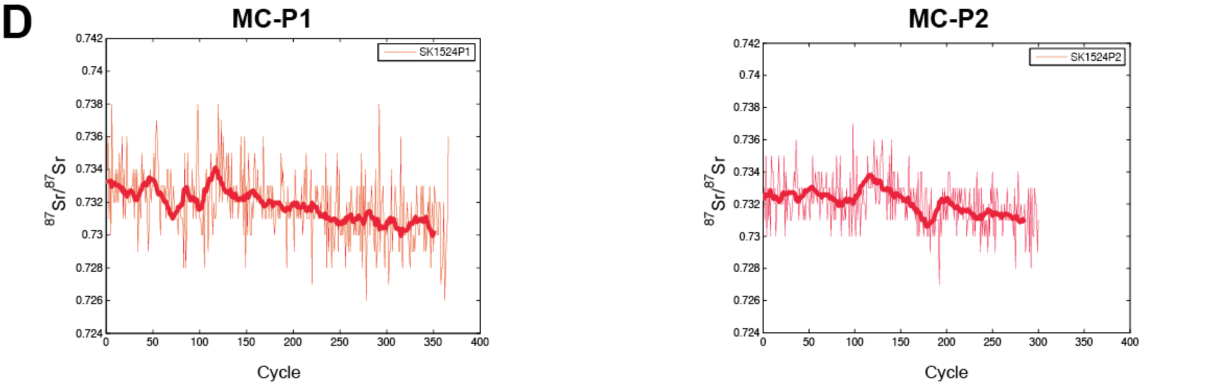




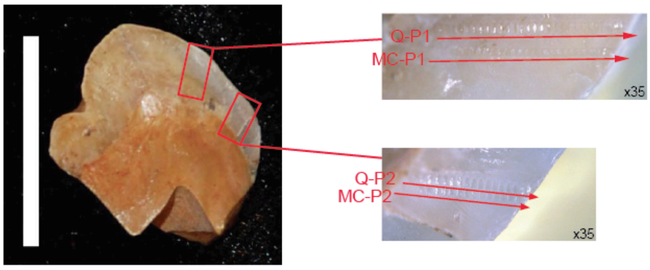
C

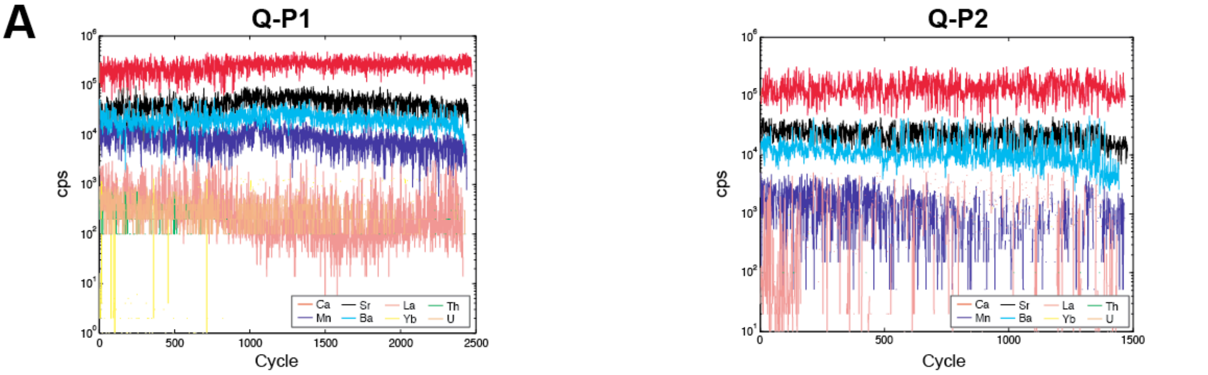
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.013	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	-0.156	0.256	NaN	NaN	-							
Y	0.018	0.031	NaN	NaN	0.213	-						
Ba	-0.143	0.141	NaN	NaN	0.670	0.140	-					
La	-0.061	-0.221	NaN	NaN	-0.316	-0.046	0.069	-				
Sm	-0.048	-0.278	NaN	NaN	-0.436	-0.106	-0.058	0.861	-			
Yb	-0.001	-0.291	NaN	NaN	-0.442	-0.116	-0.345	0.192	0.333	-		
Th	0.002	-0.009	NaN	NaN	0.064	0.037	0.061	-0.017	-0.027	-0.029	-	
U	0.026	-0.018	NaN	NaN	-0.130	0.150	-0.148	0.014	-0.004	-0.036	0.025	-

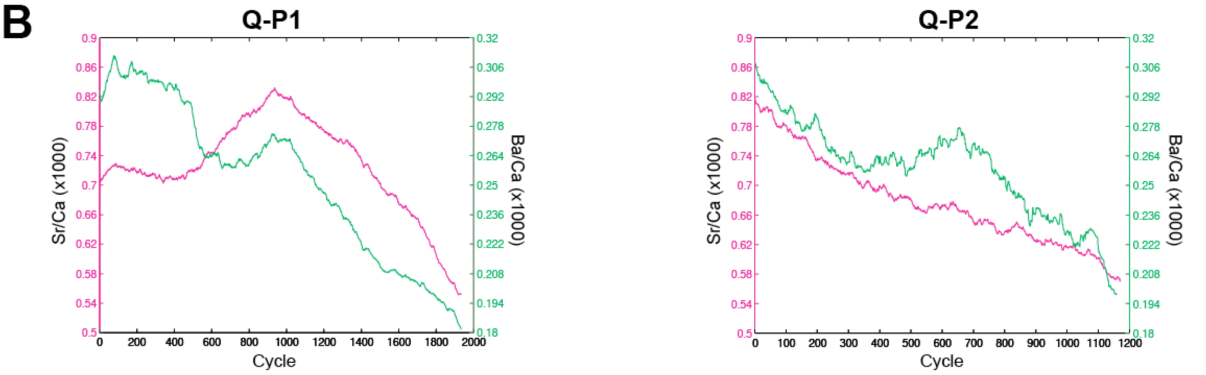
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.037	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.195	0.194	NaN	NaN	-							
Y	-0.008	0.025	NaN	NaN	-0.054	-						
Ba	-0.195	0.049	NaN	NaN	-0.356	0.058	-					
La	-0.085	-0.210	NaN	NaN	-0.366	-0.042	-0.018	-				
Sm	-0.042	-0.278	NaN	NaN	-0.413	-0.055	-0.026	0.942	-			
Yb	0.057	-0.301	NaN	NaN	-0.386	-0.045	-0.035	0.148	0.256	-		
Th	-0.149	0.147	NaN	NaN	-0.169	0.121	0.250	-0.016	-0.032	-0.004	-	
U	-0.043	0.045	NaN	NaN	-0.143	0.062	0.066	-0.018	-0.036	-0.008	0.156	-



SKW 6 *P. robustus*







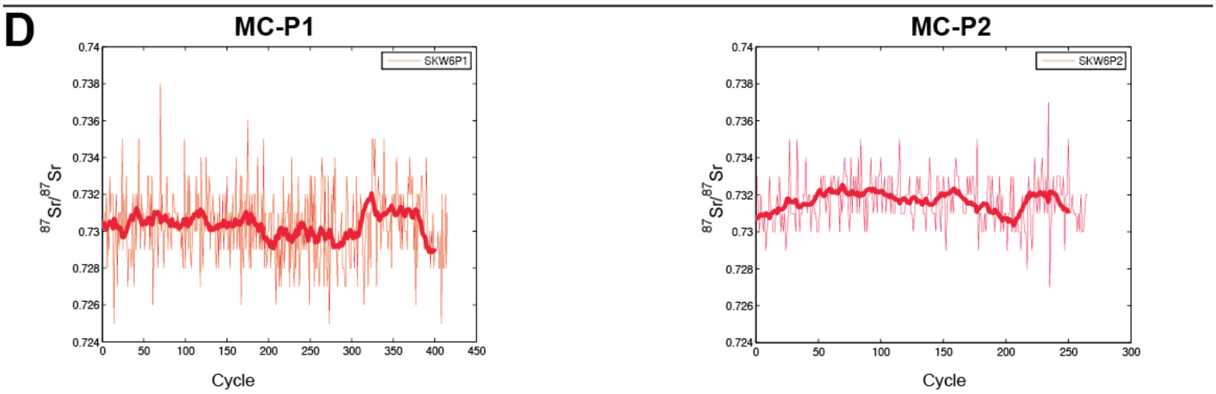
C

Q-P1

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.072	-										
Zn	0.244	-0.124	-									
Rb	-0.024	0.009	0.041	-								
Sr	0.208	0.041	0.150	-0.034	-							
Y	-0.353	0.197	-0.348	0.032	-0.321	-						
Ba	-0.002	0.146	0.000	0.011	0.131	-0.051	-					
La	-0.159	0.062	-0.106	-0.033	-0.161	0.256	0.006	-				
Sm	-0.037	0.024	-0.068	-0.008	-0.050	0.110	-0.037	0.026	-			
Yb	0.012	0.042	-0.006	-0.014	0.033	0.011	0.001	-0.010	-0.020	-		
Th	-0.154	0.155	-0.062	0.048	-0.151	0.319	0.043	0.175	0.028	-0.003	-	
U	-0.163	0.206	-0.169	0.028	-0.037	0.314	0.047	0.114	0.005	-0.001	0.123	-

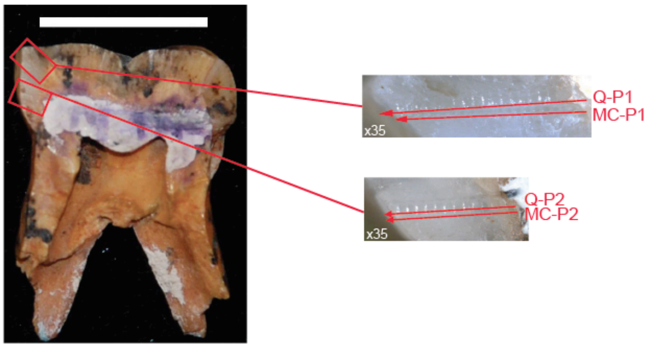
Q-P2

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.052	-										
Zn	-0.014	0.385	-									
Rb	-0.004	0.096	0.037	-								
Sr	0.050	0.169	0.155	0.119	-							
Y	-0.003	0.036	0.009	-0.025	0.006	-						
Ba	0.027	0.088	0.006	0.014	0.071	0.049	-					
La	0.007	-0.013	-0.065	0.005	0.059	-0.005	0.139	-				
Sm	0.033	-0.044	-0.086	0.010	0.008	0.028	0.035	0.060	-			
Yb	0.006	0.052	0.034	-0.005	-0.018	0.043	0.010	-0.036	-0.043	-		
Th	-0.024	-0.013	0.044	-0.023	0.038	0.023	0.038	-0.038	-0.020	0.051	-	
U	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-

