



Supplement of

Challenges of initial Thorium and Approaches to Robust Speleothem Age Models: A case study from the Yucatán peninsula, Mexico

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Supplementary material

S1 Supplementary text

S1.1 Speleothem Age depth models

S1.1.1 Stalagmite E0-B

Eight samples from stalagmite E0-B were analysed for $^{230}\text{Th}/\text{U}$ dating (Table S 3). The uranium content ranged from 476 to 555 ng g^{-1} . Three samples were rejected due to low ($^{230}\text{Th}/^{232}\text{Th}$) activity ratios (<200). Of the remaining five, one was corrected using a stratigraphically derived ($^{230}\text{Th}/^{232}\text{Th}$) ratio of 43.75 ± 24.25 , while the other four used a mean ratio of 35.5 ± 32.5 . The obtained age models for stalagmite E0-B exhibit overall mean uncertainties ranging from 117 to 224 years. The Bchron algorithm provides the tightest confidence intervals and thus aligns most closely with the weighted mean chronology. Based on the weighted mean of the used age models, stalagmite E0-B grew from 633 ± 161 BC to 403 ± 54 AD (Figure 4a). The growth rate in the lower part of the stalagmite (222–110 mm dft) was slightly lower at $170 \mu\text{m a}^{-1}$ compared to the upper section (110–0 mm dft), where it increased to $292 \mu\text{m a}^{-1}$.

S1.1.2 Stalagmite E0-C

A total of 51 samples from stalagmite E0-C were analysed for $^{230}\text{Th}/\text{U}$ dating (Table S 3). The uranium content ranged between 355 and 1324 ng g^{-1} . Eleven samples were rejected due to low ($^{230}\text{Th}/^{232}\text{Th}$) activity ratios (<200). The remaining 40 samples were corrected using individual ($^{230}\text{Th}/^{232}\text{Th}$) ratios between 7 to 49, derived from both isochron techniques and stratigraphic constraints. One sample, taken at 81.5 mm dft, remained unordered chronologically and was excluded. As a result, the modelled chronologies for stalagmite E0-C display relatively low mean uncertainties across its three distinct growth phases, ranging overall from 33 to 69 years. Across all phases, the Bchron algorithm yields the tightest uncertainty intervals. Growth in E0-C was interrupted by two distinct hiatuses, and it is notable that the modelled durations of these gaps vary substantially depending on the algorithms assumptions: the first hiatus (at ~ 40 mm depth) spans from 95 (+58/–55) years (Linear Regression) to 179 (+85/–88) years (Bacon), while the second hiatus (at ~ 114 mm depth) ranges from 175 (+80/–513) years (StalAge) to 196 years (+93 / –93) years (Linear Regression). Based on the weighted mean of the used age models,

the growth of E0-C can be divided into three periods separated by hiatuses: (1) 538 ± 56 AD to 811 ± 52 AD; (2) 994 ± 29 AD to 1311 ± 15 AD; and (3) 1451 ± 22 AD to 1835 ± 53 AD (Figure 4b). The average growth rates were $372 \mu\text{m a}^{-1}$, $294 \mu\text{m a}^{-1}$, and $94 \mu\text{m a}^{-1}$ for these periods, respectively. Due to a hiatus near the top, no age model is provided for the uppermost 5 mm. However, radiocarbon measurements from the top of the stalagmite indicate modern growth for these growth layers (post-1950 AD, Table S 1).

S1.1.3 Stalagmite E1

A total of 25 samples from stalagmite E1 were analysed for $^{230}\text{Th}/\text{U}$ dating (Table S 3). The uranium content ranged from 1202 to 2237 ng g^{-1} . Twelve samples were excluded due to low ($^{230}\text{Th}/^{232}\text{Th}$) activity ratios (<200). Of the remaining 13 samples, one was corrected using a stratigraphically derived ratio of 49 ± 19 . The other 12 were corrected with a mean ratio of 35.5 ± 32.5 . The overall uncertainties for the stalagmite E1 age models range between 25 and 45 years. Over the entire dataset, StalAge provided the most tightly constrained uncertainty intervals. Stalagmite E1 comprises two distinct growth phases separated by a relatively brief hiatus at roughly 61 mm depth. The absolute timing of this interruption in stalagmite E1 spans from 1591 (+46/−35) AD to 1631 (+40/−65) AD according to Bacon, whereas Bchron shifts the onset of the event earlier, dating it from 1557 (+107/−27) AD to 1636 (+21/−34) AD. The estimated duration of this hiatus varies slightly depending on the modelling approach, ranging from 41 (+80/−116) years (Linear Interpolation) to 79 (+34/−136) years (Bchron).

On average, stalagmite E1 grew from 1440 ± 39 AD to approximately 1577 ± 42 AD, with a growth rate of $281 \mu\text{m a}^{-1}$ (Figure 4c). Growth resumed around 1635 ± 24 AD and continued until approximately 1926 ± 20 AD at ~ 3 mm dft, with a growth rate of $\sim 230 \mu\text{m a}^{-1}$. It was also possible to count individual growth years based on seasonal Sr/Ca variations obtained through LA-ICP-MS measurements. For the section between 3 and 61 mm dft, 311 ± 16 Sr/Ca cycles were counted, while for the lower portion between 61 and 96 mm dft, a total of 182 ± 9 cycles were counted. To test the reliability of the detritus-corrected $^{230}\text{Th}/\text{U}$ ages, the Sr/Ca-based age-depth model for the section between 3 and 61 mm dft was anchored to the $^{230}\text{Th}/\text{U}$ age at 39 mm dft, which contained no measurable ^{232}Th and thus required no detrital Th correction (Figure 4c). For the lower section, the Sr/Ca-based age-depth model was anchored to the bottommost $^{230}\text{Th}/\text{U}$ age, corresponding to the highest ($^{230}\text{Th}/^{232}\text{Th}$) activity ratio in this section, minimizing detrital Th correction influence. With a mean absolute deviation of just 9–10 years, both models align perfectly when considering the uncertainties of the $^{230}\text{Th}/\text{U}$ -based and Sr/Ca-based age-depth models. No age model is provided for the top section due to a hiatus at 3 mm dft. However, radiocarbon measurements from the top of the stalagmite indicate modern growth (post-1950 AD, Table S 1).

S1.1.4 Stalagmite E4

A total of 28 samples from stalagmite E4 were analysed for $^{230}\text{Th}/\text{U}$ dating (Table S 3). The uranium content ranged from 604 to 1740 ng g^{-1} . Most samples ($n = 24$) were excluded due to high ^{232}Th concentrations of up to 26.5 ng g^{-1} , resulting in ($^{230}\text{Th}/^{232}\text{Th}$) activity ratios below 200. One isochron, constructed from three samples, yielded an initial ($^{230}\text{Th}/^{232}\text{Th}$) activity ratio of 8.2 ± 1.3 , with a probability of fit >0.05 and an MSWD of 0.0001 (Figure S 5d) (Vermeesch, 2018). Two of these samples were corrected using this isochron-derived ratio (8.2 ± 1.3), while the remaining two samples from the top part of the stalagmite were corrected with a mean ratio of 35.5 ± 32.5 . As a result, the modelled chronologies for stalagmite E4 display a relatively large spread in mean uncertainties, ranging from 67 years to over 314 years. On average, stalagmite E4 grew from approximately 228 ± 88 AD to 1611 ± 118 AD, with an average growth rate of $53 \mu\text{m a}^{-1}$, assuming uninterrupted and constant growth (Figure 4d).

S1.1.5 Stalagmite E8

A total of 15 samples from stalagmite E8 were analysed for $^{230}\text{Th}/\text{U}$ dating (Table S 3). The uranium content ranged from 524 to 1368 ng g^{-1} . Seven samples were excluded due to low ($^{230}\text{Th}/^{232}\text{Th}$) activity ratios (<200). One isochron, derived from four samples with a probability of fit >0.05 and an MSWD of 0.016, yielded an initial ($^{230}\text{Th}/^{232}\text{Th}$) activity ratio of 6.4 ± 2.4 (Figure S 5e) (Vermeesch, 2018). Between 3 and 43 mm dft, individual growth years were counted based on seasonal Sr/Ca variations obtained through LA-ICP-MS measurements. Three distinct growth phases were identified in stalagmite E8:

1. Lower Section (65–50 mm dft): Due to only two samples with overlapping ages, no age-depth model was constructed for this section. However, $^{230}\text{Th}/\text{U}$ ages at 60.5 and 55 mm dft suggest some growth between 565 and 927 AD (Figure 4e).
2. Middle Section (50–27.9 mm dft): Following a hiatus at 50 mm dft, growth resumed. The sample at 29 mm dft, corrected with the isochron-derived ratio (6.4 ± 2.4), yielded an age of 1541 ± 9 AD. However, the uncorrected age at 42 mm dft (1533 ± 9 AD) was inconsistent with the 40 ± 2 Sr/Ca layers counted between 29 and 42 mm dft. As a result, no definitive age model was constructed for this section.
3. Upper Section (27.9–0.8 mm dft): After a minor growth interruption at 27.9 mm dft, growth continued until 0.8 mm dft. The layer-counted age-depth model was anchored to the $^{230}\text{Th}/\text{U}$ age at 14.5 mm dft, corrected with a broad ($^{230}\text{Th}/^{232}\text{Th}$) ratio of 35.5 ± 32.5 , as this sample was least affected by detrital Th. Ages for the remaining samples (8.5–26 mm dft) were corrected with individual ($^{230}\text{Th}/^{232}\text{Th}$) ratios ranging from 7 to 35.5 to match the Sr/Ca-based age-depth model, considering the uncertainties of the anchor age and Sr/Ca layer counting (± 0.5

layers per 10 counted layers). As a result, the modelled chronologies for the last growth phase of stalagmite E8 display highly constrained mean uncertainties across all methods, ranging narrowly from 24 to 42 years. Overall, speleothem E8 deposition can be constrained to around 1605 ± 24 AD and continued at an average rate of $215 \mu\text{m a}^{-1}$ until 1733 ± 33 AD, when growth ceased at 0.8 mm dft.

No seasonal Sr/Ca layers were visible in the topmost 0.8 mm, making it impossible to determine the time span covered by this section. However, radiocarbon measurements from the top of the stalagmite indicate modern growth (post-1950 AD, Table S 1).

S1.1.6 Stalagmite E23-3

A total of eight samples from stalagmite E23-3 were analysed for $^{230}\text{Th}/\text{U}$ dating (Table S 3). The uranium content ranged between 1134 and 1501 ng g^{-1} . All samples exhibited low ^{232}Th concentrations ($<0.06 \text{ ng g}^{-1}$), resulting in ($^{230}\text{Th}/^{232}\text{Th}$) activity ratios >200 , except for the two topmost ones, due to their young age. The uncorrected ages were in stratigraphic order. As with stalagmites E1 and E8, individual growth years were determined based on seasonal Sr/Ca variations. From 0 to 84 mm dft, a total of 331 ± 17 layers were counted. Assuming the topmost layer corresponds to 2022 AD (the year of collection), the layer at 84 mm depth was deposited around 1691 ± 17 AD. This information was used to estimate detrital thorium contributions to the $^{230}\text{Th}/\text{U}$ ages, leading to the selection of an ($^{230}\text{Th}/^{232}\text{Th}$) activity ratio of 26 ± 7 to align the $^{230}\text{Th}/\text{U}$ ages with the layer-counted model within uncertainties. For the final age-depth model, an artificial sample at the stalagmite top with an age of 2022 AD was included. As a result, the modelled chronologies for stalagmite E23-3 display small mean uncertainties, ranging from roughly 11 to 61 years. Because this specific stalagmite exhibited a highly constant, stable growth rate throughout its formation, the Linear Regression algorithm proved to be a robust approach. When comparing the models to the available layer counting chronology, the Bacon algorithm provided the closest match to the visual layer counts, with a mean absolute deviation of just 6.6 years. Consequently, the growth history of stalagmite E23-3 is divided into two periods, separated by a growth interruption at 167 mm dft (Figure 4f).

1. Older Part (188–167 mm dft): Two $^{230}\text{Th}/\text{U}$ ages indicate growth from 1070 ± 7 AD to 1347 ± 9 AD, with an average growth rate of $283 \mu\text{m a}^{-1}$.
2. Upper Part (167–0 mm dft): Spanning 1441 ± 5 AD to 2022 AD (assuming continuous growth), this period is represented by five $^{230}\text{Th}/\text{U}$ ages, including the artificial age of 2022 AD at the top. The average growth rate is $269 \mu\text{m a}^{-1}$, similar to the older portion.

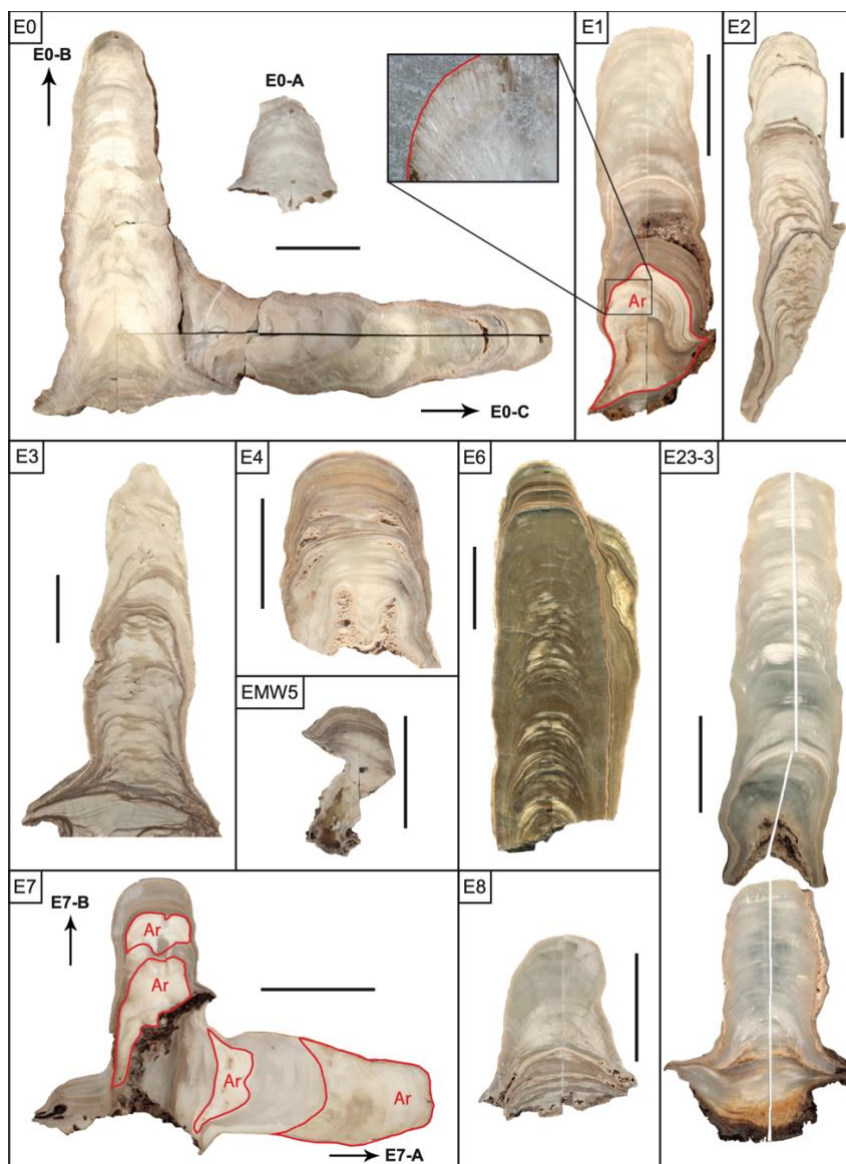


Figure S 1 Scans of slices from ten stalagmites recovered from Áaktun Kóopo' Cave during field trips in 2018 and 2023. The black scale bar represents 5 cm in all images. Red outlines indicate macroscopically identifiable aragonite phases in stalagmites E1 and E7. The inset of stalagmite E1 shows millimeter-long aragonite crystals adjacent to a more compact calcite phase.