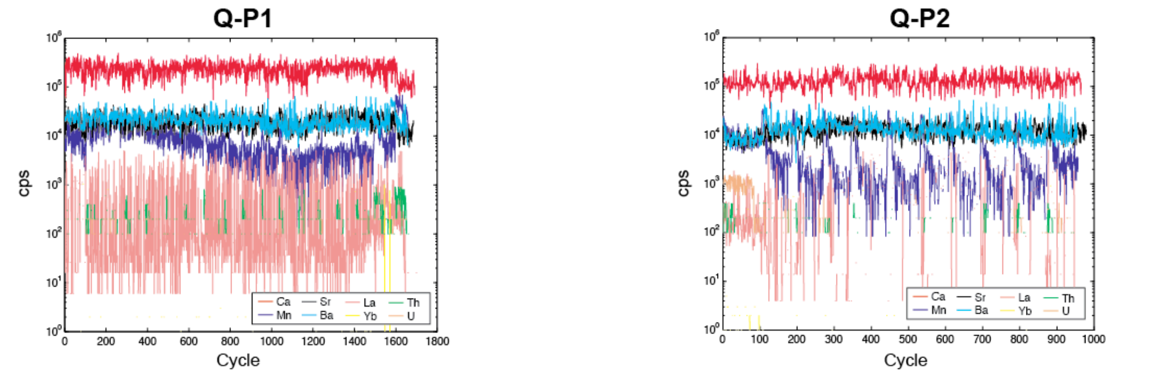


doi:10.1038/nature11349

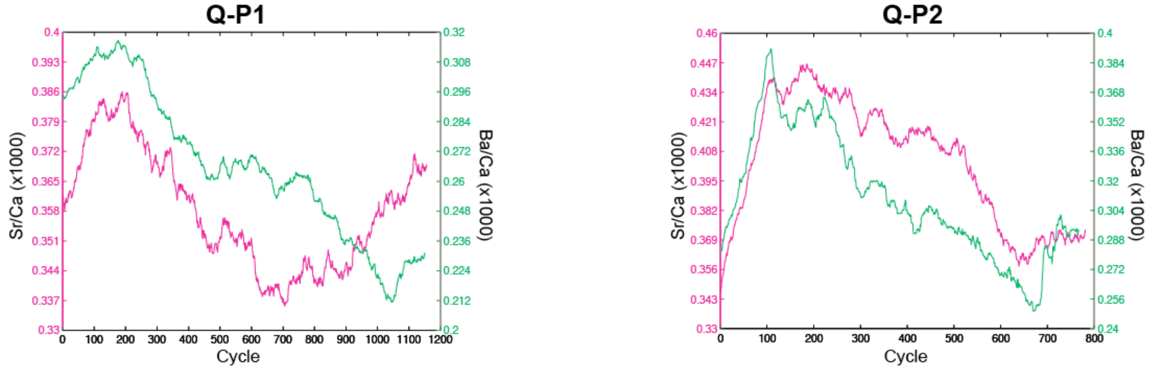
TMPAL 99 *P. robustus*



A



B

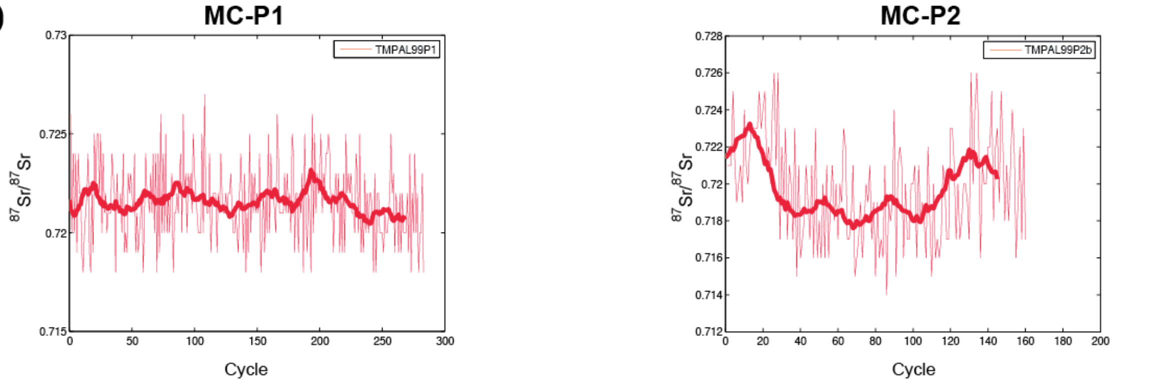


C

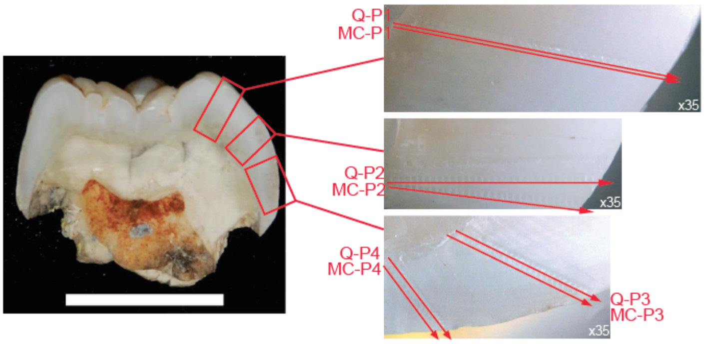
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.050	-										
Zn	0.217	0.198	-									
Rb	0.025	0.222	0.117	-								
Sr	0.250	0.101	0.250	0.001	-							
Y	-0.040	0.296	0.038	0.095	0.060	-						
Ba	0.085	0.091	0.067	0.021	0.041	-0.009	-					
La	-0.013	-0.042	-0.048	-0.078	-0.026	0.030	0.007	-				
Sm	-0.011	-0.027	-0.054	0.008	-0.074	-0.018	0.017	-0.044	-			
Yb	-0.042	-0.013	0.013	0.010	0.010	-0.019	-0.037	-0.011	0.023	-		
Th	-0.060	0.467	0.075	0.200	0.017	0.333	-0.034	0.026	-0.028	0.009	-	
U	-0.051	0.197	0.056	0.068	-0.018	0.114	0.074	-0.035	-0.057	-0.018	0.168	-

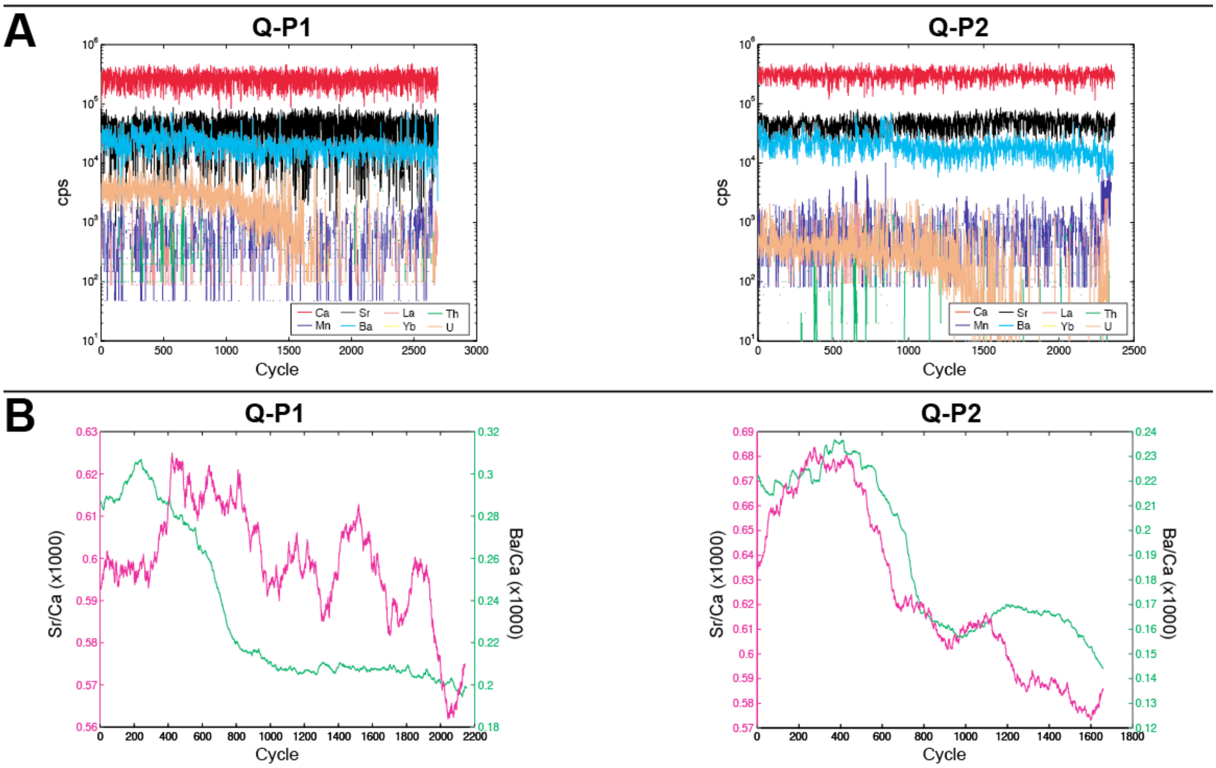
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.094	-										
Zn	-0.089	0.364	-									
Rb	-0.032	0.026	0.010	-								
Sr	0.051	-0.099	-0.285	0.060	-							
Y	-0.070	0.255	0.583	-0.033	-0.298	-						
Ba	0.033	0.012	-0.187	0.003	0.135	-0.185	-					
La	0.033	-0.038	-0.048	0.006	0.037	-0.056	0.118	-				
Sm	0.013	-0.069	-0.072	-0.042	0.048	-0.072	0.069	0.046	-			
Yb	-0.036	0.072	0.046	0.020	0.041	0.018	0.051	0.050	-0.034	-		
Th	-0.073	0.312	0.220	-0.007	-0.077	0.136	0.096	-0.014	-0.055	-0.008	-	
U	-0.097	0.267	0.646	-0.022	-0.302	0.792	-0.179	-0.022	-0.050	0.008	0.169	-

D



SKX 21841 *P. robustus*

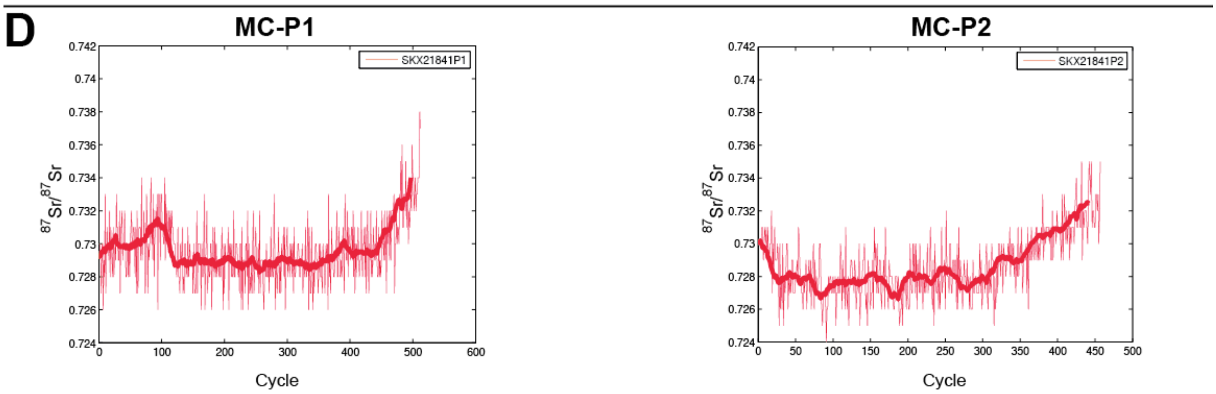




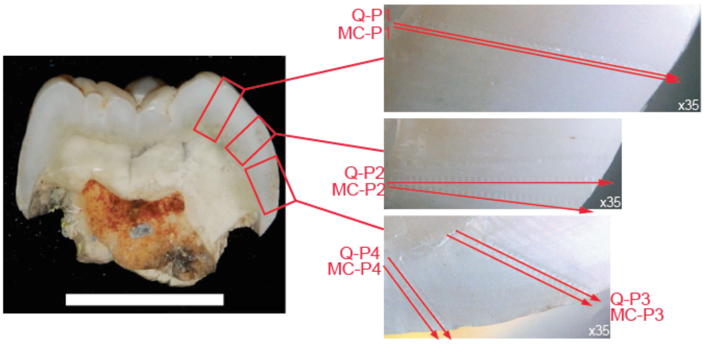
C

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.015	-										
Zn	0.056	0.127	-									
Rb	0.025	0.070	0.154	-								
Sr	0.044	-0.043	0.151	0.049	-							
Y	0.014	0.073	0.058	0.200	-0.015	-						
Ba	0.003	0.155	0.208	0.142	0.036	0.120	-					
La	0.033	0.219	0.167	0.125	-0.013	0.082	0.227	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-		
Th	0.009	0.059	0.025	0.029	0.002	0.035	0.074	0.067	NaN	NaN	-	
U	0.025	0.069	0.235	0.149	-0.023	0.083	0.353	0.147	NaN	NaN	0.037	-