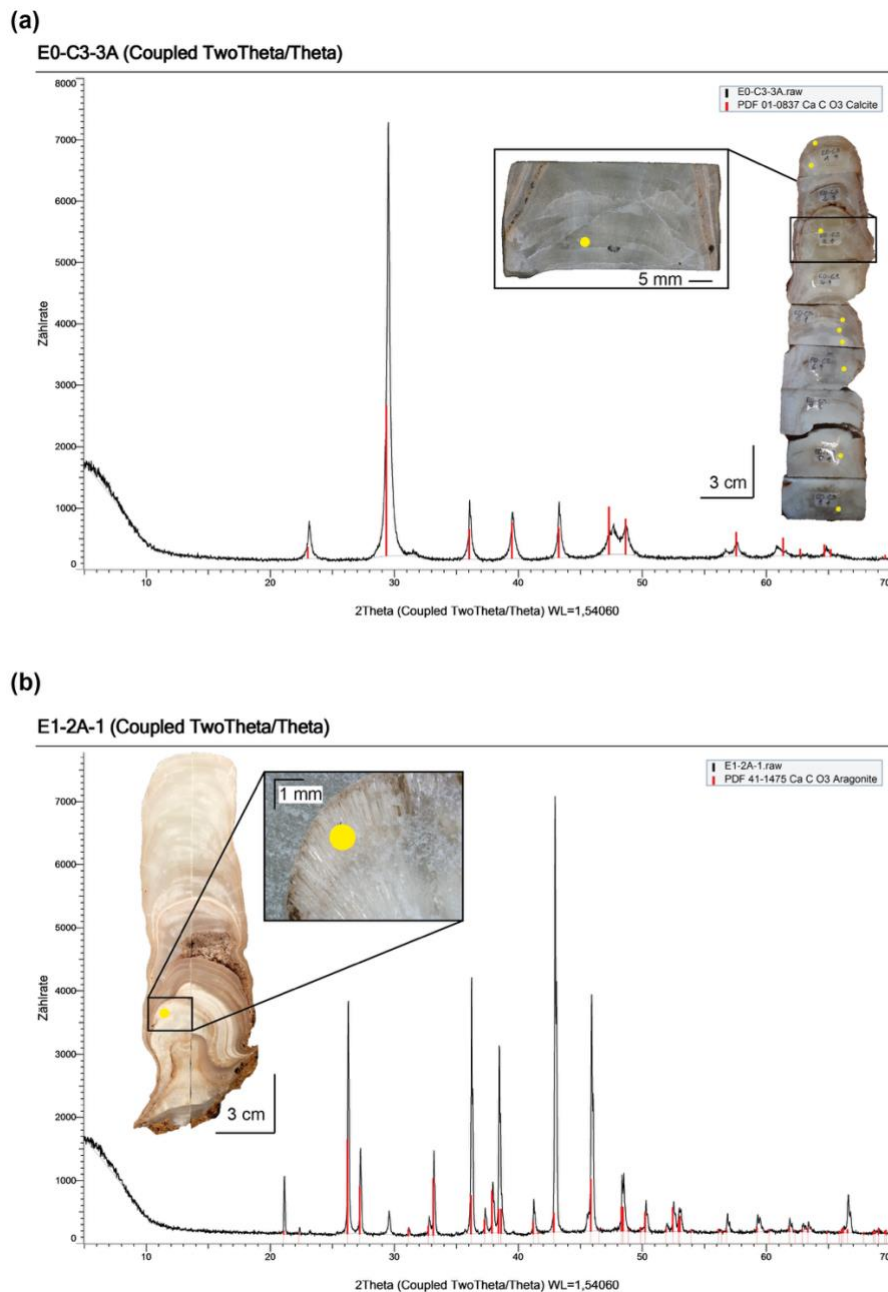


Figure S 2 (a) X-ray diffraction (XRD) pattern showing the characteristic diffraction peaks (2θ) of calcite for a sample from stalagmite E0-C. The image on the right displays the remaining stalagmite cubes from the thin section preparation, from which sample powder was drilled for XRD analysis (yellow dots). The inset indicates the location of the sample corresponding to the presented diffraction pattern. All eight additional samples analysed from stalagmite E0-C exhibited the same calcite pattern and are therefore not shown. (b) XRD pattern showing the characteristic diffraction peaks (2θ) of aragonite for a sample from the bottom part of stalagmite E1 (yellow dot on the scan). The presence of millimeter-sized needle-like crystals with a silky luster suggested an aragonitic phase, which was confirmed by XRD analysis. Peak positions and intensity data were analysed using Diffrac.Suite EVA software (Bruker).

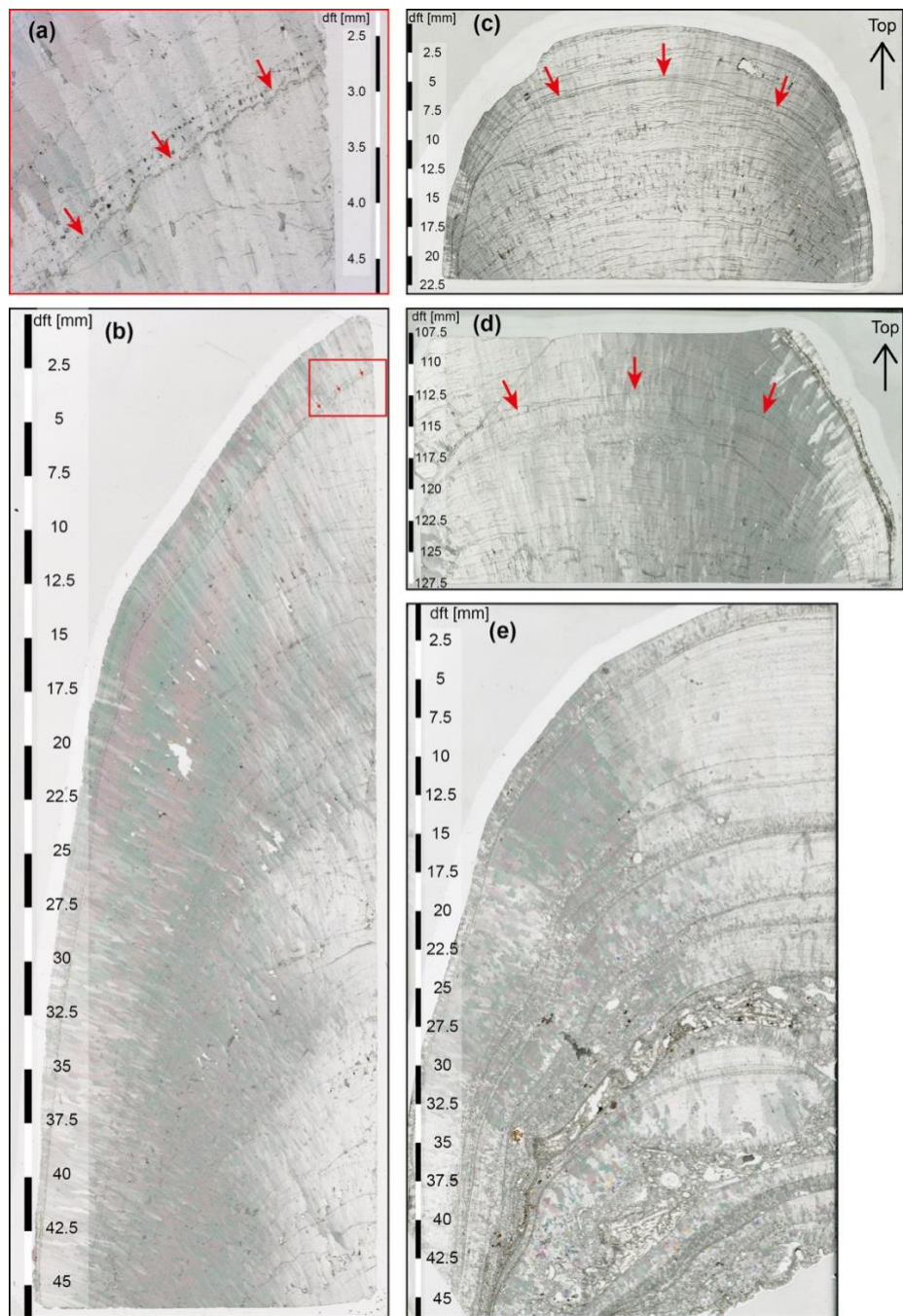


Figure S 3 Thin section photographs of stalagmites E0-C, E1 and E4 from Áaktun Kóopo' Cave. (a) Zoom-in of the top part of stalagmite E1. Red arrows highlight the hiatus at 2.8 mm distance from top (dft). (b) Top part of stalagmite E1, consisting mostly of compact elongated calcite and to some minor extent of open elongated calcite. The red square near the top indicates the zoom-in image shown in (a). (c) Top of stalagmite E0-C consisting of both compact and elongated columnar calcite. Red arrows highlight the hiatus at 5 mm dft. (d) Another hiatus occurring around 114 mm dft in stalagmite E0-C, indicated by rhombohedral crystal terminations (red arrows). (e) Top part of stalagmite E4 showing many growth interruptions as indicated by the layering. Some of these layers consist of detrital material, likely indicating recurrent flooding of the stalagmite.

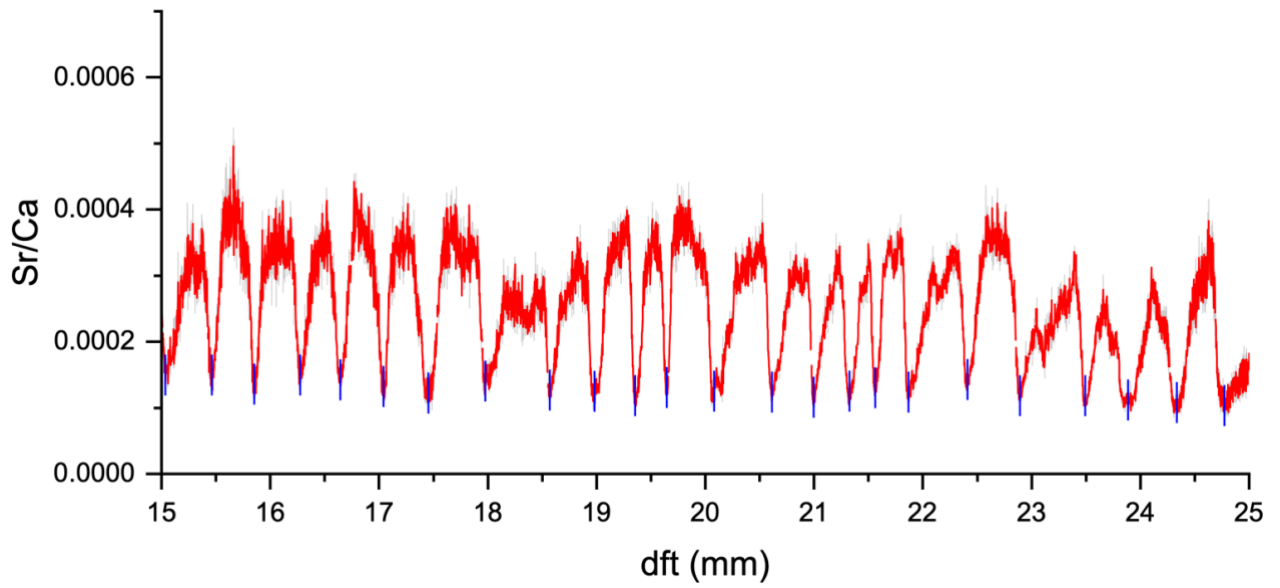


Figure S 4 The counting of seasonal Sr/Ca cycles in stalagmites from Áaktun Kóopo' Cave is exemplarily shown for the section between 25 and 15 mm dft of stalagmite E23-3. The Sr/Ca ratios are shown in light grey, with a moving average of 30 in red. The counted Sr/Ca minima (blue vertical bars) in this section correspond to 24 ± 1 years, assuming a counting error of 0.5 layers per 10 counted layers. More details to the origin of the seasonal cycles can be found in Schorndorf (2024).

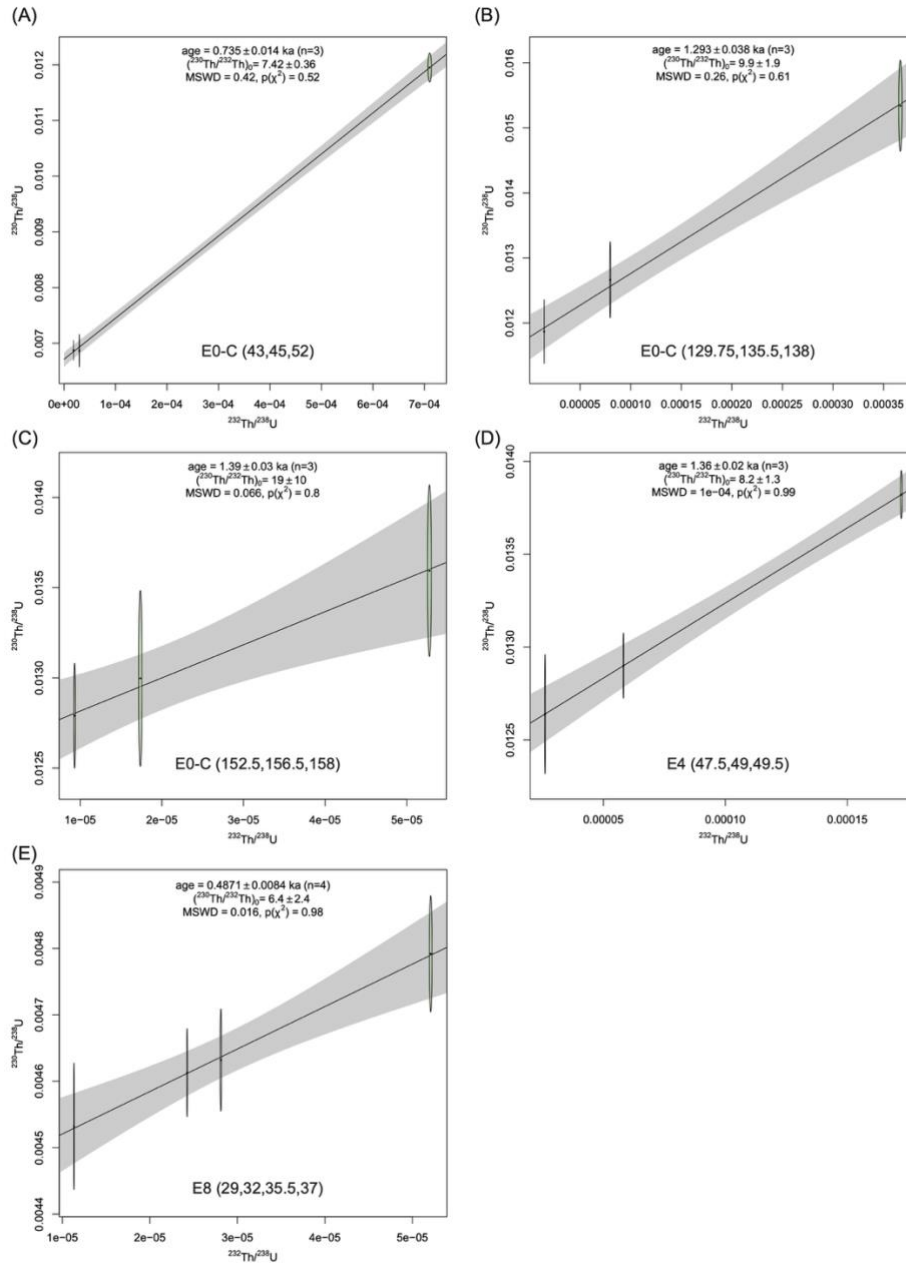


Figure S 5 Five isochrons from three different stalagmites (E0-C, E4, and E8), with fit probabilities >0.05 and mean squared weighted deviation (MSWD) values <1 , were derived using ISOPLOT software (Vermeesch, 2018) (a–c) Isochrons from stalagmite E0-C. (d) Isochron from stalagmite E4. (e) Isochron from stalagmite E8. The numbers in brackets next to the stalagmite’s name indicate the distance in millimeters (mm) from the top of the stalagmite of the samples that comprise the individual isochrons.