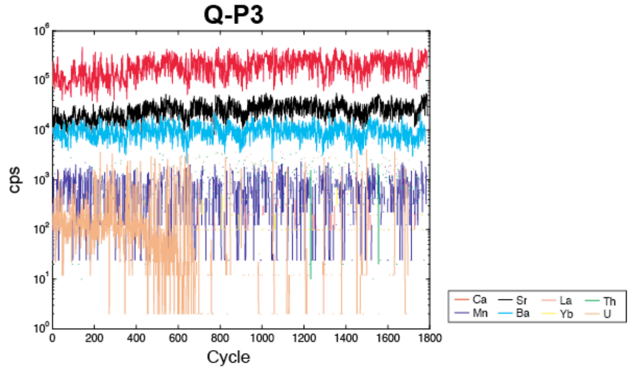
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.008	-										
Zn	0.025	0.157	-									
Rb	0.011	0.088	0.035	-								
Sr	0.062	0.003	0.025	-0.026	-							
Y	-0.002	0.142	0.086	0.096	0.001	-						
Ba	0.034	0.163	0.065	0.104	0.060	0.193	-					
La	0.017	0.214	0.139	0.054	0.036	0.196	0.347	-				
Sm	-0.046	0.109	0.119	0.018	-0.019	0.027	-0.032	-0.017	-			
Yb	-0.004	0.047	0.007	0.017	-0.032	0.036	0.008	0.012	0.023	-		
Th	0.004	-0.013	-0.029	-0.013	-0.062	0.016	-0.004	0.017	-0.021	-0.024	-	
U	0.006	-0.058	-0.016	0.029	-0.138	0.033	0.191	0.040	-0.018	-0.005	0.072	-

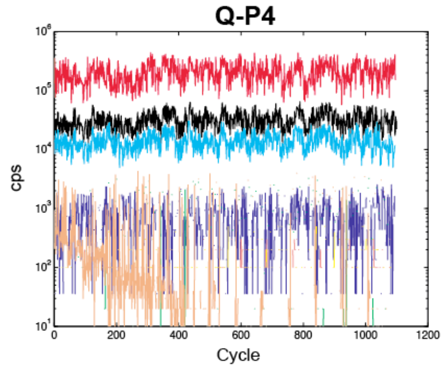


SKX 21841 *P. robustus*



A





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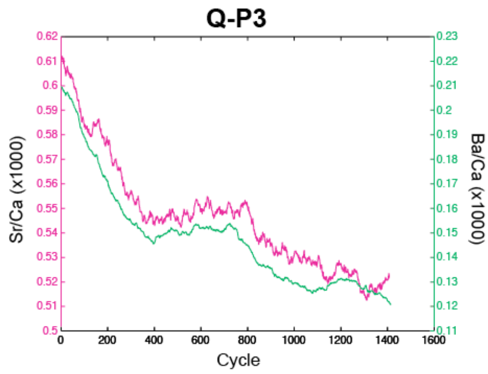
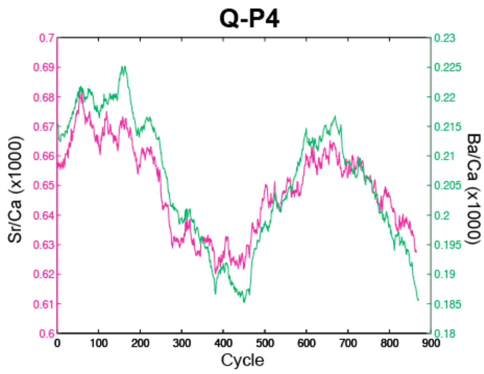


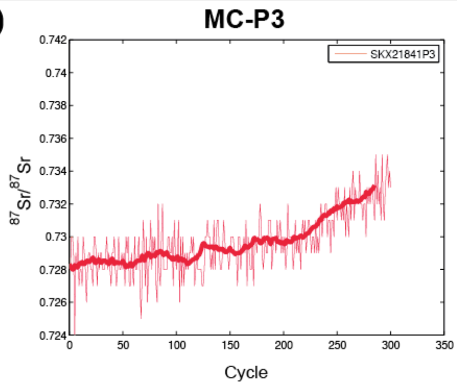


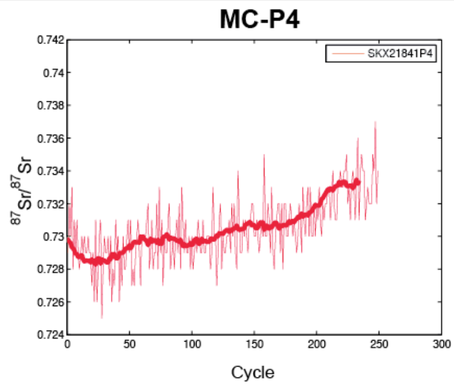
C

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.040	-										
Zn	0.065	0.128	-									
Rb	-0.055	-0.043	0.031	-								
Sr	0.522	0.071	0.067	-0.074	-							
Y	0.004	-0.035	0.008	-0.006	-0.014	-						
Ba	0.169	0.013	-0.004	0.049	0.197	-0.037	-					
La	-0.033	0.037	0.065	0.035	-0.059	0.004	0.083	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	0.008	-0.041	-0.050	0.003	0.025	0.050	-0.030	-0.016	NaN	-		
Th	0.020	0.002	-0.043	-0.015	0.017	0.006	0.002	-0.029	NaN	0.056	-	
U	-0.004	-0.052	-0.007	0.006	-0.037	-0.033	-0.041	0.017	NaN	0.021	0.014	-

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.000	-										
Zn	0.172	0.159	-									
Rb	-0.003	0.018	0.038	-								
Sr	0.408	0.104	0.228	-0.001	-							
Y	-0.024	-0.041	-0.031	-0.021	0.019	-						
Ba	0.359	0.111	0.207	0.053	0.420	0.048	-					
La	0.041	0.074	0.014	0.063	0.028	0.113	0.087	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	0.042	0.008	-0.001	-0.004	0.016	-0.049	-0.048	-0.030	NaN	-		
Th	0.032	0.042	-0.013	0.015	0.034	-0.011	0.071	-0.026	NaN	-0.029	-	
U	-0.063	-0.036	-0.013	-0.060	-0.018	-0.017	0.006	0.008	NaN	-0.052	-0.025	-

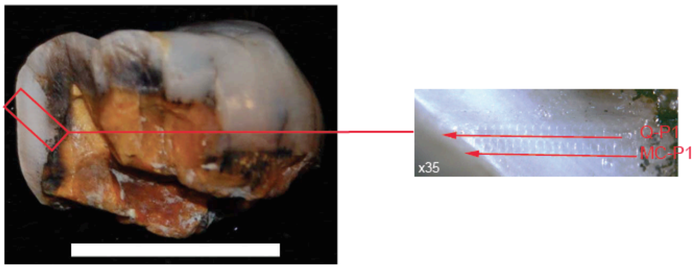
D



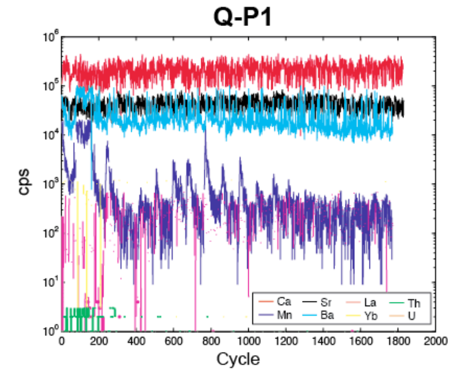


doi:10.1038/nature11349

TM 1517-M3 *P. robustus*



A



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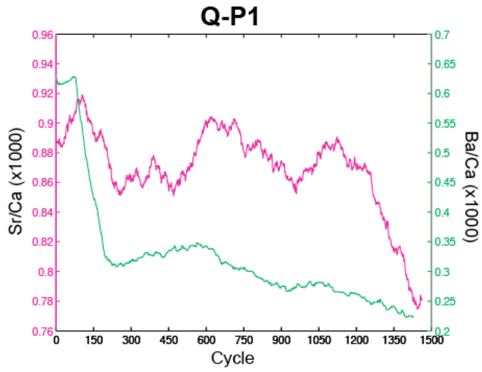
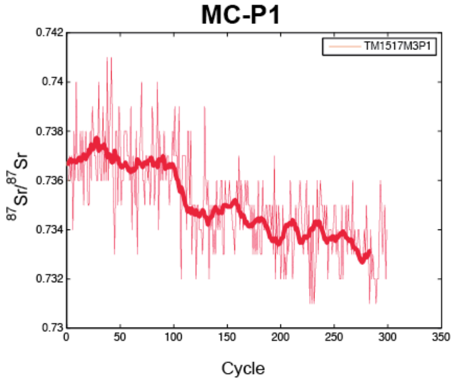


C

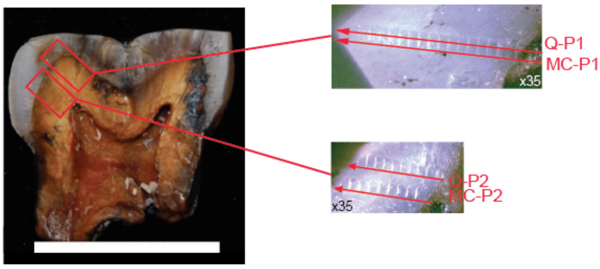
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.125	-										
Zn	0.017	0.224	-									
Rb	0.006	0.055	0.051	-								
Sr	0.270	-0.081	-0.028	0.039	-							
Y	-0.015	0.076	0.051	-0.021	-0.016	-						
Ba	-0.063	0.565	0.137	0.047	-0.103	0.036	-					
La	0.012	-0.057	-0.019	-0.006	-0.004	-0.016	-0.07	-				
Sm	0.039	-0.077	-0.087	0.036	-0.012	-0.036	-0.075	0.031	-			
Yb	0.004	0.090	0.049	0.017	-0.007	0.009	0.048	-0.032	-0.047	-		
Th	0.012	0.124	0.039	-0.022	0.030	-0.006	0.105	-0.025	0.003	0.038	-	
U	-0.105	0.437	0.234	0.039	-0.046	0.120	0.334	-0.085	-0.064	0.062	0.064	-