S3 Supplementary Tables

Table S 1 Radiocarbon (^{14}C) measurement results for the tops of stalagmites E0-C, E1, and E8, including a duplicate analysis for E1. Uncertainties in age (yr) and percent modern carbon (pmC) are reported at 1σ .

MAMS	Hd lab-nr.	Label	^{14}C counts	^{12}C (ta)	$^{14}\text{C}/^{12}\text{C}$ (10^{-12})	$^{13}\text{C}/^{12}\text{C}$ (‰)	pmc	$\pm$ pmc	^{14}C age (yr)	$\pm$ (yr)	$\delta^{13}\text{C}$ (‰)
52703	HD21-111	E1-Top a	463833	15.2	1.0345	1.0488	95.19	0.19	396	16	-9.0
52704	HD21-114	E1-Top b	490034	16.1	1.0342	1.0499	94.95	0.19	416	16	-8.0
52705	HD21-113	E0-C-Top	476207	15.2	1.0598	1.0487	97.54	0.2	200	16	-9.1
52706	HD21-112	E8-Top	485338	15.5	1.062	1.05	97.49	0.2	204	16	-7.9

Table S 2 $^{230}\text{Th}/\text{U}$ dating results of drip water from Áaktun Kóopo' Cave. Errors are reported as 2σ analytical uncertainties.

Sample Label	Lab. No.	^{238}U (ng/g)	$\pm 2\sigma$	^{232}Th (ng/g)	$\pm 2\sigma$	$^{230}\text{Th}/^{238}\text{U}$ (Act. Ratio)	$\pm 2\sigma$	$^{230}\text{Th}/^{232}\text{Th}$ (Act. Ratio)	$\pm 2\sigma$	$\delta^{234}\text{U}$ (‰)	$\pm 2\sigma$	uncorr. Age (ka)	$\pm 2\sigma$
MULTIPLE DRIP SITES		11567	3.27463	0.00019	0.00046562	0.00000082	0.000281	6.04	0.74	5.66	0.96	0.0304	0.0037
EDW1	11568	2.34939	0.00019	0.017490	0.000027	0.00404	0.00011	1.659	0.046	7.5	2.2	0.4382	0.012
EDW2	11569	1.57120	0.00013	0.00023727	0.00000059	0.000443	0.000050	8.9	1.0	12.5	1.7	0.0477	0.0055

Table S 3 $^{230}\text{Th}/\text{U}$ data of speleothems from Áakuntun Kóopo' Cave. Errors are 2σ analytical errors. Corrected ^{230}Th ages assume variable ($^{230}\text{Th}/^{232}\text{Th}$) activity ratios ranging between 4 and 68. Those ratios have been estimated by using different approaches, such as isochron techniques (i), stratigraphic constrain (s), zero-age carbonate (zac) or layer counting (lc). For samples for which the initial ($^{230}\text{Th}/^{232}\text{Th}$) activity ratio couldn't be estimated, a mean value (m) of 35.5 ± 32.5 was used to account for the high range. For samples with ($^{230}\text{Th}/^{232}\text{Th}$) < 200, corrected ages are not reported, because age uncertainties are dominated by initial Th correction and do not constrain the chronologies. The corresponding initial ($^{230}\text{Th}/^{232}\text{Th}$) ratios are shown only to illustrate the range of initial Th contamination and should not be treated to calculate ages for individual samples.

Sample Label	Lab. No.	dft (mm)	²³⁸ U (ng/g)	±2σ	²³² Th (ng/g)	±2σ	²³⁰ Th/ (Act. Ratio)	±2σ	²³⁰ Th/ ²³² Th (Act. Ratio)	δ ²³⁴ U (‰)	±2σ	uncorr. Age (ka)	±2σ	corr.age (ka)	±2σ	corr.age (a AD)	±2σ	δ ²³⁴ U _{ini} (‰)	±2σ	(²³⁰ Th/ ²³² Th) initial	Error Method	
E0-A-49	9602	49	645.397	0.035	0.01935	0.00017	0.01952	0.00031	1997	36	38.6	1.5	2.068	0.033	2.032	0.046	-14	46	38.9	1.5	35.5	32.5 m
E0-A-8	9603	8	530.436	0.035	0.07321	0.0004	0.0163	0.00035	362.8	8	38.2	1.6	1.725	0.037	1.56	0.16	461	159	38.4	1.7	35.5	32.5 m
E0-B-5	9553	5	476.15	0.045			0.01525	0.00039			19.3	2.5	1.643	0.043	1.643	0.043	375	43	19.4	2.5	35.5	32.5 m
E0-B-35	11221	35	529.677	0.084	0.0746	0.0012	0.01801	0.00064	392	15	18.7	2.3	1.945	0.072	1.73	0.14	292	137	18.8	2.3	43.75	24.25 s,m
E0-B-59	9756	59	479.457	0.039	0.01293	0.00017	0.01675	0.00031	1909	44	16.2	1.9	1.812	0.035	1.778	0.047	240	47	16.3	1.9	35.5	32.5 m
E0-B-85.5	10986	85.5	560.886	0.042	0.20982	0.00078	0.01977	0.00029	161.3	2.5	16.9	1.7	2.141	0.032							15	12 s,m
E0-B-110	11222	110	591.414	0.031	0.06447	0.00029	0.01943	0.00019	547	5.8	15.3	1.5	2.107	0.021	1.97	0.13	50	131	15.4	1.5	35.5	32.5 m
E0-B-152	9755	152	655.593	0.061	0.28205	0.0008	0.02041	0.00033	145.5	2.4	14.6	1.9	2.215	0.036							16	13 s,m
E0-B-177	10987	177	601.345	0.047	0.19689	0.0006	0.02123	0.00027	197.6	2.6	20.4	1.4	2.292	0.03							23.5	20.5 s,m
E0-B-212	9552	212	549.821	0.047	0.14486	0.00074	0.0273	0.00045	317.9	5.5	18.5	3	2.962	0.05	2.63	0.31	-616	308	18.6	3	35.5	32.5 m
E0-C-TOP	10521	2	926.114	0.05	1.2732	0.0028	0.01338	0.00015	29.73	0.34	19.2	1.2	1.441	0.016							26	3.7 s
E0-C-7	9555	7	769.553	0.047	0.04864	0.00018	0.00326	0.0001	158.1	4.9	13.6	1.2	0.352	0.011							36.5	31.5 s,m
E0-C-10.5	11232	10.5	935.652	0.059	0.05312	0.00035	0.00326	0.00013	175.9	7	11.9	1.1	0.352	0.014							36.25	31.75 s,m
E0-C-15.5	11233	15.5	1165.767	0.056	0.04018	0.00017	0.00329	0.00073	293.3	6.7	10.68	0.79	0.3556	0.0079	0.308	0.036	1713	36	10.69	0.79	39	29 s,m
E0-C-19	10973	19	1186.315	0.046	0.02106	0.00011	0.003113	0.00064	536	11	12.82	0.67	0.3357	0.0069	0.314	0.022	1708	22	12.83	0.67	35.5	32.5 m
E0-C-20	12136	20	1014.64	0.39	0.02751	0.00081	0.003377	0.00037	380.6	4.4	13.53	0.38	0.3639	0.0057	0.33	0.031	1693	31	13.54	0.38	35.5	32.5 m
E0-C-21.5	11234	21.5	832.906	0.044	0.10012	0.00027	0.004181	0.00079	106.7	2	11.05	0.63	0.4519	0.0087	0.462	0.074	1559	74	14.4	1.1	35.5	32.5 m
E0-C-23.5	10520	23.5	804.089	0.053	0.05268	0.00018	0.005042	0.00099	234.8	4.7	14.4	1.1	0.543	0.011	0.462	0.074	1559	74	14.4	1.1	35.5	32.5 m
E0-C-24.5	11235	24.5	838.226	0.042	0.17535	0.00052	0.00608	0.00013	89.4	2	11.7	1.2	0.658	0.015	0.555	0.017	1463	17	13.4	1.1	35.5	32.5 m
E0-C-37.5	9759	37.5	1105.866	0.073			0.00507	0.00014			13.3	1.1	0.547	0.015	0.555	0.017	1463	17	13.4	1.1	35.5	32.5 m
E0-C-43	11236	43	774.849	0.044	1.6817	0.0035	0.01195	0.00011	17	0.2	14.9	1.1	1.292	0.012	0.719	0.013	1299	13	11.4	1	7.42	0.36 i
E0-C-45	9758	45	843.683	0.055	0.07688	0.00042	0.00687	0.00012	231.6	4.2	11.4	1	0.743	0.013	0.719	0.013	1299	13	11.4	1	7.42	0.36 i
E0-C-52	10974	52	980.159	0.049	0.05544	0.00016	0.006874	0.00073	371.4	4.1	10.55	0.85	0.7443	0.0078	0.73	0.008	1292	8	10.57	0.85	7.42	0.36 i
E0-C-57.5	11220	57.5	1076.86	0.3	0.022908	0.00008	0.006964	0.00083	1002	12	11.51	0.77	0.7533	0.009	0.727	0.026	1294	26	11.54	0.77	35.5	32.5 m
E0-C-63	10519	63	1113.238	0.066			0.007233	0.00076			11.42	0.61	0.7826	0.0082	0.785	0.009	1235	9	11.44	0.61	35.5	32.5 m
E0-C-69	10975	69	1050.387	0.06	0.06055	0.00016	0.007541	0.00082	399.8	4.5	10.3	0.66	0.817	0.009	0.794	0.02	1228	20	10.33	0.66	11.5	8.5 s,m
E0-C-69.5	12137	69.5	920.76	0.3	0.06441	0.00025	0.00831	0.00012	363.3	5.3	12.52	0.67	0.898	0.013	0.811	0.085	1212	85	12.55	0.67	35.5	32.5 m
E0-C-73	11237	73	933.81	0.043	0.05407	0.00016	0.008442	0.00099	448.9	5.5	12.77	0.67	0.913	0.011	0.828	0.054	1193	54	12.8	0.67	41.5	26.5 s,m
E0-C-75	11062	75	922.315	0.044	0.06312	0.00027	0.008285	0.00095	369.8	4.5	12.92	0.89	0.896	0.01	0.806	0.076	1215	76	12.95	0.9	37	31 s,m
E0-C-76	12138	76	921.68	0.2	0.021804	0.00085	0.008253	0.00084	1063	12	12.48	0.42	0.893	0.01	0.86	0.026	1163	26	12.51	0.42	39	29 s,m
E0-C-77	11238	77	994.05	0.05	0.04919	0.0002	0.008065	0.00091	498.6	5.9	11.6	1.1	0.873	0.01	0.811	0.057	1210	57	11.7	1.1	35.5	32.5 m
E0-C-81.5	10518	81.5	1087.077	0.068	0.00013409	0.0000072	0.008675	0.00085	213749	2386	12.5	1	0.9383	0.0093	0.938	0.009	1082	9	12.5	1	35.5	32.5 m
E0-C-84.5	11239	84.5	1231.992	0.064	0.06069	0.00029	0.00885	0.00013	549.9	8.4	12.16	0.82	0.957	0.014	0.875	0.037	1146	37	12.19	0.82	47.5	20.5 s,m
E0-C-88.5	11266	88.5	1273.923	0.072	0.015025	0.000091	0.00829	0.00012	2168	34	10.2	1.2	0.898	0.013	0.883	0.019	1138	19	10.3	1.2	35.5	32.5 m
E0-C-92.5	10517	92.5	1323.557	0.064			0.008327	0.00079			12.94	0.93	0.9001	0.0085	0.904	0.009	1116	9	12.97	0.93	35.5	32.5 m
E0-C-96.5	11267	96.5	1195.955	0.079	0.03813	0.00022	0.00846	0.00015	817	15	10.2	1.5	0.917	0.016	0.903	0.019	1118	19	10.2	1.5	12.5	9.5 s,m
E0-C-99.5	11063	99.5	1185.693	0.063	0.08613	0.0003	0.00937	0.00011	393.4	4.6	12	1	1.014	0.012	0.941	0.048	1080	48	12	1	28.5	19 s
E0-C-100.5	12139	100.5	1041.81	0.23	0.013372	0.000048	0.009084	0.00086	2160	22	13.25	0.59	0.982	0.01	0.966	0.018	1057	18	13.28	0.59	35.5	32.5 m
E0-C-102	11240	102	1099.32	0.072	0.04319	0.00029	0.009	0.00016	703	13	11.2	1.1	0.975	0.017	0.925	0.05	1096	50	11.2	1.1	35.5	32.5 m
E0-C-105.5	10976	105.5	1131.861	0.057	0.03114	0.0001	0.009567	0.00079	1041.3	9.4	12.27	0.63	1.0137	0.0085	0.979	0.033	1042	33	12.31	0.63	35.5	32.5 m
E0-C-108.5	11241	108.5	1112.965	0.066	0.16815	0.00048	0.01095	0.00014	222.9	2.9	13.4	1.2	1.184	0.015	1.03	0.14	990	140	13.5	1.2	28.75	25.75 s,m
E0-C-112	11268	112	1021.202	0.066	0.09948	0.00054	0.01068	0.00025	336.7	8.1	14.9	2.4	1.154	0.027	1.03	0.11	989	114	15	2.4	35.5	32.5 m
E0-C-113	10516	113	1117.696	0.06	0.14679	0.00022	0.01073	0.0001	249.1	2.4	13.53	0.7	1.161	0.011	1.02	0.13	1000	128	13.57	0.7	30.5	27.5 s,m
E0-C-115.5	11269	115.5	523.807	0.035	0.33368	0.00078	0.01689	0.00025	81.6	1.2	17.5	1.7	1.825	0.028							33.25	8.25 s