D

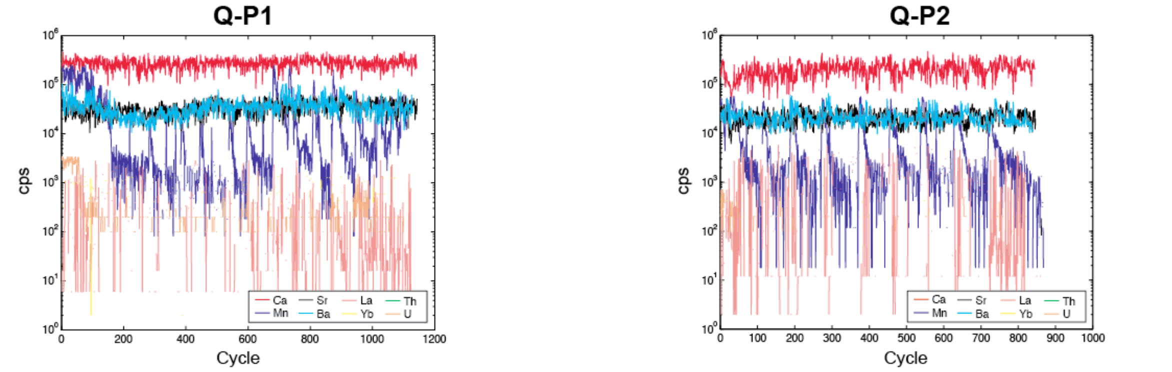


doi:10.1038/nature11349

TM1517-*M1* *P. robustus*



A



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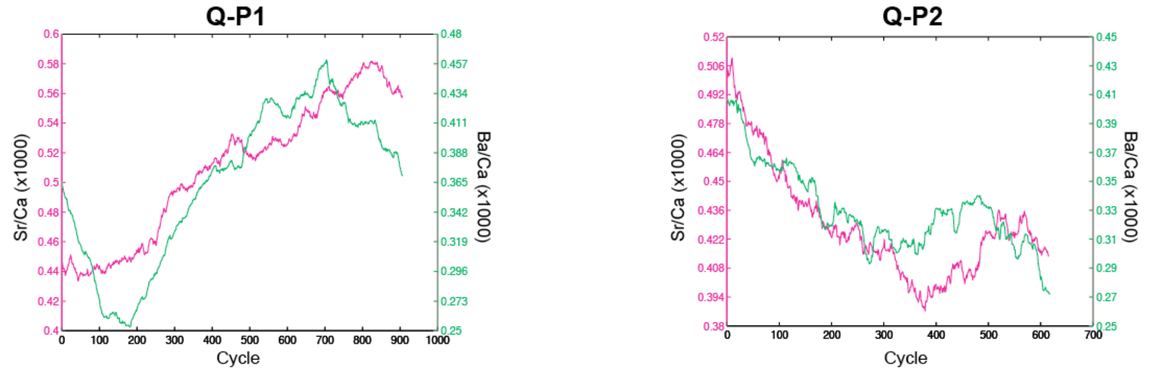
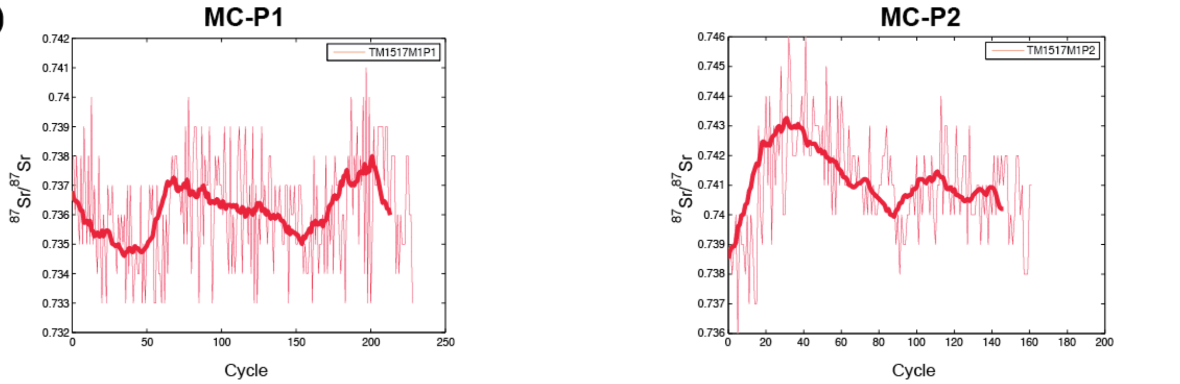


C

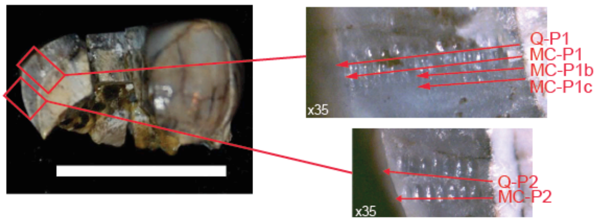
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.086	-										
Zn	0.024	0.425	-									
Rb	0.040	0.040	-0.002	-								
Sr	0.141	-0.010	-0.146	0.097	-							
Y	0.011	-0.013	-0.058	0.028	0.121	-						
Ba	0.086	0.238	0.123	0.022	0.142	0.046	-					
La	0.021	0.020	-0.012	-0.031	-0.055	-0.061	-0.036	-				
Sm	-0.042	0.048	0.033	-0.032	-0.100	-0.013	-0.067	0.095	-			
Yb	-0.004	0.088	0.017	0.002	0.003	-0.042	0.003	0.002	-0.026	-		
Th	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-	
U	0.061	0.621	0.449	-0.004	0.007	-0.039	0.194	0.017	0.057	0.054	NaN	-

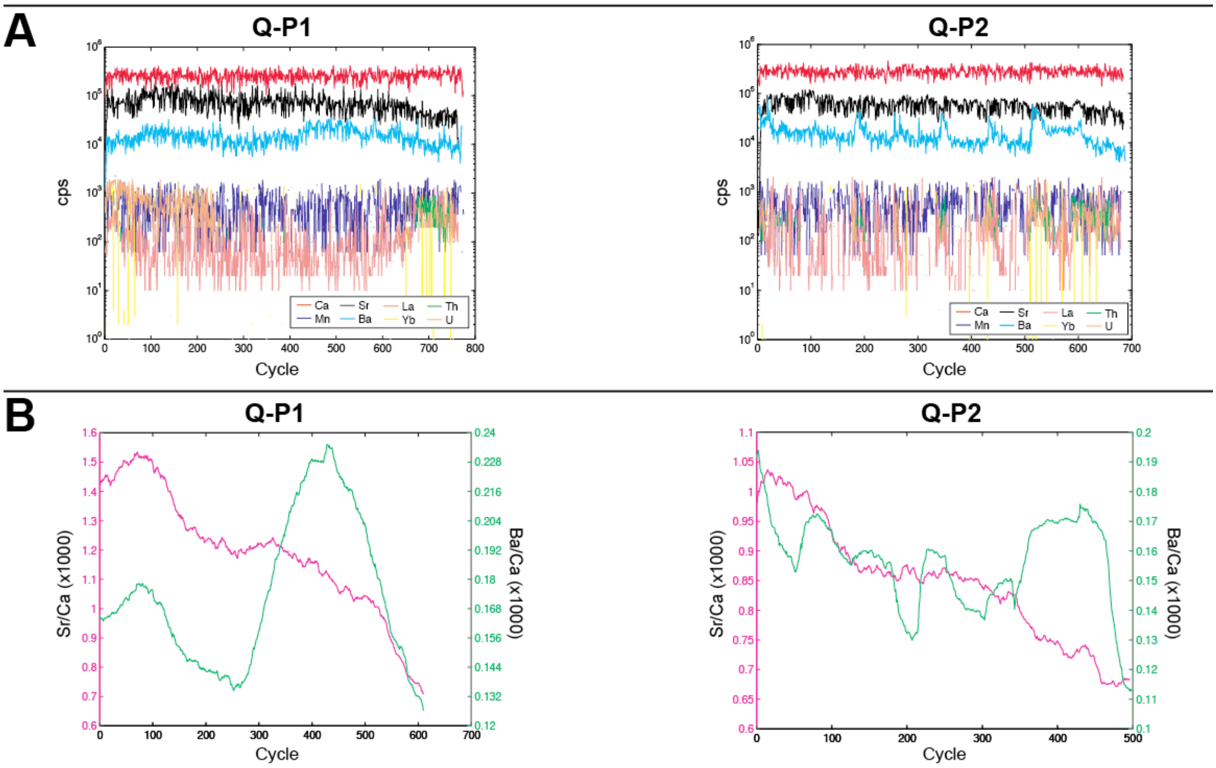
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.192	-										
Zn	0.096	-0.031	-									
Rb	-0.007	0.062	0.134	-								
Sr	0.275	-0.128	0.055	-0.010	-							
Y	0.002	0.090	0.128	0.052	0.008	-						
Ba	-0.016	0.023	-0.002	-0.021	-0.001	-0.001	-					
La	0.033	-0.034	-0.010	0.011	-0.024	-0.029	0.036	-				
Sm	0.003	-0.037	-0.047	0.017	-0.034	-0.009	0.011	0.197	-			
Yb	-0.058	0.174	-0.015	0.073	-0.045	-0.041	0.014	-0.032	-0.031	-		
Th	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-	
U	-0.104	0.221	0.075	0.020	-0.029	0.054	0.017	-0.052	-0.025	-0.027	NaN	-

D



STS 1881 *A. africanus*

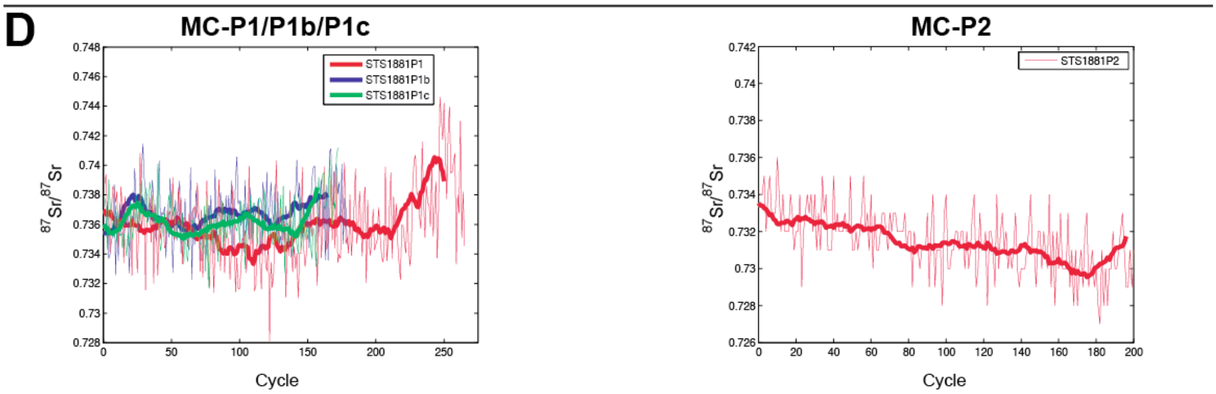




C

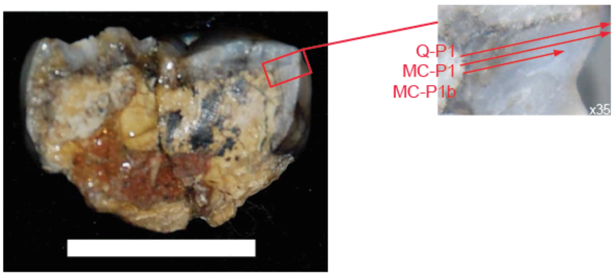
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.015	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	-0.087	0.061	NaN	NaN	-							
Y	0.116	0.139	NaN	NaN	-0.226	-						
Ba	-0.027	0.053	NaN	NaN	0.211	-0.188	-					
La	0.044	-0.066	NaN	NaN	-0.312	0.213	-0.090	-				
Sm	0.023	-0.153	NaN	NaN	-0.288	-0.063	-0.100	0.878	-			
Yb	0.039	-0.153	NaN	NaN	-0.192	-0.106	-0.301	0.245	0.413	-		
Th	0.127	0.070	NaN	NaN	-0.253	0.690	-0.161	0.296	0.061	0.009	-	
U	-0.003	0.031	NaN	NaN	0.184	0.140	-0.109	0.056	0.023	0.036	-0.074	-

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.027	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.132	0.239	NaN	NaN	-							
Y	0.036	0.208	NaN	NaN	-0.131	-						
Ba	0.014	0.026	NaN	NaN	-0.010	0.145	-					
La	-0.229	-0.203	NaN	NaN	-0.421	0.043	0.076	-				
Sm	-0.154	-0.295	NaN	NaN	-0.414	-0.117	0.021	0.832	-			
Yb	0.028	-0.312	NaN	NaN	-0.326	-0.109	-0.058	0.154	0.271	-		
Th	0.019	0.113	NaN	NaN	-0.179	0.604	0.142	0.115	-0.025	-0.027	-	
U	0.007	0.055	NaN	NaN	-0.156	0.469	0.147	0.073	-0.016	-0.033	0.478	-

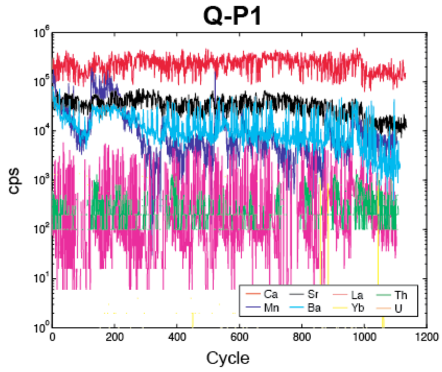


doi:10.1038/nature11349

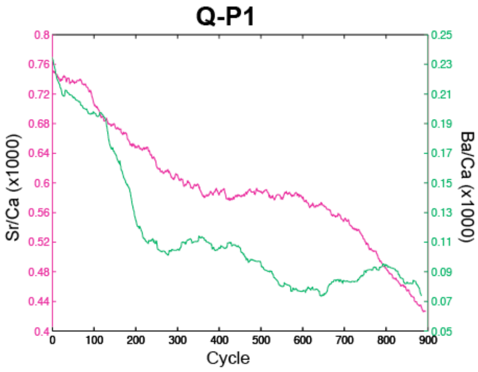
STS 31 *A. africanus*



A



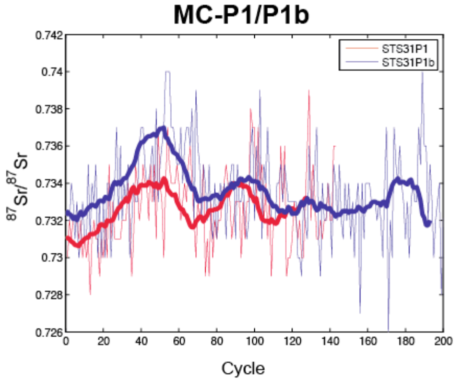
B



C

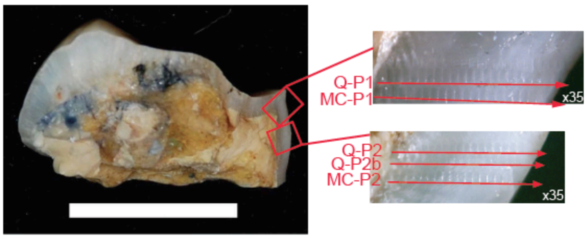
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.120	-										
Zn	-0.069	-0.183	-									
Rb	0.019	0.062	-0.025	-								
Sr	0.277	0.126	-0.376	0.018	-							
Y	-0.105	-0.065	0.368	0.072	-0.172	-						
Ba	0.008	0.501	-0.186	0.027	0.195	-0.047	-					
La	-0.007	0.053	0.022	0.036	0.015	0.029	0.068	-				
Sm	-0.001	0.035	-0.007	0.019	-0.005	0.004	-0.005	0.208	-			
Yb	-0.035	0.060	-0.019	-0.025	-0.037	0.012	-0.028	0.004	0.081	-		
Th	-0.018	0.038	0.321	0.056	-0.124	0.419	0.032	-0.043	-0.051	-0.01	-	
U	-0.068	0.260	0.069	0.030	-0.032	0.053	0.17	-0.012	-0.007	0.058	0.057	-

D

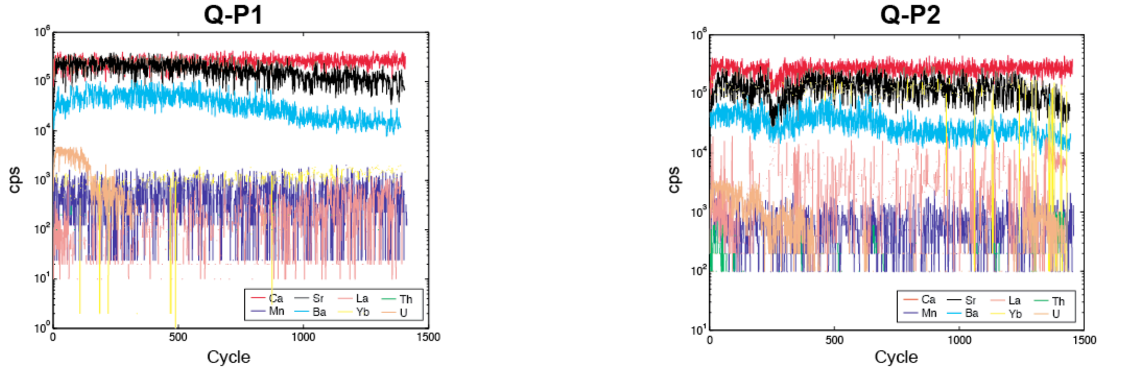


doi:10.1038/nature11349

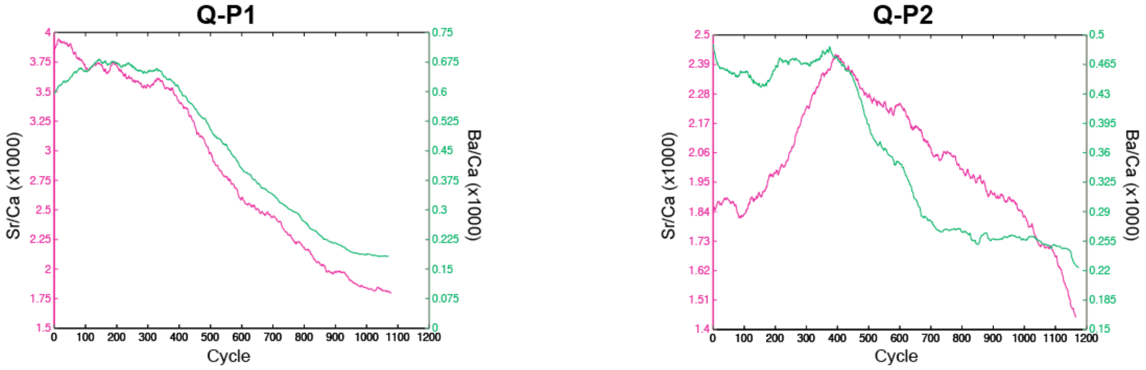
STS 72 *A. africanus*



A



B

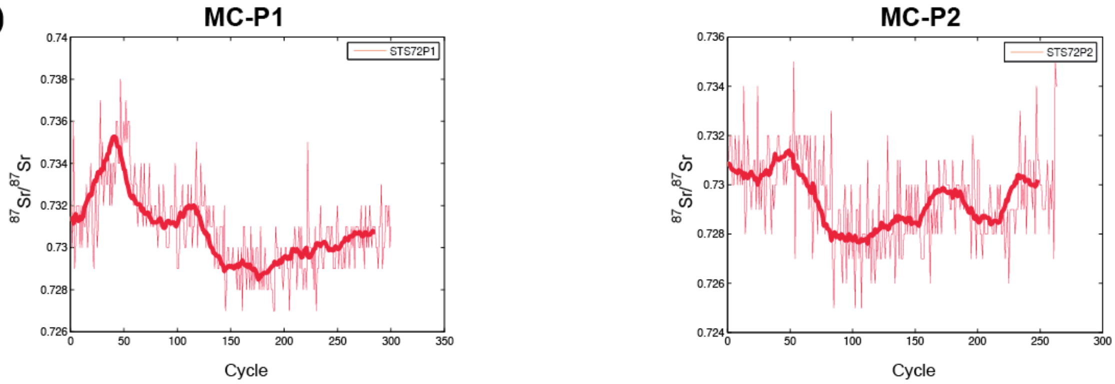


C

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.051	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	-0.120	0.080	NaN	NaN	-							
Y	-0.006	-0.002	NaN	NaN	0.053	-						
Ba	-0.141	0.039	NaN	NaN	0.500	0.033	-					
La	0.043	-0.017	NaN	NaN	-0.202	0.050	-0.356	-				
Sm	0.074	-0.004	NaN	NaN	-0.249	0.039	-0.434	0.925	-			
Yb	0.054	0.009	NaN	NaN	-0.051	0.067	-0.351	0.232	0.324	-		
Th	-0.010	0.046	NaN	NaN	-0.016	0.002	-0.002	-0.013	-0.018	-0.017	-	
U	-0.110	0.048	NaN	NaN	0.290	-0.001	0.163	-0.128	-0.181	-0.079	-0.007	-

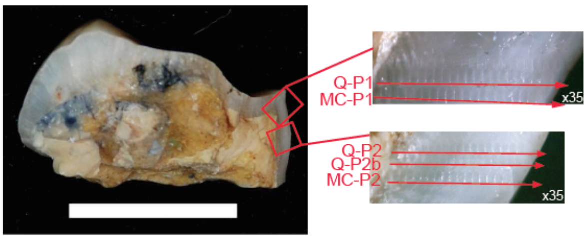
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.013	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.111	0.042	NaN	NaN	-							
Y	0.010	0.046	NaN	NaN	-0.173	-						
Ba	0.064	0.045	NaN	NaN	0.342	-0.078	-					
La	-0.112	-0.085	NaN	NaN	-0.265	0.148	-0.173	-				
Sm	-0.097	-0.121	NaN	NaN	-0.180	-0.083	-0.186	0.812	-			
Yb	0.021	-0.074	NaN	NaN	-0.050	-0.074	-0.231	0.161	0.328	-		
Th	0.023	0.048	NaN	NaN	-0.183	0.532	-0.093	0.24	-0.069	-0.033	-	
U	0.037	0.125	NaN	NaN	-0.002	0.041	0.302	-0.012	-0.051	-0.041	0.081	-

D



doi:10.1038/nature11349

STS 72 *A. africanus*



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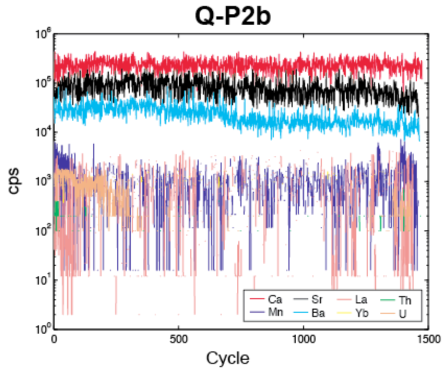
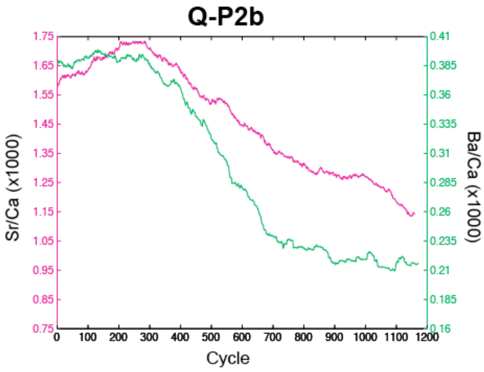