SAMPLE LABEL	Lab. No.	dft (mm)	²³⁸ U (ng/g)	²³² Th (ng/g)	²³⁰ Th/ ²³⁸ U (act. Ratio)	²³⁰ Th/ ²³² Th (act. Ratio)	$\delta^{234}\text{U}$ (‰)	$\pm 2\sigma$	uncorr. Age (ka)	$\pm 2\sigma$	corr.age (ka)	$\pm 2\sigma$	corr.age (a ad)	$\pm 2\sigma$	$\delta^{234}\text{U}_{\text{ini}}$ (‰)	$\pm 2\sigma$	(²³⁰ Th/ ²³² Th) initial	Error Method
E0-C-116,75	11270	116.75	490.803	0.09853	0.00034	0.0115	0.00026	176.8	4	16.3	2	1.241	0.028			26	23	s,m
E0-C-117	10977	117	526.817	0.032	0.0024	0.01455	0.00032	25.6	0.6	16.1	1.7	1.572	0.035			8	3	s,m
E0-C-119,5	11271	119.5	481.611	0.025	0.00016	0.01225	0.00018	626.7	9.8	14.1	1.3	1.325	0.02			47.5	20.5	s,m
E0-C-120	9757	120	410.434	0.036	0.00018	0.01137	0.00033	790	24	15.5	2.2	1.228	0.037			35.5	32.5	m
E0-C-120,75	12140	120.75	416.21	0.12	0.03035	0.01276	0.00021	529.3	8.9	16.6	1	1.377	0.023			44	24	s,m
E0-C-122	11272	122	354.898	0.022	0.00283	0.00144	0.0002	471.5	7.8	12.5	1.9	1.354	0.022			39.25	28.75	s,m
E0-C-122	12141	122	366.19	0.18	0.03441	0.00135	0.00031	424	10	14.8	1.8	1.423	0.034			48.75	19.25	s,m
E0-C-124,75	12142	124.75	550.69	0.15	0.02739	0.00013	0.00016	747	10	18.3	1.3	1.309	0.017			35.5	32.5	m
E0-C-129,75	11273	129.75	636.94	0.04	0.02816	0.00118	0.0002	823	14	11.8	1.8	1.287	0.022			9.9	1.9	i
E0-C-135,5	12143	135.5	587.65	0.23	0.14321	0.00041	0.00024	159.7	3.1	16.8	1.5	1.366	0.026			9.9	1.9	i
E0-C-138	12144	138	528.94	0.2	0.5926	0.0011	0.00029	42.1	0.8	16.6	1.2	1.658	0.032			9.9	1.9	i
E0-C-152,5	11274	152.5	572.494	0.026	0.01628	0.00079	0.00012	1380	14	14.2	1.2	1.384	0.013			19	10	i
E0-C-156,5	12145	156.5	560.93	0.16	0.09047	0.00118	0.00019	259.2	3.7	16.15	0.92	1.469	0.021			19	10	i
E0-C-158	11275	158	598.252	0.036	0.03174	0.00016	0.0002	752	12	15.5	1.5	1.405	0.022			19	10	i
E0-C-162,5	10978	162.5	632.411	0.032	0.04017	0.00011	0.00016	641.2	8.1	16.8	1.2	1.435	0.018			35.5	32.5	m
E0-C-166	11064	166	371.477	0.02	0.05432	0.00021	0.00022	312.5	4.8	18	2.1	1.618	0.024			35.5	32.5	m
E0-C-200	9554	200	544.975	0.045	0.10513	0.00051	0.00029	251.4	4.8	17.4	1.9	1.712	0.032			35.5	32.5	m
E1-TOP	10979	1	1771.328	0.089	0.51392	0.0009	0.00057	56.5	0.6	9.23	0.63	0.5789	0.0061			52.1	4.1	s
E1-3,5	11223	3.5	1836.087	0.078	0.07911	0.00025	0.00038	54.5	2.7	8.11	0.84	0.0828	0.0041			27	24	s,m
E1-7	11224	7	1743.306	0.097	0.07268	0.00023	0.00037	132.3	2.8	8.49	0.61	0.195	0.0041			51	17	s,m
E1-11	11946	11	2237.344	0.088	0.02562	0.00011	0.00025	350.9	6.9	10.01	0.66	0.1426	0.0039			35.5	32.5	m
E1-16	11947	16	1551.859	0.055	0.11735	0.00037	0.00046	120.2	1.9	10.22	0.63	0.3218	0.0053			50	18	s,m
E1-22	11225	22	1797.401	0.091	0.017469	0.00063	0.00041	681	13	10.62	0.62	0.2343	0.0044			35.5	32.5	m
E1-26,5	11948	26.5	1543.853	0.055	0.03103	0.0001	0.00045	361.8	7	13.87	0.65	0.2544	0.0067			35.5	32.5	m
E1-31	11949	31	1930.797	0.049	0.03077	0.00012	0.0004	493.9	7.9	15.09	0.58	0.2757	0.0059			35.5	32.5	m
E1-35	11058	35	1473.198	0.075	0.017711	0.00075	0.00045	679	12	12.47	0.67	0.288	0.0049			49	19	s,m
E1-39	11950	39	1745.36	0.077		0.002577	0.00051		14.7	0.9	0.2773	0.0059	1746	6	14.7	0.9		
E1-44	11951	44	1728.205	0.06	0.09521	0.00033	0.00046	197.6	2.7	13.11	0.56	0.3808	0.0051			38.5	14.5	s
E1-48,5	11226	48.5	1726.966	0.083	0.014962	0.00064	0.00042	1087	16	12.61	0.5	0.333	0.0046			35.5	32.5	m
E1-54	11952	54	1715.401	0.08	0.05117	0.00015	0.00043	350	4.5	14.25	0.82	0.3649	0.0066			35.5	32.5	m
E1-59,5	10980	59.5	1523.231	0.082	0.05646	0.00013	0.00042	329.3	3.5	17.06	0.49	0.4285	0.0046			35.5	32.5	m
E1-62	11059	62	1313.74	0.58	0.2305	0.0022	0.00015	96.8	2.7	15.95	0.95	0.597	0.016			35.75	16.25	s
E1-63,5	11674	63.5	1354.252	0.055	0.23936	0.00027	0.00053	84.1	0.9	16.03	0.41	0.5213	0.0057			23.25	16.25	s
E1-70	11953	70	1242.043	0.079	0.17828	0.00051	0.00065	95.9	1.4	17.71	0.85	0.4803	0.0071			21.5	18.5	s,m
E1-73,5	11227	73.5	1735.97	0.088	0.03627	0.00015	0.000784	698	9.3	12.19	0.57	0.5166	0.0065			35.5	32.5	m
E1-75	11060	75	1202.21	0.061	0.14117	0.00039	0.00087	198.3	2.3	14.89	0.93	0.819	0.01			68	0	s
E1-78,5	11061	78.5	1512.197	0.095	0.2912	0.0011	0.000765	122	3.1	13.4	1.2	0.827	0.021			55.25	12.75	s,m
E1-80,5	11675	80.5	1434.68	0.046	0.11122	0.00014	0.00043	198.3	1.7	14.43	0.4	0.5403	0.0046			35.5	32.5	m
E1-84	11954	84	1541.23	0.065	0.03422	0.0002	0.00013	714	18	17.58	0.71	0.552	0.014			35.5	32.5	m
E1-87	11955	87	1515.484	0.076	0.18074	0.00061	0.000702	181.7	4.5	15.28	0.69	0.756	0.02			54	14	s,m
E1-90,5	11228	90.5	1621.764	0.089	0.06072	0.00023	0.00056	443.5	4.9	14.58	0.66	0.5859	0.0061			35.5	32.5	m
E1-92	10981	92	1695.43	0.1	0.03719	0.00012	0.00061	764.8	8.8	18.04	0.58	0.5879	0.0065			35.5	32.5	m
E2-6	9629	6	762.897	0.072	0.09972	0.00059	0.00014	23.3	3.3	10.6	1.5	0.107	0.015			35.5	32.5	m
E2-262,5	9628	262.5	509.779	0.044	0.17169	0.00059	0.00034	186.6	3.1	7.4	2.2	2.241	0.037			35.5	32.5	m
E3-5,5	9631	5.5	970.698	0.076	0.26381	0.00074	0.00011	15.5	1.3	7.2	1.6	0.149	0.012			9.2	6.2	s,m
E3-2B-22	12146	22	633.16	0.15	0.33474	0.00071	0.00054	13.6	0.3	8.23	0.66	0.2532	0.0068			8.1	5.1	s,m
E3-2B-70	12147	70	575.55	0.17	0.025897	0.000091	0.000241	356.8	6.2	5.01	0.74	0.57	0.01			35.5	32.5	m
E3-2B-130	12148	130	325.44	0.24	0.012097	0.000081	0.01255	1028	25	9.1	1.6	1.365	0.033			35.5	32.5	m
E3-2B-155	12149	155	440.53	0.24	0.09521	0.00031	0.01379	193.2	2.5	10.7	0.94	1.498	0.018			35.5	32.5	m
E3-215	9630	215	331.193	0.042	0.06848	0.00068	0.00063	328	10	17.8	4.1	2.391	0.07			35.5	32.5	m

SAMPLE LABEL	Lab. No.	dft (mm)	²³⁸ U (ng/g)	±2σ	²³² Th (ng/g)	±2σ	²³⁰ Th/ ²³⁸ U (act. Ratio)	±2σ	²³⁰ Th/ ²³² Th (act. Ratio)	±2σ	δ ²³⁴ U (‰)	±2σ	uncorr. Age (ka)	±2σ	corr.age (ka)	±2σ	corr.age (a ad)	±2σ	δ ²³⁴ U _{ini} (‰)	±2σ	(²³⁰ Th/ ²³² Th) _{initial}	Error Method
E4-TOP	11051	1	1126.134	0.061	8.657	0.018	0.02142	0.00017	8.53	0.07	8.2	1.1	2.342	0.019							7.3	1.2 s
E4-4.5	11141	4.5	1065.393	0.077	0.8496	0.0025	0.007237	0.000087	27.74	0.34	9.4	1	0.785	0.01							15.9	11.7 s
E4-6	9550	6	1140.565	0.067	2.0224	0.0046	0.0094	0.00016	16.23	0.28	7.63	0.86	1.022	0.018							10.9	5.2 s
E4-7.5	11142	7.5	1237.376	0.072	0.09626	0.00022	0.006081	0.000065	239	2.6	8.49	0.77	0.6595	0.0071							35.5	32.5 m
E4-9	11143	9	1254.572	0.06	0.11964	0.00025	0.006362	0.000081	204.2	2.6	7.7	1	0.6906	0.009	0.562	0.088	1459	88	8.5	0.77	35.5	32.5 m
E4-10	11052	10	1153.243	0.076	2.2986	0.0042	0.01109	0.00011	17.01	0.18	8.27	0.89	1.206	0.013	0.57	0.11	1450	108	7.7	1	10	6.5 s
E4-11.5	11144	11.5	1130.282	0.068	4.456	0.012	0.01418	0.00016	11.03	0.13	10.4	1	1.541	0.018							7.65	3.3 s
E4-13	11145	13	1202.259	0.092	1.0409	0.0025	0.00861	0.00012	30.51	0.44	12.5	1.6	0.931	0.014							9.15	6.15 s,m
E4-15	11146	15	1365.197	0.079	26.473	0.059	0.05088	0.00024	8.065	0.042	11.23	0.81	5.629	0.027							7.36	0.64 s
E4-16	11147	16	1473.913	0.079	2.7839	0.0056	0.012427	0.000097	20.2	0.16	6.54	0.68	1.355	0.011							13.15	6.85 s
E4-18	10982	18	1740.17	0.11	0.32014	0.00065	0.0085	0.000095	141.6	1.6	7.03	0.63	0.924	0.011							35.5	32.5 m
E4-19.5	11152	19.5	1645.78	0.1	15.62	0.046	0.0313	0.00019	10.095	0.067	9.46	0.81	3.435	0.021							7.45	1.3 s
E4-20.5	11153	20.5	1326.155	0.062	3.5764	0.0088	0.015155	0.000099	17.21	0.12	8.9	0.81	1.65	0.011							7.8	4.7 s
E4-21.5	11154	21.5	997.112	0.055	9.369	0.022	0.0318	0.00016	10.328	0.057	8.62	0.77	3.493	0.018							7.7	1.3 s
E4-23	11155	23	869.915	0.041	3.7221	0.0092	0.01734	0.00014	12.4	0.11	7.4	1.1	1.893	0.016							6.5	2.9 s
E4-24.5	11156	24.5	885.362	0.052	7.593	0.019	0.03917	0.00024	13.99	0.092	8.9	1.1	4.318	0.027							11	1.5 s
E4-25.5	11157	25.5	740.474	0.038	1.8107	0.0033	0.01629	0.00015	20.41	0.19	8.5	1	1.776	0.016							10	5.1 s
E4-28	10983	28	853.239	0.055	1.3851	0.0022	0.01227	0.00014	23.17	0.27	9	1.2	1.334	0.016							9.1	6.1 s,m
E4-29.5	11158	29.5	823.449	0.034	0.8976	0.0023	0.01432	0.00013	40.12	0.39	8.15	0.69	1.56	0.015							16.5	11.8 s
E4-37	11053	37	744.671	0.032	1.1892	0.003	0.01494	0.00015	28.59	0.3	5.9	0.9	1.631	0.017							12.5	8.1 s
E4-40	11054	40	659.002	0.036	1.1814	0.0021	0.01697	0.00014	28.94	0.24	6.7	1	1.853	0.015							14.6	7.2 s
E4-42	11048	42	623.639	0.033	1.3714	0.0026	0.02015	0.00017	28.07	0.25	7.1	1.3	2.204	0.019							16.3	5.8 s
E4-43.5	11149	43.5	666.473	0.04	0.4339	0.0011	0.01411	0.00014	66.58	0.67	9	1.2	1.536	0.015							26.6	19.9 s
E4-44.5	11150	44.5	604.009	0.039	0.12745	0.00029	0.01301	0.00011	189.6	1.7	5.2	1.4	1.421	0.012							36.5	31.5 s,m
E4-46	11161	46	659.711	0.029	0.2563	0.00057	0.01376	0.00013	107.8	1.1	5.1	1.1	1.503	0.015							26	17 s
E4-47.5	11160	47.5	635.883	0.024	0.33454	0.00067	0.01382	0.0001	80.42	0.63	6.43	0.89	1.508	0.012	1.353	0.018	668	18	8	1.2	8.2	1.3 i
E4-49	11159	49	715.499	0.04	0.12728	0.00031	0.0129	0.00014	221.8	2.5	8	1.2	1.405	0.016	1.349	0.028	669	28	10.5	1.5	8.2	1.3 i
E4-49.5	9551	49.5	671.6	0.054	0.05352	0.00033	0.01264	0.00026	487	10	10.4	1.5	1.373	0.028								
EMW5-28.5	9686	28.5	377.813	0.035	0.17431	0.00056	0.018491	0.000376	123.4	2.5	11.8	2.2	2.011	0.041							35.5	32.5 m
E6-7.5	9752	7.5	877.43	0.39			0.9110	0.0034			2.0	2.7	261.0	5.5	261.0	5.5	-258952	5496	4.1	5.7	35.5	32.5 m
E6-31.5	9751	31.5	106.068	0.071			0.981	0.013			17.1	2.7	347	46	347	46	-345265	45665	45.7	8.4	35.5	32.5 m
E6-220	9750	220	320.176	0.098	0.02666	0.00063	0.9788	0.0052	36054		14.1	2.2	353	16	353	16	-350578	15754	38.2	6.3	35.5	32.5 m
E7-B-21.5	9754	21.5	887.647	0.091	0.07604	0.00073	0.011399	0.000197	411.1	8.1	39	1.8	1.203	0.021	1.1	0.1	920	96	39.2	1.8	35.5	32.5 m
E8-TOP	10984	0	1221.09	0.068	2.4599	0.0046	0.022375	0.000184	34.05	0.29	9.93	0.91	2.443	0.021							31.6	2.3 s
E8-8.5	11340	8.5	1176.211	0.049	0.03538	0.00011	0.003085	0.000044	313.7	4.5	12.64	0.83	0.3327	0.0047	0.295	0.035	1726	35	12.65	0.84	35.5	32.5 m
E8-14.5	11229	14.5	948.936	0.046	0.01924	0.000081	0.003505	0.000068	527	10	12.04	0.68	0.3783	0.0074	0.353	0.024	1668	24	12.05	0.68	35.5	32.5 m
E8-21	11341	21	1082.946	0.042	0.029229	0.000079	0.003795	0.000072	430.5	8.3	14.15	0.56	0.4088	0.0078	0.375	0.031	1646	31	14.17	0.56	35.5	32.5 m
E8-26	11055	26	882.458	0.054	0.0518	0.00018	0.003951	0.000089	205.6	4.7	12.98	0.87	0.426	0.01	0.353	0.07	1668	70	12.99	0.87	35.5	32.5 m
E8-29	11056	29	1026.913	0.053	0.03556	0.00011	0.004532	0.000078	399.8	7	15.3	0.92	0.4878	0.0084	0.48	0.009	1541	9	15.32	0.92	6.4	2.4 i
E8-32	11676	32	1116.095	0.039	0.08274	0.00015	0.004613	0.000054	190.5	2.3	13.5	0.82	0.4974	0.006							6.4	2.4 i
E8-35.5	11677	35.5	1058.437	0.055	0.09093	0.00023	0.004632	0.000063	165.4	2.3	15.77	0.79	0.4984	0.0068							6.4	2.4 i
E8-37	11342	37	1100.165	0.064	0.17512	0.00047	0.004792	0.000072	92.1	1.4	15.35	0.74	0.5158	0.0077							6.4	2.4 i
E8-42	11678	42	1341.937	0.056	0.11177	0.00041	0.00455	0.000079	159.9	2.8	16.2	1	0.4894	0.0085							4	1 s,m
E8-46.5	11679	46.5	1367.938	0.07	0.10724	0.00031	0.004584	0.000078	178.9	3.1	15.3	0.76	0.4935	0.0085							5.25	2.25 s,m
E8-48	10985	48	1310.124	0.077	0.08031	0.00027	0.004577	0.00008	228.5	4.1	14.73	0.95	0.4929	0.0087	0.48	0.011	1542	11	14.75	0.95	6.25	3.25 s,m
E8-55	11231	55	596.551	0.027	0.09265	0.00034	0.013494	0.000194	264.7	3.9	7.5	1	1.47	0.022	1.27	0.18	746	181	7.5	1	35.5	32.5 m
E8-60.5	11057	60.5	523.577	0.04	0.06993	0.00029	0.013166	0.000207	301.7	4.9	7.1	1.4	1.435	0.023	1.27	0.15	754	148	7.1	1.4	35.5	32.5 m
E8-67	9633	67	597.658	0.057	0.598	0.0015	0.016261	0.000334	50	1	9.9	1.9	1.77	0.036							35.5	32.5 m

SAMPLE LABEL	Lab. No.	dft (mm)	²³⁸ U (ng/g)	²³² Th (ng/g)	²³⁰ Th/ ²³⁸ U (act. Ratio)	²³⁰ Th/ ²³² Th (act. Ratio)	²³⁴ U (‰)	uncorr. Age (ka)	²³⁰ Th/ ²³² Th (act. Ratio)	²³⁴ U (‰)	$\pm 2\sigma$	corr.age (ka)	$\pm 2\sigma$	corr.age (a ad)	$\pm 2\sigma$	$\delta^{234}\text{U}_{\text{ini}}$ (‰)	(²³⁰ Th/ ²³² Th) _{initial}	Error Method					
E-23-1-B	12454	0	874.48	0.32	0.05694	0.00094	0.509867	0.000888	24283	405	23.79	0.55	74.9	0.2	74.82	0.21	-72799	206	29.38	0.68	35.5	32.5	m
	12459	0	680.29	0.34	3.624	0.0057	0.146284	0.00048	85.25	0.31	27.53	0.85	16.735	0.061					35.5	32.5	m		
E-23-2-B	12455	0	535.299	0.038	0.12051	0.00025	0.020089	0.000121	276.7	1.8	22.22	0.53	2.164	0.013	1.88	0.26	138	259	22.34	0.53	35.5	32.5	m
	12460	0	899.094	0.033	0.04017	0.00014	0.002021	0.000032	140.2	2.3	15.01	0.35	0.2173	0.0034					35.5	32.5	m		
E-23-3B-7,5	12464	7.5	1309.574	0.061	0.04209	0.00013	0.000583	0.000023	55.9	2.2	21.77	0.63	0.0622	0.0025					26	7	lc		
	12465	29	1133.958	0.091	0.04686	0.00014	0.001476	0.000049	110.1	3.7	22.6	0.73	0.1575	0.0052					26	7	lc		
E-23-3B-60	12825	60	1264.36	0.59	0.027192	0.000093	0.002369	0.000036	344.2	5.4	19.63	0.55	0.2537	0.0053	0.234	0.006	1790	6	19.64	0.55	26	7	lc
	12824	92	1261.47	0.39	0.03349	0.00016	0.003411	0.000058	400.8	7.1	20.16	0.4	0.3652	0.0078	0.341	0.009	1683	9	20.18	0.4	26	7	lc
E-23-3B-125	12467	125	1422.348	0.065	0.022633	0.000066	0.00479	0.000034	937.1	7.1	20.72	0.47	0.513	0.0036	0.499	0.005	1526	5	20.74	0.47	26	7	lc
	12468	146	1501.446	0.054	0.04257	0.00011	0.005505	0.000045	603.5	5.2	21.12	0.48	0.5895	0.0049	0.564	0.008	1460	8	21.16	0.48	26	7	lc
E-23-3A-190	12462	190	1273.973	0.078	0.05294	0.00015	0.00641	0.000083	476.4	6.3	21.85	0.68	0.6861	0.0089	0.648	0.013	1376	13	21.89	0.68	26	7	lc
	12463	268	1362.189	0.058	0.0454	0.00012	0.008981	0.000061	830.7	6.1	23.47	0.39	0.961	0.0066	0.931	0.011	1093	11	23.54	0.39	26	7	lc
Estrella loc.5	11705	-	925.727	0.048	4.7348	0.0073	0.983	0.0017	593.3	1.4	15.76	0.62	358.3	5.3	351.9	8.1	-349878	8085	42.6	1.9	35.5	32.5	m
Estrella drip Site 1	11706	-	1325.237	0.06	24.42	0.043	0.03924	0.00017	6.571	0.03	3.11	0.65	4.352	0.02	0.01	1.38	2016	1378	3.11	0.65	6.5	3.25	zac

Table S 4 Stable isotope data of speleothem E0-C. The age of each sample corresponds to the chronology discussed in the main text.

Sample ID	Lab	dft [cm]	Age [a BP]	Age [a AD]	Age error [a]	$\delta^{13}\text{C}$ [‰ VPDB]	$\delta^{18}\text{O}$ [‰ VPDB]
E0-C-704	Institute of Earth Sciences, Heidelberg University	0.3				-10.40	-4.80
E0-C-703	Institute of Earth Sciences, Heidelberg University	0.4				-11.33	-4.98
E0-C-702	Institute of Earth Sciences, Heidelberg University	0.5				-11.04	-4.72
E0-C-700	Institute of Earth Sciences, Heidelberg University	0.7				-11.91	-5.16
E0-C-699	Institute of Earth Sciences, Heidelberg University	0.8				-10.49	-4.98
E0-C-698	Institute of Earth Sciences, Heidelberg University	0.9				-11.57	-5.28
E0-C-697	Institute of Earth Sciences, Heidelberg University	1				-11.47	-5.34
E0-C-696	Institute of Earth Sciences, Heidelberg University	1.1				-11.63	-5.46
E0-C-695	Institute of Earth Sciences, Heidelberg University	1.2				-12.23	-5.39
E0-C-694	Institute of Earth Sciences, Heidelberg University	1.3				-11.73	-5.17
E0-C-693	Institute of Earth Sciences, Heidelberg University	1.4				-12.55	-5.33
E0-C-692	Institute of Earth Sciences, Heidelberg University	1.5				-11.93	-4.96
E0-C-691	Institute of Earth Sciences, Heidelberg University	1.6				-11.33	-4.38
E0-C-689	Institute of Earth Sciences, Heidelberg University	1.8				-11.19	-4.12
E0-C-688	Institute of Earth Sciences, Heidelberg University	1.9				-10.86	-4.19
E0-C-687	Institute of Earth Sciences, Heidelberg University	2				-11.31	-4.05
E0-C-686	Institute of Earth Sciences, Heidelberg University	2.1				-12.09	-4.26
E0-C-685	Institute of Earth Sciences, Heidelberg University	2.2				-11.51	-4.34
E0-C-684	Institute of Earth Sciences, Heidelberg University	2.3				-11.26	-4.16
E0-C-683	Institute of Earth Sciences, Heidelberg University	2.4				-11.38	-4.24
E0-C-682	Institute of Earth Sciences, Heidelberg University	2.5				-11.69	-4.33
E0-C-681	Institute of Earth Sciences, Heidelberg University	2.6				-12.02	-4.25
E0-C-679	Institute of Earth Sciences, Heidelberg University	2.8				-11.88	-4.50
E0-C-678	Institute of Earth Sciences, Heidelberg University	2.9				-11.53	-4.43
E0-C-677	Institute of Earth Sciences, Heidelberg University	3				-11.24	-4.37
E0-C-676	Institute of Earth Sciences, Heidelberg University	3.1				-11.10	-4.30
E0-C-674	Institute of Earth Sciences, Heidelberg University	3.3				-12.61	-4.56
E0-C-673	Institute of Earth Sciences, Heidelberg University	3.4				-12.75	-4.55
E0-C-672	Institute of Earth Sciences, Heidelberg University	3.5				-11.88	-4.51
E0-C-671	Institute of Earth Sciences, Heidelberg University	3.6				-11.61	-4.37
E0-C-670	Institute of Earth Sciences, Heidelberg University	3.7				-11.31	-4.40
E0-C-669	Institute of Earth Sciences, Heidelberg University	3.8				-11.00	-4.15
E0-C-668	Institute of Earth Sciences, Heidelberg University	3.9				-10.51	-4.07
E0-C-667	Institute of Earth Sciences, Heidelberg University	4				-11.06	-4.11
E0-C-666	Institute of Earth Sciences, Heidelberg University	4.1				-11.20	-4.14
E0-C-665	Institute of Earth Sciences, Heidelberg University	4.2				-11.60	-4.17
E0-C-664	Institute of Earth Sciences, Heidelberg University	4.3				-10.14	-4.03
E0-C-663	Institute of Earth Sciences, Heidelberg University	4.4				-9.06	-3.83
E0-C-662	Institute of Earth Sciences, Heidelberg University	4.5				-9.39	-4.01
E0-C-661	Institute of Earth Sciences, Heidelberg University	4.6				-10.44	-4.27
E0-C-660	Institute of Earth Sciences, Heidelberg University	4.7				-10.14	-4.39
E0-C-659	Institute of Earth Sciences, Heidelberg University	4.8				-9.25	-4.70
E0-C-658	Institute of Earth Sciences, Heidelberg University	4.9				-8.84	-4.84
E0-C-657	Institute of Earth Sciences, Heidelberg University	5				-9.08	-4.72
E0-C-656	Institute of Earth Sciences, Heidelberg University	5.1	115.77	1834.23	52.83	-9.84	-5.13
E0-C-655	Institute of Earth Sciences, Heidelberg University	5.2	116.91	1833.09	52.58	-8.93	-4.26
E0-C-654	Institute of Earth Sciences, Heidelberg University	5.3	117.90	1832.10	52.40	-9.07	-4.24
E0-C-653	Institute of Earth Sciences, Heidelberg University	5.4	118.90	1831.10	52.26	-10.09	-4.37
E0-C-652	Institute of Earth Sciences, Heidelberg University	5.5	119.83	1830.17	52.16	-10.93	-5.20
E0-C-651	Institute of Earth Sciences, Heidelberg University	5.6	120.92	1829.08	52.06	-10.88	-5.63
E0-C-649	Institute of Earth Sciences, Heidelberg University	5.8	123.01	1826.99	51.90	-10.84	-5.70
E0-C-648	Institute of Earth Sciences, Heidelberg University	5.9	124.07	1825.93	51.90	-10.82	-4.99
E0-C-647	Institute of Earth Sciences, Heidelberg University	6	125.18	1824.82	51.76	-10.11	-4.82
E0-C-624	Elemtex Ltd., Cornwall	6.1	126.55	1823.45	51.36	-10.45	-4.80
E0-C-623	Elemtex Ltd., Cornwall	6.35	129.39	1820.61	50.79	-9.59	-4.32
E0-C-622	Elemtex Ltd., Cornwall	6.6	131.92	1818.08	50.30	-9.79	-4.13
E0-C-621	Elemtex Ltd., Cornwall	6.85	134.61	1815.39	49.86	-10.38	-3.91
E0-C-620	Institute of Earth Sciences, Heidelberg University	7.1	137.58	1812.42	49.37	-10.40	-4.65
E0-C-619	Elemtex Ltd., Cornwall	7.35	140.20	1809.80	48.86	-10.03	-4.32
E0-C-618	Institute of Earth Sciences, Heidelberg University	7.6	142.70	1807.30	48.52	-9.98	-4.77
E0-C-617	Elemtex Ltd., Cornwall	7.85	145.23	1804.77	48.20	-10.08	-4.57
E0-C-616	Institute of Earth Sciences, Heidelberg University	8.1	147.64	1802.36	47.82	-10.14	-4.93
E0-C-615	Elemtex Ltd., Cornwall	8.35	150.27	1799.73	47.18	-9.74	-4.48
E0-C-614	Institute of Earth Sciences, Heidelberg University	8.6	152.63	1797.37	46.73	-10.08	-5.23
E0-C-613	Elemtex Ltd., Cornwall	8.85	155.08	1794.92	46.16	-9.82	-4.69
E0-C-612	Institute of Earth Sciences, Heidelberg University	9.1	157.86	1792.14	45.68	-10.01	-5.35
E0-C-611	Elemtex Ltd., Cornwall	9.35	160.54	1789.46	45.17	-10.19	-4.90
E0-C-610	Institute of Earth Sciences, Heidelberg University	9.6	163.19	1786.81	44.69	-10.29	-5.56
E0-C-609	Elemtex Ltd., Cornwall	9.85	165.79	1784.21	44.28	-10.25	-5.08
E0-C-608	Institute of Earth Sciences, Heidelberg University	10.1	168.48	1781.52	43.84	-10.33	-5.66
E0-C-607	Elemtex Ltd., Cornwall	10.35	171.25	1778.75	43.02	-10.19	-5.34
E0-C-606	Institute of Earth Sciences, Heidelberg University	10.6	173.78	1776.22	42.46	-10.31	-5.56
E0-C-605	Elemtex Ltd., Cornwall	10.85	176.59	1773.41	41.68	-9.99	-5.04
E0-C-604	Institute of Earth Sciences, Heidelberg University	11.1	179.28	1770.72	40.94	-10.82	-5.87