B

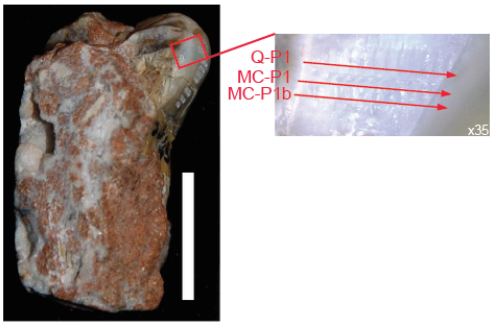


C

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.034	-										
Zn	0.026	0.232	-									
Rb	0.008	0.098	0.056	-								
Sr	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Y	-0.010	0.165	0.125	0.046	-0.041	-						
Ba	0.057	-0.073	-0.162	0.004	0.198	0.025	-					
La	0.024	0.008	0.021	0.014	-0.060	-0.013	-0.024	-				
Sm	-0.009	-0.032	-0.052	-0.011	-0.030	0.046	-0.033	0.121	-			
Yb	0.005	0.011	-0.002	0.061	0.035	0.002	0.055	-0.011	-0.034	-		
Th	-0.039	0.143	0.106	-0.034	-0.042	0.179	0.019	0.002	0.005	0.04	-	
U	0.020	0.199	0.054	0.002	0.075	0.120	0.260	0.006	0.013	0.089	0.222	-

doi:10.1038/nature11349

STS 45 *A. africanus*



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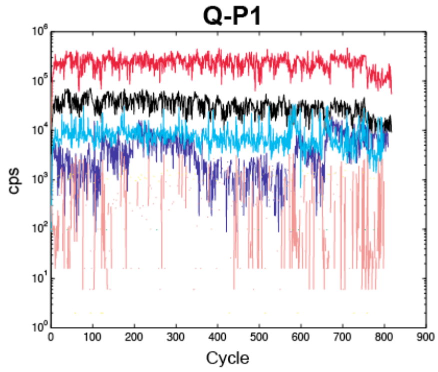
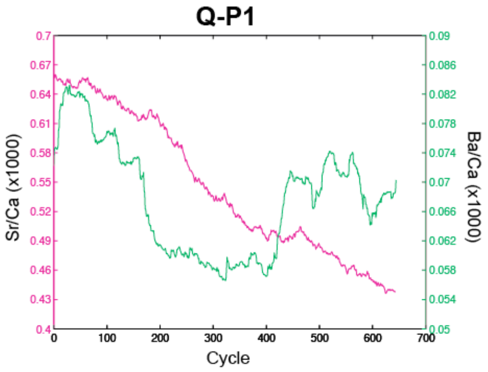


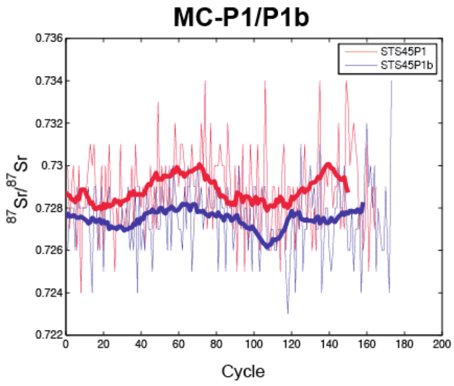
B



C

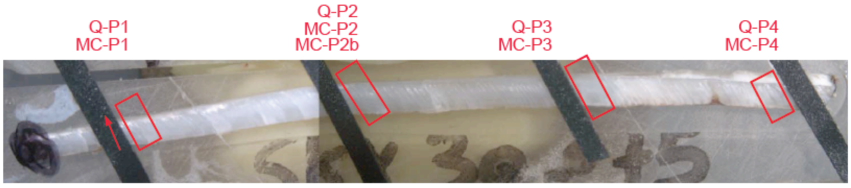
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.046	-										
Zn	-0.044	0.376	-									
Rb	-0.014	0.032	0.087	-								
Sr	0.402	-0.015	-0.266	0.013	-							
Y	-0.056	0.031	0.049	0.023	-0.101	-						
Ba	0.014	0.003	-0.170	-0.021	0.033	-0.012	-					
La	-0.039	-0.072	0.007	-0.006	-0.075	-0.018	0.341	-				
Sm	0.002	-0.039	-0.030	-0.073	-0.075	0.040	0.094	0.204	-			
Yb	0.043	0.003	0.006	-0.038	0.098	-0.043	-0.022	0.002	-0.055	-		
Th	-0.009	0.056	0.040	-0.004	-0.042	-0.029	0.108	0.013	-0.017	0.003	-	
U	-0.070	-0.084	-0.058	0.032	-0.022	0.006	0.001	-0.001	-0.012	0.021	0.064	-

D



doi:10.1038/nature11349

SKX 30375 indet. bovidae



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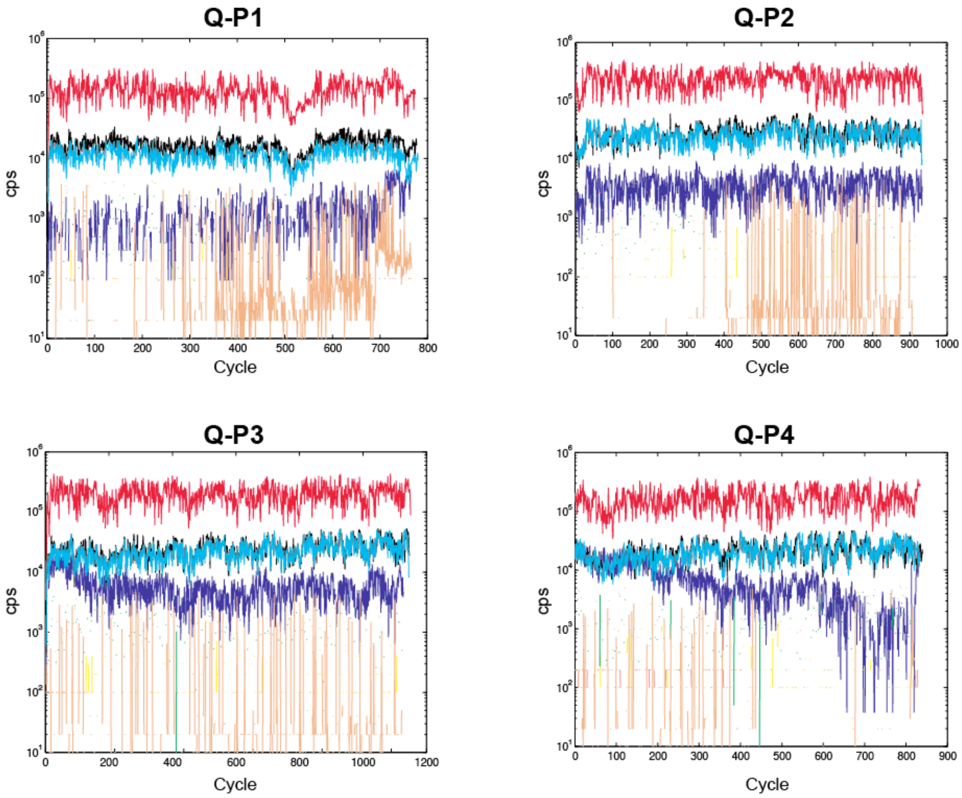
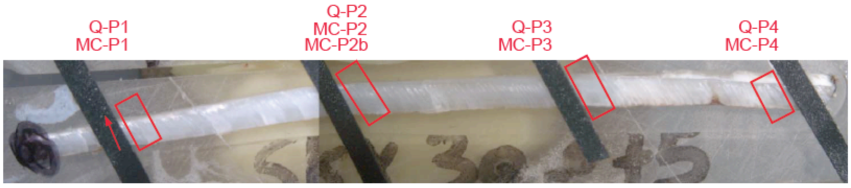


SKX 30375 indet. bovidae



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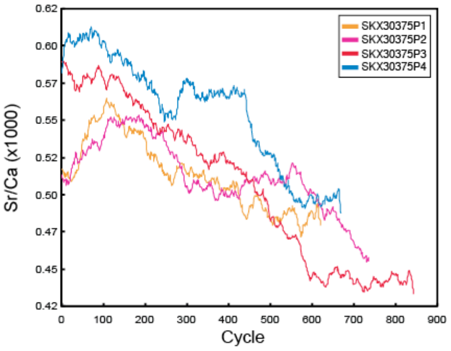
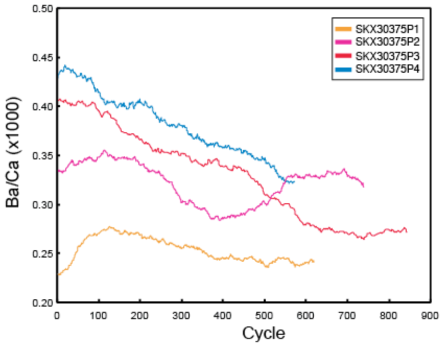




C

Q-P1

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.146	-										
Zn	-0.040	0.154	-									
Rb	-0.033	-0.003	-0.029	-								
Sr	0.423	0.300	-0.035	-0.100	-							
Y	-0.026	0.017	-0.022	-0.019	-0.015	-						
Ba	0.398	0.031	-0.038	-0.064	0.380	0.022	-					
La	0.034	0.089	0.054	0.001	0.046	-0.048	0.05	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	0.055	-0.093	-0.026	-0.049	0.009	-0.054	0.034	0.002	NaN	-		
Th	0.021	0.006	-0.017	-0.020	0.010	-0.010	0.021	0.019	NaN	0.011	-	
U	0.046	0.048	0.029	-0.025	0.006	-0.006	0.047	0.039	NaN	0.015	0.059	-

Q-P2

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.316	-										
Zn	0.153	0.253	-									
Rb	0.019	0.006	0.074	-								
Sr	0.309	0.370	0.288	0.095	-							
Y	-0.040	-0.094	-0.043	-0.035	-0.017	-						
Ba	0.424	0.571	0.268	0.003	0.541	-0.082	-					
La	-0.041	-0.041	-0.002	0.062	0.008	-0.032	-0.009	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	-0.001	0.048	-0.031	-0.079	0.018	-0.009	0.002	0.013	NaN	-		
Th	-0.036	-0.057	-0.005	-0.086	-0.026	0.016	0.009	-0.015	NaN	-0.044	-	
U	0.013	0.015	0.010	0.039	-0.033	0.040	-0.05	-0.045	NaN	-0.025	-0.019	-

Q-P3

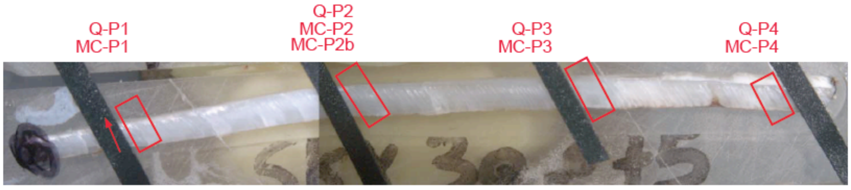
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.056	-										
Zn	0.087	0.240	-									
Rb	0.028	0.006	0.030	-								
Sr	0.307	-0.003	0.044	0.119	-							
Y	0.005	0.137	0.029	0.022	-0.039	-						
Ba	0.295	-0.019	0.024	0.084	0.722	-0.009	-					
La	-0.013	0.197	0.055	-0.021	-0.021	-0.024	-0.054	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	0.064	-0.072	-0.055	-0.016	0.033	0.013	0.016	0.009	NaN	-		
Th	0.054	-0.005	0.061	-0.008	-0.041	-0.049	-0.031	0.007	NaN	-0.024	-	
U	-0.036	0.001	-0.018	-0.065	-0.032	0.004	-0.027	-0.018	NaN	0.032	-0.006	-

Q-P4

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.122	-										
Zn	-0.011	0.454	-									
Rb	0.009	-0.006	0.014	-								
Sr	0.381	-0.274	-0.145	0.015	-							
Y	0.026	0.084	0.026	0.009	0.004	-						
Ba	0.304	-0.318	-0.211	0.056	0.589	-0.051	-					
La	-0.056	0.231	0.146	0.070	-0.061	0.028	-0.081	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	-0.059	0.025	-0.020	-0.041	-0.065	0.017	-0.033	-0.025	NaN	-		
Th	-0.003	-0.076	-0.058	-0.046	0.009	-0.027	0.020	-0.054	NaN	-0.015	-	
U	0.035	-0.038	-0.019	0.012	0.083	-0.032	0.073	0.002	NaN	0.012	0.115	-

doi:10.1038/nature11349

SKX 30375 indet. bovidae



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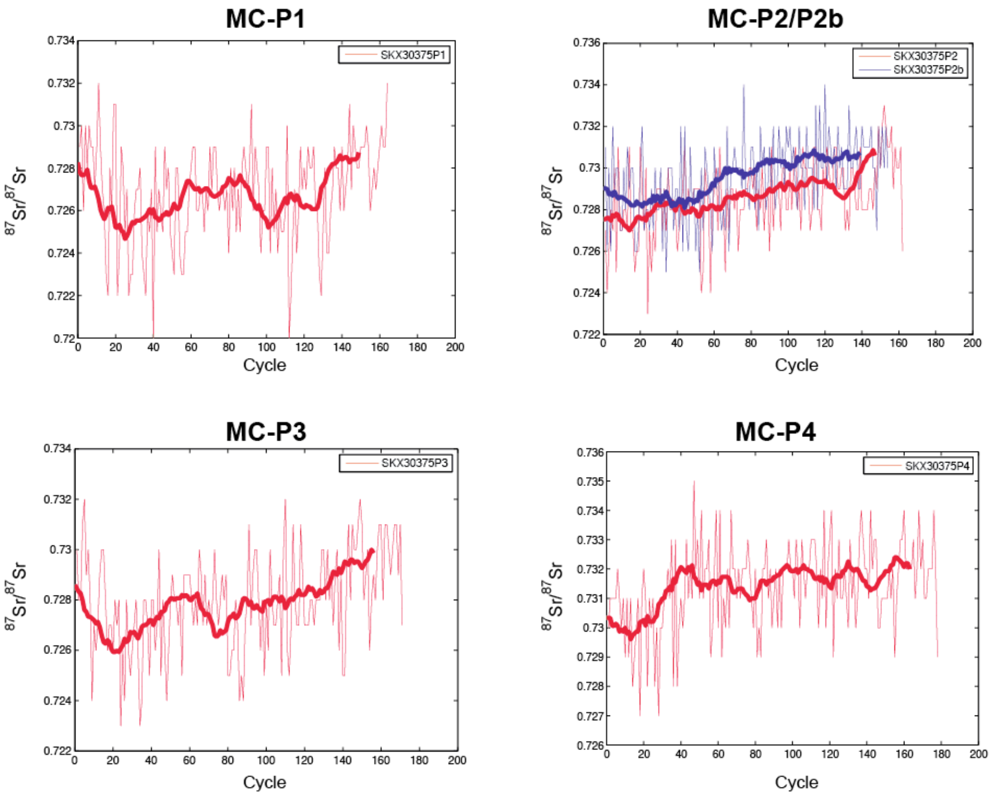
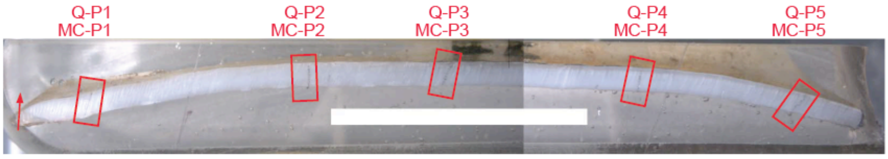


doi:10.1038/nature11349

SE1152 indet. bovidae



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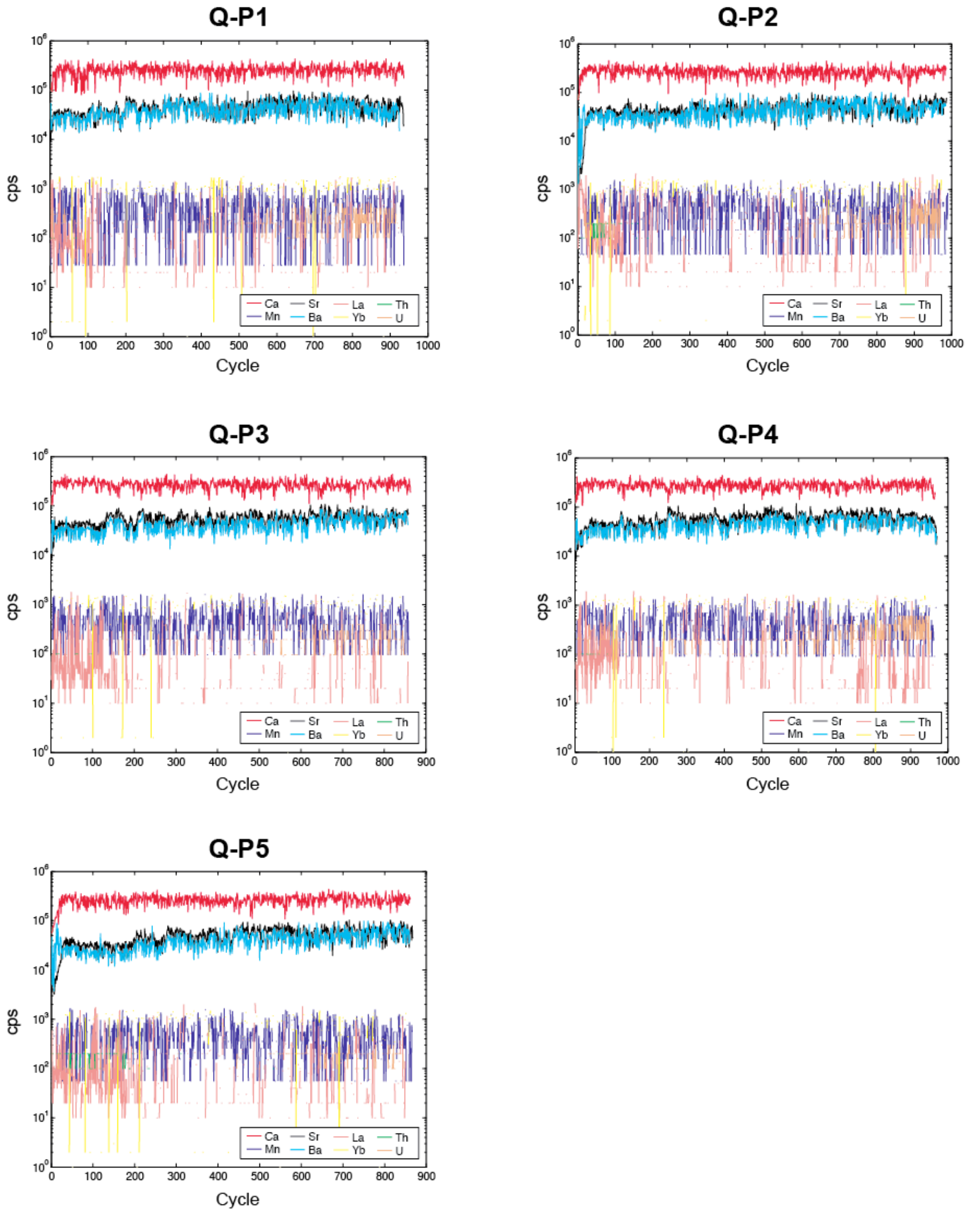
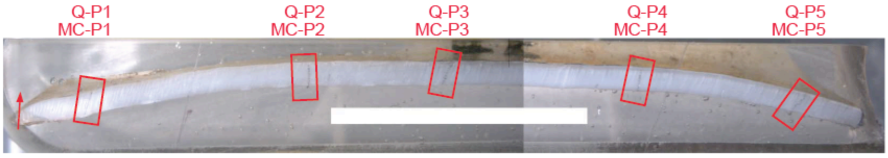


doi:10.1038/nature11349

SE1152 indet. bovidae



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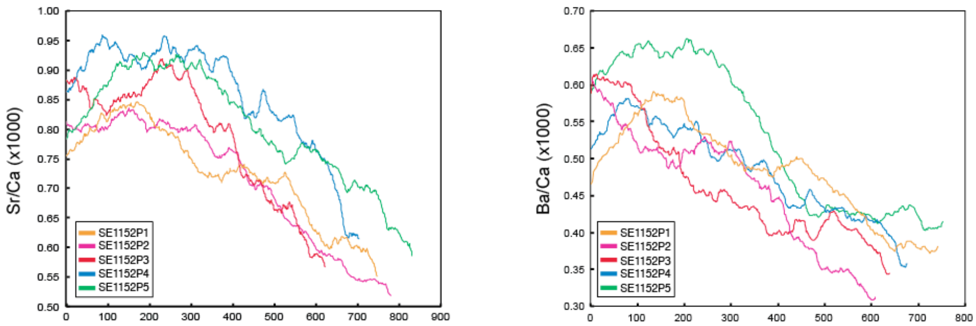


C

Q-P1

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.007	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.167	0.251	NaN	NaN	-							
Y	-0.096	0.127	NaN	NaN	-0.043	-						
Ba	0.149	0.141	NaN	NaN	0.598	-0.067	-					
La	-0.110	-0.211	NaN	NaN	-0.347	-0.04	-0.17	-				
Sm	-0.099	-0.242	NaN	NaN	-0.379	-0.079	-0.213	0.942	-			
Yb	0.013	-0.290	NaN	NaN	-0.413	-0.149	-0.356	0.413	0.527	-		
Th	-0.127	0.009	NaN	NaN	-0.149	0.095	-0.143	0.093	0.063	0.019	-	
U	0.033	0.034	NaN	NaN	0.099	0.056	0.065	0.011	0.013	0.027	0.031	-

Q-P2

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.048	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.206	0.277	NaN	NaN	-							
Y	0.087	0.086	NaN	NaN	-0.024	-						
Ba	0.082	0.110	NaN	NaN	0.528	-0.065	-					
La	-0.341	-0.160	NaN	NaN	-0.402	-0.018	-0.176	-				
Sm	-0.271	-0.201	NaN	NaN	-0.399	-0.071	-0.189	0.905	-			
Yb	0.030	-0.275	NaN	NaN	-0.337	-0.119	-0.334	0.174	0.309	-		
Th	0.032	0.033	NaN	NaN	-0.151	0.315	-0.149	0.141	0.092	-0.067	-	
U	0.047	-0.026	NaN	NaN	0.199	-0.018	0.155	-0.021	-0.018	-0.043	-0.037	-

Q-P3

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.043	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	0.196	0.160	NaN	NaN	-							
Y	-0.079	0.028	NaN	NaN	-0.120	-						
Ba	0.118	0.030	NaN	NaN	0.598	-0.156	-					
La	-0.282	-0.157	NaN	NaN	-0.369	-0.020	-0.093	-				
Sm	-0.219	-0.169	NaN	NaN	-0.375	-0.065	-0.127	0.806	-			
Yb	0.057	-0.236	NaN	NaN	-0.301	-0.130	-0.276	0.162	0.305	-		
Th	-0.096	0.013	NaN	NaN	-0.289	0.126	-0.222	0.135	0.109	0.031	-	
U	0.000	-0.031	NaN	NaN	0.149	-0.120	0.26	1E-04	0.013	0.027	-0.035	-

Q-P4

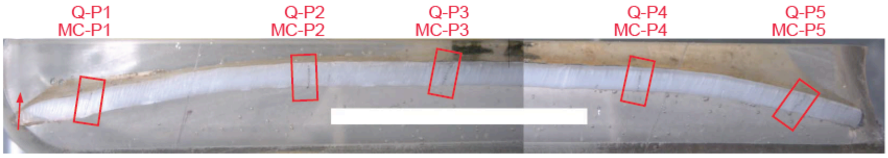
	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.013	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	-0.183	0.196	NaN	NaN	-							
Y	0.029	0.108	NaN	NaN	0.042	-						
Ba	-0.188	0.100	NaN	NaN	0.695	0.032	-					
La	-0.084	-0.142	NaN	NaN	-0.345	-0.049	-0.133	-				
Sm	-0.056	-0.193	NaN	NaN	-0.418	-0.083	-0.221	0.915	-			
Yb	0.064	-0.280	NaN	NaN	-0.451	-0.123	-0.388	0.276	0.439	-		
Th	0.027	0.011	NaN	NaN	-0.155	0.094	-0.149	0.045	0.079	0.049	-	
U	-0.062	-0.017	NaN	NaN	0.188	-0.041	0.254	-0.017	-0.018	0.01	-0.079	-