E0-C-603	Elemtex Ltd., Cornwall	11.35	181.82	1768.18	40.29	-10.09	-5.43
E0-C-602	Institute of Earth Sciences, Heidelberg University	11.6	184.37	1765.63	39.74	-10.22	-5.78
E0-C-601	Elemtex Ltd., Cornwall	11.85	186.96	1763.04	39.16	-10.42	-5.29
E0-C-600	Institute of Earth Sciences, Heidelberg University	12.1	189.38	1760.62	38.66	-10.21	-5.86
E0-C-599	Elemtex Ltd., Cornwall	12.35	191.75	1758.25	37.94	-10.23	-5.73
E0-C-598	Institute of Earth Sciences, Heidelberg University	12.6	194.38	1755.62	37.13	-10.85	-6.00
E0-C-597	Elemtex Ltd., Cornwall	12.85	196.88	1753.12	36.29	-10.81	-5.63
E0-C-596	Institute of Earth Sciences, Heidelberg University	13.1	199.24	1750.76	35.67	-10.50	-5.82
E0-C-595	Elemtex Ltd., Cornwall	13.35	201.64	1748.36	35.06	-10.01	-5.34
E0-C-594	Institute of Earth Sciences, Heidelberg University	13.6	203.93	1746.07	34.25	-10.47	-5.84
E0-C-593	Elemtex Ltd., Cornwall	13.85	206.19	1743.81	33.53	-10.18	-6.09
E0-C-592	Institute of Earth Sciences, Heidelberg University	14.1	208.57	1741.43	32.60	-10.54	-5.96
E0-C-591	Elemtex Ltd., Cornwall	14.35	210.80	1739.20	31.64	-10.27	-5.36
E0-C-590	Institute of Earth Sciences, Heidelberg University	14.6	213.16	1736.84	30.45	-10.45	-5.94
E0-C-589	Elemtex Ltd., Cornwall	14.85	215.35	1734.65	29.41	-10.77	-5.78
E0-C-588	Institute of Earth Sciences, Heidelberg University	15.1	217.61	1732.39	28.39	-10.42	-5.89
E0-C-587	Elemtex Ltd., Cornwall	15.35	220.09	1729.91	27.00	-10.37	-5.69
E0-C-586	Institute of Earth Sciences, Heidelberg University	15.6	222.37	1727.63	25.68	-10.46	-5.83
E0-C-585	Elemtex Ltd., Cornwall	15.85	224.26	1725.74	24.72	-10.68	-5.16
E0-C-584	Institute of Earth Sciences, Heidelberg University	16.1	226.35	1723.65	23.51	-10.29	-5.58
E0-C-583	Elemtex Ltd., Cornwall	16.35	228.34	1721.66	22.53	-10.66	-5.10
E0-C-582	Institute of Earth Sciences, Heidelberg University	16.6	230.33	1719.67	21.67	-11.22	-5.88
E0-C-581	Elemtex Ltd., Cornwall	16.85	232.57	1717.43	20.33	-11.39	-5.60
E0-C-580	Institute of Earth Sciences, Heidelberg University	17.1	234.44	1715.56	19.60	-11.40	-6.06
E0-C-579	Elemtex Ltd., Cornwall	17.35	236.25	1713.75	19.14	-10.94	-5.49
E0-C-578	Institute of Earth Sciences, Heidelberg University	17.6	237.65	1712.35	19.72	-11.14	-6.07
E0-C-577	Elemtex Ltd., Cornwall	17.85	239.19	1710.81	20.65	-10.78	-5.19
E0-C-576	Institute of Earth Sciences, Heidelberg University	18.1	241.10	1708.90	21.34	-10.89	-5.65
E0-C-575	Elemtex Ltd., Cornwall	18.35	243.46	1706.54	21.71	-11.17	-5.35
E0-C-574	Institute of Earth Sciences, Heidelberg University	18.6	246.17	1703.83	21.94	-11.12	-5.67
E0-C-573	Elemtex Ltd., Cornwall	18.85	248.97	1701.03	22.21	-10.98	-5.20
E0-C-572	Institute of Earth Sciences, Heidelberg University	19.1	252.41	1697.59	21.99	-10.99	-6.62
E0-C-571	Elemtex Ltd., Cornwall	19.35	257.89	1692.11	21.50	-10.52	-4.99
E0-C-570	Institute of Earth Sciences, Heidelberg University	19.6	264.70	1685.30	22.58	-10.79	-5.98
E0-C-569	Elemtex Ltd., Cornwall	19.85	270.92	1679.08	24.51	-10.57	-5.68
E0-C-568	Institute of Earth Sciences, Heidelberg University	20.1	276.26	1673.74	25.43	-10.33	-6.07
E0-C-567	Elemtex Ltd., Cornwall	20.35	281.54	1668.46	25.49	-10.66	-5.14
E0-C-566	Institute of Earth Sciences, Heidelberg University	20.6	287.23	1662.77	25.68	-10.88	-5.04
E0-C-565	Elemtex Ltd., Cornwall	20.85	293.16	1656.84	26.12	-11.31	-4.29
E0-C-564	Institute of Earth Sciences, Heidelberg University	21.1	298.80	1651.20	26.95	-11.37	-4.82
E0-C-563	Elemtex Ltd., Cornwall	21.35	304.01	1645.99	27.93	-11.56	-4.71
E0-C-562	Institute of Earth Sciences, Heidelberg University	21.6	309.03	1640.97	28.99	-11.83	-5.30
E0-C-561	Elemtex Ltd., Cornwall	21.85	313.76	1636.24	30.06	-11.62	-5.06
E0-C-560	Institute of Earth Sciences, Heidelberg University	22.1	317.88	1632.12	30.92	-11.65	-5.01
E0-C-559	Elemtex Ltd., Cornwall	22.35	321.63	1628.37	31.60	-11.57	-4.82
E0-C-558	Institute of Earth Sciences, Heidelberg University	22.6	325.44	1624.56	32.02	-11.62	-5.15
E0-C-557	Elemtex Ltd., Cornwall	22.85	328.92	1621.08	32.41	-11.30	-4.93
E0-C-556	Institute of Earth Sciences, Heidelberg University	23.1	332.36	1617.64	32.74	-11.43	-5.38
E0-C-555	Elemtex Ltd., Cornwall	23.35	335.60	1614.40	33.07	-11.41	-5.14
E0-C-554	Institute of Earth Sciences, Heidelberg University	23.6	339.20	1610.80	32.96	-11.53	-5.73
E0-C-553	Elemtex Ltd., Cornwall	23.85	342.63	1607.37	32.78	-11.27	-5.24
E0-C-552	Institute of Earth Sciences, Heidelberg University	24.1	345.67	1604.33	32.53	-11.33	-5.44
E0-C-551	Elemtex Ltd., Cornwall	24.35	348.50	1601.50	32.29	-10.56	-5.15
E0-C-550	Institute of Earth Sciences, Heidelberg University	24.6	351.60	1598.40	32.11	-9.92	-5.53
E0-C-549	Elemtex Ltd., Cornwall	24.85	354.95	1595.05	31.81	-9.02	-4.91
E0-C-548	Elemtex Ltd., Cornwall	25.1	358.66	1591.34	31.34	-8.89	-5.36
E0-C-547	Elemtex Ltd., Cornwall	25.35	361.76	1588.24	30.96	-8.13	-4.70
E0-C-545	Elemtex Ltd., Cornwall	25.85	368.28	1581.72	30.10	-9.95	-4.90
E0-C-544	Elemtex Ltd., Cornwall	26.1	371.73	1578.27	29.65	-9.96	-5.02
E0-C-543	Elemtex Ltd., Cornwall	26.35	374.40	1575.60	29.56	-9.57	-5.15
E0-C-542	Institute of Earth Sciences, Heidelberg University	26.6	377.19	1572.81	29.25	-9.73	-5.05
E0-C-541	Elemtex Ltd., Cornwall	26.85	380.61	1569.39	28.78	-10.30	-4.80
E0-C-540	Institute of Earth Sciences, Heidelberg University	27.1	383.71	1566.29	28.31	-10.19	-5.50
E0-C-539	Elemtex Ltd., Cornwall	27.35	386.61	1563.39	28.10	-9.62	-5.36
E0-C-538	Institute of Earth Sciences, Heidelberg University	27.6	389.45	1560.55	27.99	-9.63	-5.67
E0-C-537	Elemtex Ltd., Cornwall	27.85	392.28	1557.72	28.06	-9.81	-5.62
E0-C-536	Institute of Earth Sciences, Heidelberg University	28.1	395.53	1554.47	27.80	-9.09	-5.94
E0-C-535	Elemtex Ltd., Cornwall	28.35	398.50	1551.50	27.53	-9.04	-5.30
E0-C-534	Institute of Earth Sciences, Heidelberg University	28.6	401.24	1548.76	27.45	-9.40	-5.10
E0-C-533	Elemtex Ltd., Cornwall	28.85	404.08	1545.92	27.24	-9.61	-4.36
E0-C-532	Institute of Earth Sciences, Heidelberg University	29.1	406.86	1543.14	27.06	-10.59	-4.83
E0-C-531	Elemtex Ltd., Cornwall	29.35	409.64	1540.36	26.72	-9.64	-4.33
E0-C-530	Institute of Earth Sciences, Heidelberg University	29.6	412.12	1537.88	26.58	-9.99	-4.70
E0-C-529	Elemtex Ltd., Cornwall	29.85	414.76	1535.24	26.32	-10.24	-4.45
E0-C-528	Institute of Earth Sciences, Heidelberg University	30.1	417.23	1532.77	26.09	-10.43	-4.76
E0-C-527	Elemtex Ltd., Cornwall	30.35	419.88	1530.12	25.88	-10.69	-4.61
E0-C-526	Institute of Earth Sciences, Heidelberg University	30.6	422.39	1527.61	25.72	-10.51	-4.90
E0-C-525	Elemtex Ltd., Cornwall	30.85	424.80	1525.20	25.52	-10.58	-4.63
E0-C-524	Institute of Earth Sciences, Heidelberg University	31.1	427.41	1522.59	25.33	-10.76	-5.07
E0-C-523	Elemtex Ltd., Cornwall	31.35	430.10	1519.90	25.10	-10.69	-5.08

E0-C-522	Institute of Earth Sciences, Heidelberg University	31.6	432.68	1517.32	24.89	-10.69	-5.10
E0-C-521	Elemtex Ltd., Cornwall	31.85	435.29	1514.71	24.61	-11.11	-5.13
E0-C-520	Institute of Earth Sciences, Heidelberg University	32.1	437.91	1512.09	24.27	-10.83	-5.30
E0-C-519	Elemtex Ltd., Cornwall	32.35	440.57	1509.43	23.92	-10.67	-5.14
E0-C-518	Institute of Earth Sciences, Heidelberg University	32.6	443.17	1506.83	23.57	-11.13	-5.34
E0-C-517	Elemtex Ltd., Cornwall	32.85	445.61	1504.39	23.24	-11.58	-5.09
E0-C-516	Institute of Earth Sciences, Heidelberg University	33.1	448.21	1501.79	22.84	-11.13	-5.38
E0-C-515	Elemtex Ltd., Cornwall	33.35	450.68	1499.32	22.46	-11.33	-5.17
E0-C-514	Institute of Earth Sciences, Heidelberg University	33.6	453.19	1496.81	22.14	-11.37	-5.48
E0-C-513	Elemtex Ltd., Cornwall	33.85	455.66	1494.34	21.79	-11.36	-5.17
E0-C-512	Institute of Earth Sciences, Heidelberg University	34.1	458.16	1491.84	21.31	-10.87	-5.37
E0-C-511	Elemtex Ltd., Cornwall	34.35	460.62	1489.38	20.85	-11.09	-5.11
E0-C-510	Institute of Earth Sciences, Heidelberg University	34.6	463.14	1486.86	20.61	-10.97	-5.65
E0-C-509	Elemtex Ltd., Cornwall	34.85	465.63	1484.37	20.51	-11.13	-5.35
E0-C-508	Institute of Earth Sciences, Heidelberg University	35.1	468.10	1481.90	20.34	-11.63	-5.66
E0-C-507	Elemtex Ltd., Cornwall	35.35	470.47	1479.53	20.22	-11.59	-5.38
E0-C-506	Institute of Earth Sciences, Heidelberg University	35.6	472.87	1477.13	20.11	-11.51	-5.50
E0-C-505	Elemtex Ltd., Cornwall	35.85	475.14	1474.86	20.10	-11.39	-5.04
E0-C-504	Institute of Earth Sciences, Heidelberg University	36.1	477.30	1472.70	19.96	-11.86	-5.39
E0-C-503	Elemtex Ltd., Cornwall	36.35	479.37	1470.63	19.95	-11.57	-5.10
E0-C-502	Institute of Earth Sciences, Heidelberg University	36.6	481.50	1468.50	19.97	-11.94	-5.59
E0-C-501	Elemtex Ltd., Cornwall	36.85	483.51	1466.49	20.11	-11.52	-5.14
E0-C-500	Elemtex Ltd., Cornwall	37.1	485.52	1464.48	20.37	-10.99	-5.22
E0-C-499	Elemtex Ltd., Cornwall	37.35	487.45	1462.55	20.64	-11.03	-5.34
E0-C-498	Elemtex Ltd., Cornwall	37.6	489.48	1460.52	20.85	-11.38	-5.25
E0-C-497	Elemtex Ltd., Cornwall	37.85	491.72	1458.28	21.21	-11.40	-5.28
E0-C-496	Elemtex Ltd., Cornwall	38.1	494.01	1455.99	21.55	-11.42	-5.38
E0-C-495	Elemtex Ltd., Cornwall	38.35	496.26	1453.74	21.99	-10.82	-5.18
E0-C-494	Elemtex Ltd., Cornwall	38.6	498.55	1451.45	22.38	-10.80	-4.98

Table S 5 Stable isotope data of speleothem E1. The age of each sample corresponds to the chronology discussed in the main text.

Sample ID	Lab	dft [cm]	Age [a BP]	Age [a AD]	Age error [a]	$\delta^{13}\text{C}$ [‰ VPDB]	$\delta^{18}\text{O}$ [‰ VPDB]
E1-001	Institute of Earth Sciences, Heidelberg University	0.56	12.17	1937.83	21.56	-9.82	-4.78
E1-002	Institute of Earth Sciences, Heidelberg University	0.66	12.67	1937.33	21.46	-9.76	-4.77
E1-003	Institute of Earth Sciences, Heidelberg University	0.76	13.21	1936.79	21.36	-9.15	-4.52
E1-004	Institute of Earth Sciences, Heidelberg University	0.86	13.66	1936.34	21.29	-9.72	-4.82
E1-005	Institute of Earth Sciences, Heidelberg University	0.96	14.11	1935.89	21.23	-9.89	-4.71
E1-006	Institute of Earth Sciences, Heidelberg University	1.06	14.55	1935.45	21.15	-10.40	-4.87
E1-007	Institute of Earth Sciences, Heidelberg University	1.16	14.98	1935.02	21.09	-10.97	-5.05
E1-008	Institute of Earth Sciences, Heidelberg University	1.26	15.41	1934.59	21.04	-11.72	-5.18
E1-009	Institute of Earth Sciences, Heidelberg University	1.36	15.86	1934.14	20.95	-11.61	-5.07
E1-010	Institute of Earth Sciences, Heidelberg University	1.46	16.27	1933.73	20.90	-10.94	-5.13
E1-011	Institute of Earth Sciences, Heidelberg University	1.56	16.74	1933.26	20.82	-10.71	-5.20
E1-012	Institute of Earth Sciences, Heidelberg University	1.66	17.26	1932.74	20.75	-10.67	-5.15
E1-013	Institute of Earth Sciences, Heidelberg University	1.76	17.69	1932.31	20.68	-10.97	-5.21
E1-014	Institute of Earth Sciences, Heidelberg University	1.86	18.19	1931.81	20.61	-11.46	-5.28
E1-015	Institute of Earth Sciences, Heidelberg University	1.96	18.64	1931.36	20.57	-11.66	-5.56
E1-016	Institute of Earth Sciences, Heidelberg University	2.06	19.12	1930.88	20.48	-11.15	-5.53
E1-017	Institute of Earth Sciences, Heidelberg University	2.16	19.61	1930.39	20.40	-10.51	-5.54
E1-018	Institute of Earth Sciences, Heidelberg University	2.26	20.10	1929.90	20.32	-9.60	-5.07
E1-019	Institute of Earth Sciences, Heidelberg University	2.36	20.65	1929.35	20.29	-10.31	-5.71
E1-020	Institute of Earth Sciences, Heidelberg University	2.46	21.13	1928.87	20.20	-10.70	-5.39
E1-021	Institute of Earth Sciences, Heidelberg University	2.56	21.60	1928.40	20.12	-10.41	-5.45
E1-022	Institute of Earth Sciences, Heidelberg University	2.66	22.09	1927.91	20.07	-10.14	-5.47
E1-023	Institute of Earth Sciences, Heidelberg University	2.76	22.62	1927.38	19.96	-10.69	-5.09
E1-024	Institute of Earth Sciences, Heidelberg University	2.86	23.05	1926.95	19.88	-11.32	-5.02
E1-025	Institute of Earth Sciences, Heidelberg University	2.96	23.53	1926.47	19.83	-11.38	-4.84
E1-026	Institute of Earth Sciences, Heidelberg University	3.06	24.01	1925.99	19.71	-10.13	-4.36
E1-027	Institute of Earth Sciences, Heidelberg University	3.16	24.48	1925.52	19.65	-9.92	-4.20
E1-028	Institute of Earth Sciences, Heidelberg University	3.26	24.93	1925.07	19.62	-9.41	-3.87
E1-029	Institute of Earth Sciences, Heidelberg University	3.36	25.40	1924.60	19.54	-9.20	-3.89
E1-030	Institute of Earth Sciences, Heidelberg University	3.46	25.84	1924.16	19.48	-9.19	-4.06
E1-031	Institute of Earth Sciences, Heidelberg University	3.56	26.35	1923.65	19.41	-9.14	-4.07
E1-032	Institute of Earth Sciences, Heidelberg University	3.66	26.88	1923.12	19.33	-9.16	-3.98
E1-033	Institute of Earth Sciences, Heidelberg University	3.76	27.34	1922.66	19.24	-9.24	-4.22
E1-034	Institute of Earth Sciences, Heidelberg University	3.86	27.75	1922.25	19.17	-9.65	-4.05
E1-035	Institute of Earth Sciences, Heidelberg University	3.96	28.22	1921.78	19.09	-10.42	-4.36
E1-036	Institute of Earth Sciences, Heidelberg University	4.06	28.68	1921.32	18.98	-10.30	-4.34
E1-037	Institute of Earth Sciences, Heidelberg University	4.16	29.17	1920.83	18.80	-10.57	-4.57
E1-038	Institute of Earth Sciences, Heidelberg University	4.26	29.62	1920.38	18.74	-10.28	-4.36
E1-039	Institute of Earth Sciences, Heidelberg University	4.36	30.09	1919.91	18.69	-11.11	-4.51
E1-040	Institute of Earth Sciences, Heidelberg University	4.46	30.54	1919.46	18.62	-11.20	-4.53
E1-041	Institute of Earth Sciences, Heidelberg University	4.56	31.02	1918.98	18.55	-11.22	-4.50
E1-042	Institute of Earth Sciences, Heidelberg University	4.66	31.47	1918.53	18.44	-10.79	-4.50
E1-043	Institute of Earth Sciences, Heidelberg University	4.76	31.95	1918.05	18.35	-10.62	-4.55
E1-044	Institute of Earth Sciences, Heidelberg University	4.86	32.43	1917.57	18.28	-10.93	-4.72
E1-045	Institute of Earth Sciences, Heidelberg University	4.96	32.88	1917.12	18.21	-11.14	-4.65
E1-046	Institute of Earth Sciences, Heidelberg University	5.06	33.38	1916.62	18.12	-11.78	-4.86
E1-047	Institute of Earth Sciences, Heidelberg University	5.16	33.86	1916.14	18.06	-11.39	-4.69
E1-048	Institute of Earth Sciences, Heidelberg University	5.26	34.43	1915.57	18.01	-10.15	-4.33
E1-049	Institute of Earth Sciences, Heidelberg University	5.36	34.90	1915.10	17.89	-10.29	-4.42
E1-050	Institute of Earth Sciences, Heidelberg University	5.46	35.33	1914.67	17.82	-10.10	-4.30
E1-051	Institute of Earth Sciences, Heidelberg University	5.56	35.77	1914.23	17.76	-10.66	-4.73
E1-052	Institute of Earth Sciences, Heidelberg University	5.66	36.23	1913.77	17.69	-11.41	-4.87
E1-053	Institute of Earth Sciences, Heidelberg University	5.76	36.71	1913.29	17.61	-11.13	-4.73
E1-054	Institute of Earth Sciences, Heidelberg University	5.86	37.18	1912.82	17.52	-10.58	-4.42
E1-055	Institute of Earth Sciences, Heidelberg University	5.96	37.63	1912.37	17.46	-11.31	-4.66
E1-056	Institute of Earth Sciences, Heidelberg University	6.06	38.10	1911.90	17.38	-11.74	-4.90
E1-057	Institute of Earth Sciences, Heidelberg University	6.16	38.54	1911.46	17.31	-11.67	-4.88
E1-058	Institute of Earth Sciences, Heidelberg University	6.26	39.10	1910.90	17.26	-11.61	-4.77
E1-059	Institute of Earth Sciences, Heidelberg University	6.36	39.56	1910.44	17.17	-11.72	-4.88
E1-060	Institute of Earth Sciences, Heidelberg University	6.46	40.08	1909.92	17.11	-11.65	-4.87
E1-061	Institute of Earth Sciences, Heidelberg University	6.56	40.61	1909.39	16.95	-11.77	-4.90
E1-062	Institute of Earth Sciences, Heidelberg University	6.66	41.09	1908.91	16.89	-11.94	-4.88
E1-063	Institute of Earth Sciences, Heidelberg University	6.76	41.55	1908.45	16.79	-11.90	-4.95
E1-064	Institute of Earth Sciences, Heidelberg University	6.86	42.02	1907.98	16.66	-12.04	-5.11
E1-065	Institute of Earth Sciences, Heidelberg University	6.96	42.57	1907.43	16.54	-11.91	-5.21
E1-066	Institute of Earth Sciences, Heidelberg University	7.06	43.03	1906.97	16.48	-11.63	-5.19
E1-067	Institute of Earth Sciences, Heidelberg University	7.16	43.53	1906.47	16.44	-11.22	-5.08
E1-068	Institute of Earth Sciences, Heidelberg University	7.26	44.06	1905.94	16.41	-11.60	-5.20
E1-069	Institute of Earth Sciences, Heidelberg University	7.36	44.56	1905.44	16.30	-11.37	-5.10
E1-070	Institute of Earth Sciences, Heidelberg University	7.46	45.08	1904.92	16.16	-11.41	-4.97
E1-071	Institute of Earth Sciences, Heidelberg University	7.71	46.39	1903.61	16.01	-11.04	-4.90
E1-072	Institute of Earth Sciences, Heidelberg University	7.96	47.62	1902.38	15.79	-9.98	-4.56
E1-073	Institute of Earth Sciences, Heidelberg University	8.21	48.94	1901.06	15.49	-10.88	-4.77
E1-074	Institute of Earth Sciences, Heidelberg University	8.46	50.21	1899.79	15.32	-11.50	-4.72

E1-075	Institute of Earth Sciences, Heidelberg University	8.71	51.47	1898.53	15.09	-11.54	-4.71
E1-076	Institute of Earth Sciences, Heidelberg University	8.96	52.77	1897.23	14.85	-11.73	-4.67
E1-078	Institute of Earth Sciences, Heidelberg University	9.46	55.53	1894.47	14.73	-11.26	-4.47
E1-079	Institute of Earth Sciences, Heidelberg University	9.71	56.99	1893.01	14.80	-11.32	-4.65
E1-080	Institute of Earth Sciences, Heidelberg University	9.96	58.57	1891.43	15.00	-11.44	-4.66
E1-081	Institute of Earth Sciences, Heidelberg University	10.21	60.13	1889.87	14.97	-11.09	-4.62
E1-082	Institute of Earth Sciences, Heidelberg University	10.46	61.61	1888.39	14.81	-11.28	-4.65
E1-083	Institute of Earth Sciences, Heidelberg University	10.71	63.24	1886.76	14.73	-11.22	-4.70
E1-084	Institute of Earth Sciences, Heidelberg University	10.96	64.77	1885.23	14.56	-11.07	-4.65
E1-085	Institute of Earth Sciences, Heidelberg University	11.21	66.50	1883.50	14.31	-10.95	-4.43
E1-086	Institute of Earth Sciences, Heidelberg University	11.46	68.18	1881.82	14.05	-10.96	-4.50
E1-087	Institute of Earth Sciences, Heidelberg University	11.71	69.92	1880.08	13.80	-11.42	-4.58
E1-088	Institute of Earth Sciences, Heidelberg University	11.96	71.74	1878.26	13.58	-11.42	-4.53
E1-089	Institute of Earth Sciences, Heidelberg University	12.21	73.59	1876.41	13.35	-11.29	-4.75
E1-090	Institute of Earth Sciences, Heidelberg University	12.46	75.38	1874.62	13.15	-11.21	-4.63
E1-091	Institute of Earth Sciences, Heidelberg University	12.71	77.25	1872.75	13.00	-11.24	-4.62
E1-092	Institute of Earth Sciences, Heidelberg University	12.96	79.08	1870.92	12.92	-11.16	-4.50
E1-093	Institute of Earth Sciences, Heidelberg University	13.21	80.90	1869.10	12.84	-11.28	-4.51
E1-094	Institute of Earth Sciences, Heidelberg University	13.46	82.73	1867.27	12.84	-11.32	-4.54
E1-095	Institute of Earth Sciences, Heidelberg University	13.71	84.57	1865.43	12.81	-11.15	-4.41
E1-096	Institute of Earth Sciences, Heidelberg University	13.96	86.40	1863.60	12.77	-11.08	-4.65
E1-097	Institute of Earth Sciences, Heidelberg University	14.21	88.22	1861.78	12.66	-11.46	-4.47
E1-098	Institute of Earth Sciences, Heidelberg University	14.46	90.00	1860.00	12.61	-11.32	-4.31
E1-099	Institute of Earth Sciences, Heidelberg University	14.71	91.77	1858.23	12.58	-11.47	-4.41
E1-100	Institute of Earth Sciences, Heidelberg University	14.96	93.55	1856.45	12.50	-11.23	-5.28
E1-101	Institute of Earth Sciences, Heidelberg University	15.21	95.31	1854.69	12.44	-10.34	-4.45
E1-102	Institute of Earth Sciences, Heidelberg University	15.46	97.10	1852.90	12.39	-9.92	-4.31
E1-103	Institute of Earth Sciences, Heidelberg University	15.71	98.83	1851.17	12.34	-9.72	-4.32
E1-104	Institute of Earth Sciences, Heidelberg University	15.96	100.59	1849.41	12.26	-9.47	-4.66
E1-105	Institute of Earth Sciences, Heidelberg University	16.21	102.32	1847.68	12.17	-9.65	-4.87
E1-106	Institute of Earth Sciences, Heidelberg University	16.46	104.06	1845.94	12.09	-9.67	-4.94
E1-107	Institute of Earth Sciences, Heidelberg University	16.71	105.77	1844.23	12.00	-9.32	-4.80
E1-108	Institute of Earth Sciences, Heidelberg University	16.96	107.51	1842.49	11.93	-9.35	-4.71
E1-109	Institute of Earth Sciences, Heidelberg University	17.21	109.21	1840.79	11.86	-9.46	-4.89
E1-110	Institute of Earth Sciences, Heidelberg University	17.46	110.93	1839.07	11.81	-9.11	-4.88
E1-111	Institute of Earth Sciences, Heidelberg University	17.71	112.60	1837.40	11.76	-9.35	-5.08
E1-112	Institute of Earth Sciences, Heidelberg University	17.96	114.33	1835.67	11.72	-9.38	-4.99
E1-113	Institute of Earth Sciences, Heidelberg University	18.21	116.01	1833.99	11.67	-9.28	-4.65
E1-114	Institute of Earth Sciences, Heidelberg University	18.46	117.65	1832.35	11.64	-9.25	-4.81
E1-115	Institute of Earth Sciences, Heidelberg University	18.71	119.31	1830.69	11.62	-9.42	-4.80
E1-116	Institute of Earth Sciences, Heidelberg University	18.96	120.99	1829.01	11.57	-9.15	-5.11
E1-117	Institute of Earth Sciences, Heidelberg University	19.21	122.60	1827.40	11.52	-9.20	-4.54
E1-118	Institute of Earth Sciences, Heidelberg University	19.46	124.19	1825.81	11.49	-8.82	-4.22
E1-119	Institute of Earth Sciences, Heidelberg University	19.71	125.73	1824.27	11.46	-9.01	-4.38
E1-120	Institute of Earth Sciences, Heidelberg University	19.96	127.27	1822.73	11.43	-9.04	-4.31
E1-121	Institute of Earth Sciences, Heidelberg University	20.21	128.79	1821.21	11.40	-8.90	-4.39
E1-122	Institute of Earth Sciences, Heidelberg University	20.46	130.32	1819.68	11.39	-8.91	-4.36
E1-123	Institute of Earth Sciences, Heidelberg University	20.71	131.83	1818.17	11.34	-9.51	-4.64
E1-124	Institute of Earth Sciences, Heidelberg University	20.96	133.24	1816.76	11.25	-9.35	-4.89
E1-125	Institute of Earth Sciences, Heidelberg University	21.21	134.70	1815.30	11.20	-9.23	-4.52
E1-126	Institute of Earth Sciences, Heidelberg University	21.46	136.12	1813.88	11.10	-9.45	-4.53
E1-127	Institute of Earth Sciences, Heidelberg University	21.71	137.37	1812.63	11.04	-9.61	-4.57
E1-128	Institute of Earth Sciences, Heidelberg University	21.96	138.59	1811.41	10.96	-9.56	-4.77
E1-129	Institute of Earth Sciences, Heidelberg University	22.21	139.89	1810.11	10.73	-9.93	-4.91
E1-130	Institute of Earth Sciences, Heidelberg University	22.46	141.07	1808.93	10.52	-9.51	-4.77
E1-131	Institute of Earth Sciences, Heidelberg University	22.71	142.30	1807.70	10.29	-9.64	-4.83
E1-133	Institute of Earth Sciences, Heidelberg University	23.21	145.18	1804.82	9.48	-9.26	-4.68
E1-134	Institute of Earth Sciences, Heidelberg University	23.46	146.76	1803.24	8.91	-8.94	-4.75
E1-135	Institute of Earth Sciences, Heidelberg University	23.71	148.45	1801.55	8.20	-8.66	-4.38
E1-136	Institute of Earth Sciences, Heidelberg University	23.96	150.48	1799.52	6.94	-9.58	-4.48
E1-137	Institute of Earth Sciences, Heidelberg University	24.21	151.52	1798.48	6.47	-9.41	-4.29
E1-138	Institute of Earth Sciences, Heidelberg University	24.46	152.10	1797.90	6.52	-9.64	-4.24
E1-139	Institute of Earth Sciences, Heidelberg University	24.71	152.29	1797.71	7.10	-9.72	-4.36
E1-140	Institute of Earth Sciences, Heidelberg University	24.96	152.45	1797.55	7.83	-10.18	-4.61
E1-141	Institute of Earth Sciences, Heidelberg University	25.21	153.04	1796.96	7.98	-10.01	-4.99
E1-142	Institute of Earth Sciences, Heidelberg University	25.46	153.44	1796.56	8.45	-10.14	-4.99
E1-143	Institute of Earth Sciences, Heidelberg University	25.71	154.05	1795.95	8.75	-10.30	-4.90
E1-144	Institute of Earth Sciences, Heidelberg University	25.96	154.76	1795.24	8.83	-10.07	-4.88
E1-145	Institute of Earth Sciences, Heidelberg University	26.21	155.54	1794.46	8.91	-10.33	-5.03
E1-146	Institute of Earth Sciences, Heidelberg University	26.46	156.31	1793.69	9.05	-10.07	-5.02
E1-147	Institute of Earth Sciences, Heidelberg University	26.71	157.29	1792.71	9.02	-10.46	-5.38
E1-148	Institute of Earth Sciences, Heidelberg University	26.96	158.30	1791.70	9.02	-10.29	-5.64
E1-149	Institute of Earth Sciences, Heidelberg University	27.21	159.40	1790.60	8.95	-10.06	-5.63
E1-150	Institute of Earth Sciences, Heidelberg University	27.46	160.60	1789.40	8.90	-10.25	-5.42
E1-151	Institute of Earth Sciences, Heidelberg University	27.71	161.83	1788.17	8.80	-10.13	-5.33
E1-152	Institute of Earth Sciences, Heidelberg University	27.96	163.06	1786.94	8.73	-9.90	-5.15
E1-154	Institute of Earth Sciences, Heidelberg University	28.46	165.54	1784.46	8.67	-9.91	-5.23
E1-155	Institute of Earth Sciences, Heidelberg University	28.71	166.73	1783.27	8.73	-9.99	-5.27
E1-156	Institute of Earth Sciences, Heidelberg University	28.96	168.03	1781.97	8.66	-9.77	-5.25
E1-158	Institute of Earth Sciences, Heidelberg University	29.46	170.58	1779.42	8.57	-9.65	-5.16