Q-P5

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	-0.024	-										
Zn	NaN	NaN	-									
Rb	NaN	NaN	NaN	-								
Sr	-0.034	0.238	NaN	NaN	-							
Y	0.029	0.050	NaN	NaN	-0.086	-						
Ba	-0.070	0.187	NaN	NaN	0.724	-0.045	-					
La	-0.122	-0.141	NaN	NaN	-0.326	-0.030	-0.161	-				
Sm	-0.090	-0.202	NaN	NaN	-0.376	-0.073	-0.243	0.952	-			
Yb	0.071	-0.282	NaN	NaN	-0.413	-0.128	-0.451	0.232	0.369	-		
Th	0.056	0.044	NaN	NaN	-0.153	0.123	-0.129	0.033	0.01	-0.055	-	
U	0.044	-0.012	NaN	NaN	0.152	-0.011	0.206	-0.031	-0.041	-0.031	-0.016	-

doi:10.1038/nature11349

SE1152 indet. bovidae



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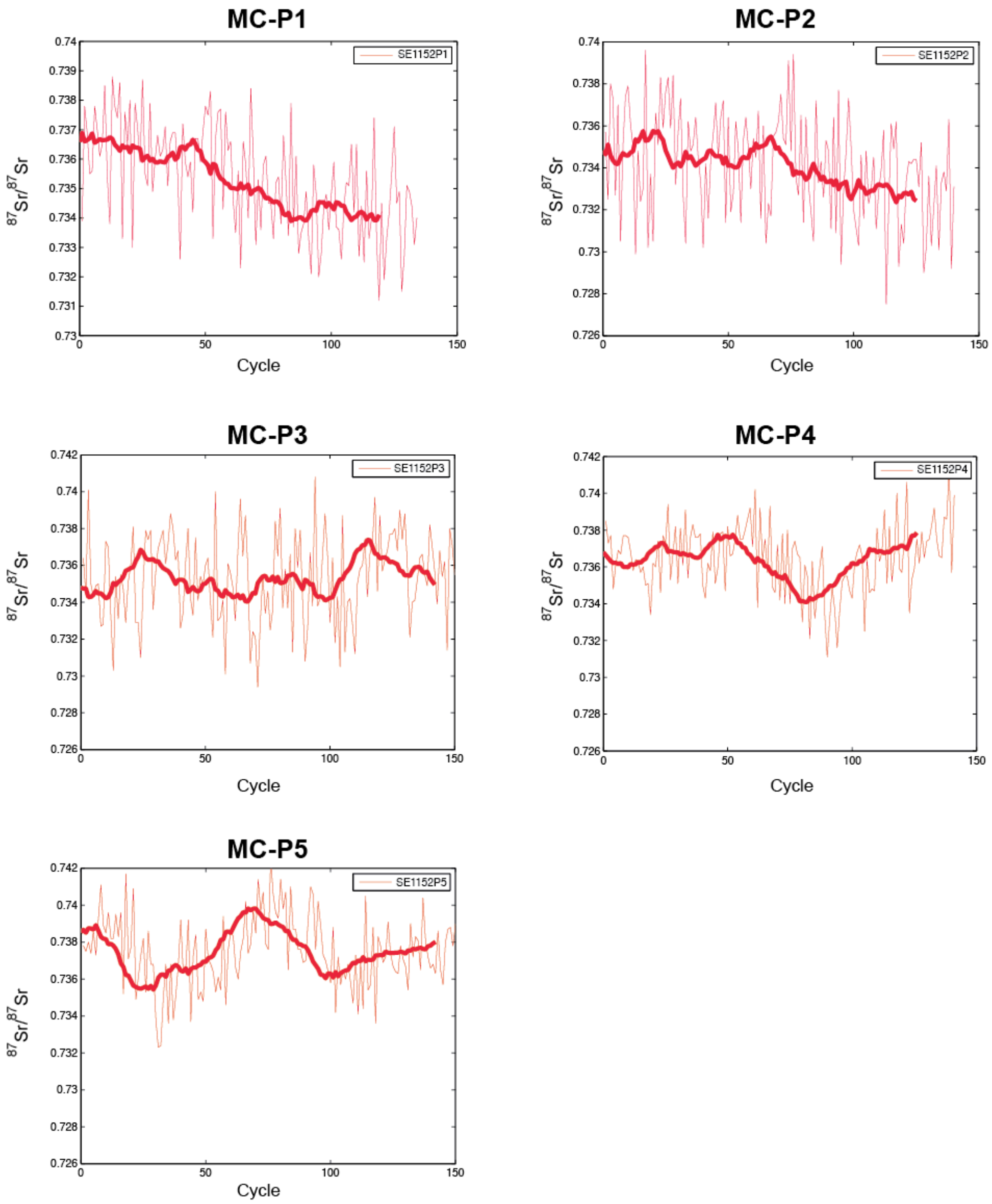
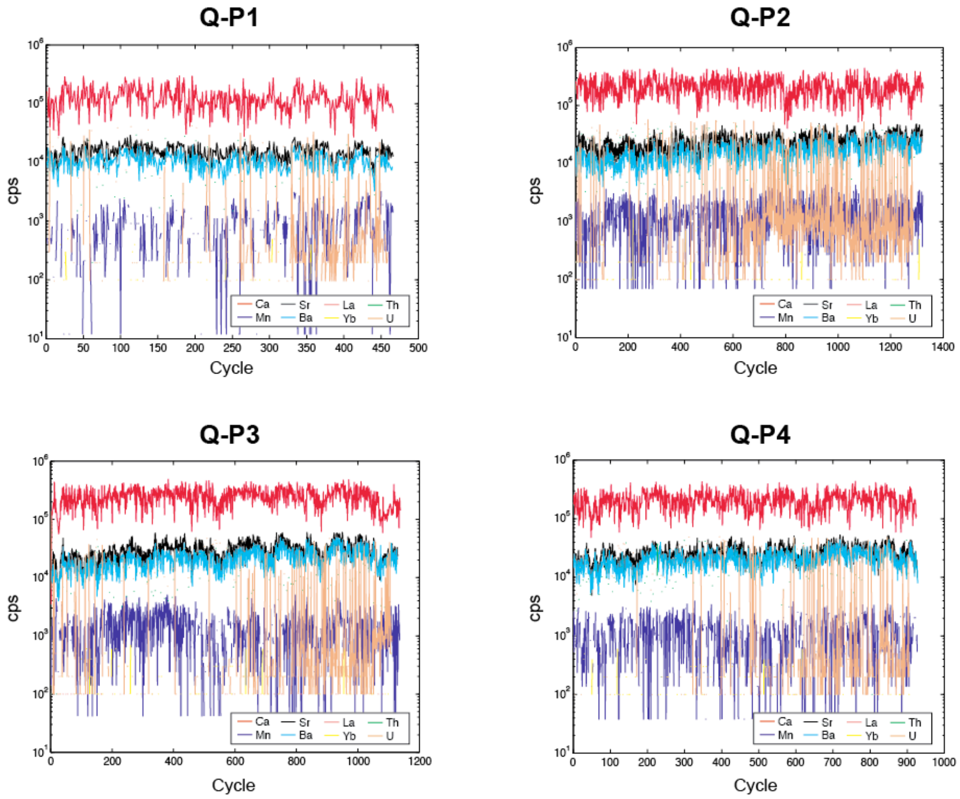


doi:10.1038/nature11349

SKX 1396 indet. bovidae

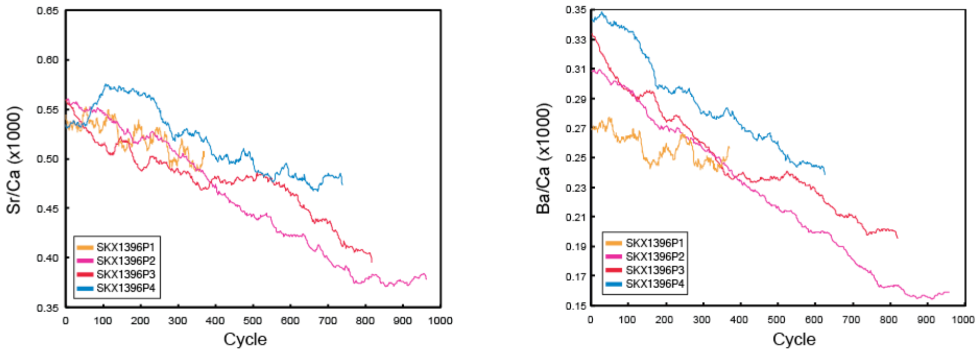
A



doi:10.1038/nature11349

SKX 1396 indet. bovidae

B



C

Q-P1

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.115	-										
Zn	-0.018	0.045	-									
Rb	-0.012	-0.002	-0.030	-								
Sr	0.287	0.059	0.090	-0.011	-							
Y	-0.027	-0.090	-0.035	0.013	-0.052	-						
Ba	0.290	0.041	0.106	-0.012	0.567	-0.052	-					
La	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	-0.004	-0.057	-0.072	-0.044	-0.081	-0.070	-0.028	NaN	NaN	-		
Th	0.017	-0.007	-0.070	-0.002	-0.117	-0.050	-0.085	NaN	NaN	0.002	-	
U	0.035	-0.069	-0.099	-0.066	0.025	0.027	0.042	NaN	NaN	-0.055	0.035	-

Q-P2

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.139	-										
Zn	-0.031	0.061	-									
Rb	0.015	0.027	-0.030	-								
Sr	0.263	0.219	-0.003	0.002	-							
Y	-0.012	-0.049	-0.006	-0.029	-0.006	-						
Ba	0.240	0.251	-0.030	-0.008	0.736	-0.014	-					
La	0.005	-0.036	0.084	-0.037	0.004	-0.006	-0.049	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	-0.009	-0.088	0.008	-0.067	-0.011	-0.005	-0.016	-0.026	NaN	-		
Th	0.012	-0.001	0.007	-0.026	0.019	0.010	-0.048	-0.014	NaN	0.005	-	
U	-0.002	-0.011	0.008	-0.030	0.020	0.029	7E-04	0.027	NaN	0.008	0.031	-

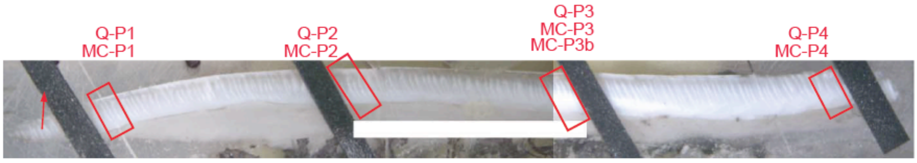
Q-P3

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.124	-										
Zn	0.047	0.043	-									
Rb	-0.022	0.036	0.016	-								
Sr	0.436	0.247	0.107	0.033	-							
Y	-0.018	-0.008	0.040	-0.018	0.013	-						
Ba	0.369	0.167	0.123	0.051	0.717	-0.016	-					
La	-0.017	-0.093	0.053	-0.014	-0.047	0.029	-0.036	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	0.021	-0.050	-0.036	-0.054	-0.011	-0.034	-0.006	-0.029	NaN	-		
Th	0.001	-0.052	0.010	0.013	-0.030	0.000	4E-04	0.016	NaN	-0.016	-	
U	0.034	-0.062	-0.015	-0.009	0.019	0.025	0.001	0.039	NaN	-0.028	0.05	-

Q-P4

	Ca	Mn	Zn	Rb	Sr	Y	Ba	La	Sm	Yb	Th	U
Ca	-											
Mn	0.188	-										
Zn	-0.084	-0.027	-									
Rb	0.046	0.143	-0.027	-								
Sr	0.291	0.181	-0.123	0.137	-							
Y	0.021	0.046	0.038	0.035	0.068	-						
Ba	0.278	0.172	-0.107	0.114	0.672	0.073	-					
La	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-				
Sm	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	-			
Yb	0.019	-0.059	-0.025	-0.025	0.005	0.020	-0.019	NaN	NaN	-		
Th	0.027	0.099	-0.026	0.035	0.006	-0.040	-0.017	NaN	NaN	-0.027	-	
U	0.015	0.029	-0.016	0.035	-0.016	-0.005	-0.018	NaN	NaN	-0.062	0.147	-

SKX 1396 indet. bovidae



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