E1-159	Institute of Earth Sciences, Heidelberg University	29.71	171.83	1778.17	8.58	-9.15	-4.50
E1-160	Institute of Earth Sciences, Heidelberg University	29.96	172.95	1777.05	8.62	-9.63	-4.66
E1-161	Institute of Earth Sciences, Heidelberg University	30.21	174.10	1775.90	8.72	-8.96	-4.35
E1-162	Institute of Earth Sciences, Heidelberg University	30.46	175.27	1774.73	8.76	-9.75	-4.78
E1-163	Institute of Earth Sciences, Heidelberg University	30.71	176.29	1773.71	8.79	-10.13	-4.81
E1-165	Institute of Earth Sciences, Heidelberg University	31.21	178.46	1771.54	8.69	-10.15	-4.50
E1-166	Institute of Earth Sciences, Heidelberg University	31.46	179.61	1770.39	8.48	-10.22	-4.37
E1-167	Institute of Earth Sciences, Heidelberg University	31.71	180.71	1769.29	8.31	-10.55	-4.44
E1-168	Institute of Earth Sciences, Heidelberg University	31.96	181.88	1768.12	8.13	-10.90	-4.96
E1-169	Institute of Earth Sciences, Heidelberg University	32.21	182.97	1767.03	7.93	-10.96	-5.08
E1-170	Institute of Earth Sciences, Heidelberg University	32.46	184.16	1765.84	7.67	-10.74	-5.28
E1-171	Institute of Earth Sciences, Heidelberg University	32.71	185.45	1764.55	7.33	-10.05	-5.42
E1-172	Institute of Earth Sciences, Heidelberg University	32.96	186.59	1763.41	7.15	-9.77	-4.99
E1-175	Institute of Earth Sciences, Heidelberg University	33.71	190.03	1759.97	6.66	-10.10	-4.26
E1-176	Institute of Earth Sciences, Heidelberg University	33.96	191.01	1758.99	6.64	-9.91	-4.04
E1-180	Institute of Earth Sciences, Heidelberg University	34.96	194.61	1755.39	6.62	-10.72	-4.42
E1-181	Institute of Earth Sciences, Heidelberg University	35.21	195.41	1754.59	6.53	-10.77	-4.47
E1-182	Institute of Earth Sciences, Heidelberg University	35.46	196.11	1753.89	6.40	-11.07	-4.72
E1-183	Institute of Earth Sciences, Heidelberg University	35.71	196.82	1753.18	6.14	-11.19	-4.85
E1-184	Institute of Earth Sciences, Heidelberg University	35.96	197.56	1752.44	5.93	-11.00	-5.40
E1-185	Institute of Earth Sciences, Heidelberg University	36.21	198.21	1751.79	5.73	-10.96	-5.94
E1-186	Institute of Earth Sciences, Heidelberg University	36.46	198.94	1751.06	5.56	-11.00	-6.15
E1-187	Institute of Earth Sciences, Heidelberg University	36.71	199.60	1750.40	5.39	-10.58	-6.07
E1-188	Institute of Earth Sciences, Heidelberg University	36.96	200.32	1749.68	5.35	-10.49	-6.24
E1-189	Institute of Earth Sciences, Heidelberg University	37.21	201.07	1748.93	5.44	-10.13	-5.98
E1-190	Institute of Earth Sciences, Heidelberg University	37.46	201.88	1748.12	5.67	-9.88	-5.73
E1-191	Institute of Earth Sciences, Heidelberg University	37.71	202.65	1747.35	5.85	-9.96	-5.96
E1-192	Institute of Earth Sciences, Heidelberg University	37.96	203.42	1746.58	5.92	-10.03	-5.98
E1-193	Institute of Earth Sciences, Heidelberg University	38.21	204.26	1745.74	6.17	-9.71	-5.94
E1-194	Institute of Earth Sciences, Heidelberg University	38.46	205.04	1744.96	6.30	-10.09	-5.74
E1-195	Institute of Earth Sciences, Heidelberg University	38.71	205.85	1744.15	6.44	-10.46	-5.33
E1-196	Institute of Earth Sciences, Heidelberg University	38.96	206.73	1743.27	6.64	-10.30	-5.10
E1-197	Institute of Earth Sciences, Heidelberg University	39.21	207.66	1742.34	6.65	-9.73	-4.89
E1-199	Institute of Earth Sciences, Heidelberg University	39.71	209.66	1740.34	6.71	-9.94	-4.32
E1-200	Institute of Earth Sciences, Heidelberg University	39.96	210.72	1739.28	6.76	-10.84	-4.55
E1-201	Institute of Earth Sciences, Heidelberg University	40.21	211.74	1738.26	6.77	-10.79	-5.41
E1-202	Institute of Earth Sciences, Heidelberg University	40.46	212.80	1737.20	6.78	-10.40	-5.36
E1-203	Institute of Earth Sciences, Heidelberg University	40.71	213.87	1736.13	6.78	-10.36	-5.17
E1-204	Institute of Earth Sciences, Heidelberg University	40.96	214.94	1735.06	6.80	-10.19	-4.94
E1-205	Institute of Earth Sciences, Heidelberg University	41.21	216.01	1733.99	6.83	-10.12	-4.41
E1-206	Institute of Earth Sciences, Heidelberg University	41.46	217.14	1732.86	6.86	-10.19	-4.41
E1-207	Institute of Earth Sciences, Heidelberg University	41.71	218.25	1731.75	6.91	-10.30	-4.20
E1-208	Institute of Earth Sciences, Heidelberg University	41.96	219.35	1730.65	6.97	-10.22	-4.18
E1-209	Institute of Earth Sciences, Heidelberg University	42.21	220.48	1729.52	7.06	-10.27	-4.27
E1-210	Institute of Earth Sciences, Heidelberg University	42.46	221.68	1728.32	7.18	-10.37	-4.33
E1-211	Institute of Earth Sciences, Heidelberg University	42.71	222.80	1727.20	7.32	-10.55	-4.30
E1-212	Institute of Earth Sciences, Heidelberg University	42.96	223.98	1726.02	7.47	-10.89	-4.46
E1-213	Institute of Earth Sciences, Heidelberg University	43.21	225.14	1724.86	7.62	-10.99	-4.60
E1-215	Institute of Earth Sciences, Heidelberg University	43.71	227.46	1722.54	8.01	-10.92	-4.80
E1-216	Institute of Earth Sciences, Heidelberg University	43.96	228.64	1721.36	8.20	-11.01	-5.00
E1-217	Institute of Earth Sciences, Heidelberg University	44.21	229.83	1720.17	8.42	-10.82	-4.97
E1-219	Institute of Earth Sciences, Heidelberg University	44.71	232.26	1717.74	8.84	-10.74	-5.12
E1-220	Institute of Earth Sciences, Heidelberg University	44.96	233.46	1716.54	9.03	-10.98	-5.19
E1-221	Institute of Earth Sciences, Heidelberg University	45.21	234.65	1715.35	9.25	-10.80	-5.16
E1-222	Institute of Earth Sciences, Heidelberg University	45.46	235.84	1714.16	9.46	-10.30	-4.87
E1-223	Institute of Earth Sciences, Heidelberg University	45.71	237.03	1712.97	9.65	-10.29	-4.65
E1-224	Institute of Earth Sciences, Heidelberg University	45.96	238.17	1711.83	9.82	-10.39	-4.76
E1-225	Institute of Earth Sciences, Heidelberg University	46.21	239.35	1710.65	10.01	-10.30	-4.87
E1-226	Institute of Earth Sciences, Heidelberg University	46.46	240.57	1709.43	10.19	-10.35	-4.88
E1-227	Institute of Earth Sciences, Heidelberg University	46.71	241.71	1708.29	10.39	-10.64	-5.16
E1-228	Institute of Earth Sciences, Heidelberg University	46.96	242.89	1707.11	10.59	-10.36	-5.09
E1-229	Institute of Earth Sciences, Heidelberg University	47.21	244.08	1705.92	10.80	-10.55	-5.18
E1-230	Institute of Earth Sciences, Heidelberg University	47.46	245.26	1704.74	11.00	-10.40	-5.32
E1-231	Institute of Earth Sciences, Heidelberg University	47.71	246.44	1703.56	11.18	-10.58	-5.10
E1-232	Institute of Earth Sciences, Heidelberg University	47.96	247.60	1702.40	11.29	-10.77	-5.55
E1-233	Institute of Earth Sciences, Heidelberg University	48.21	248.69	1701.31	11.40	-10.78	-5.48
E1-234	Institute of Earth Sciences, Heidelberg University	48.46	249.71	1700.29	11.50	-11.04	-5.54
E1-235	Institute of Earth Sciences, Heidelberg University	48.71	250.67	1699.33	11.41	-10.61	-5.41
E1-236	Institute of Earth Sciences, Heidelberg University	48.96	251.59	1698.41	11.40	-11.23	-5.79
E1-240	Institute of Earth Sciences, Heidelberg University	49.96	254.15	1695.85	9.38	-10.47	-5.03
E1-243	Institute of Earth Sciences, Heidelberg University	50.71	254.61	1695.39	6.71	-10.44	-5.58
E1-244	Institute of Earth Sciences, Heidelberg University	50.96	254.95	1695.05	6.39	-10.57	-5.57
E1-245	Institute of Earth Sciences, Heidelberg University	51.21	255.44	1694.56	6.47	-10.52	-5.46
E1-246	Institute of Earth Sciences, Heidelberg University	51.46	256.00	1694.00	6.64	-10.92	-5.66
E1-247	Institute of Earth Sciences, Heidelberg University	51.71	256.64	1693.36	7.10	-10.50	-5.58
E1-248	Institute of Earth Sciences, Heidelberg University	51.96	257.78	1692.22	8.34	-10.67	-5.39
E1-249	Institute of Earth Sciences, Heidelberg University	52.21	259.15	1690.85	9.69	-10.65	-5.27
E1-250	Institute of Earth Sciences, Heidelberg University	52.46	261.37	1688.63	11.90	-10.77	-5.43
E1-251	Institute of Earth Sciences, Heidelberg University	52.71	263.13	1686.87	13.10	-10.80	-5.51
E1-252	Institute of Earth Sciences, Heidelberg University	52.96	264.89	1685.11	14.23	-10.62	-5.41

E1-253	Institute of Earth Sciences, Heidelberg University	53.21	266.43	1683.57	15.11	-10.75	-5.21
E1-254	Institute of Earth Sciences, Heidelberg University	53.46	267.72	1682.28	15.66	-10.56	-4.94
E1-255	Institute of Earth Sciences, Heidelberg University	53.71	268.88	1681.12	16.06	-10.69	-4.43
E1-256	Institute of Earth Sciences, Heidelberg University	53.96	270.40	1679.60	16.69	-11.18	-5.24
E1-257	Institute of Earth Sciences, Heidelberg University	54.21	271.81	1678.19	16.92	-11.30	-5.24
E1-258	Institute of Earth Sciences, Heidelberg University	54.46	273.31	1676.69	16.98	-10.81	-5.11
E1-259	Institute of Earth Sciences, Heidelberg University	54.71	274.98	1675.02	17.13	-11.14	-5.02
E1-260	Institute of Earth Sciences, Heidelberg University	54.96	276.63	1673.37	17.13	-11.30	-5.10
E1-261	Institute of Earth Sciences, Heidelberg University	55.21	278.34	1671.66	17.19	-11.02	-4.97
E1-262	Institute of Earth Sciences, Heidelberg University	55.46	280.25	1669.75	17.42	-11.08	-5.11
E1-263	Institute of Earth Sciences, Heidelberg University	55.71	282.00	1668.00	17.65	-10.88	-5.15
E1-264	Institute of Earth Sciences, Heidelberg University	55.96	283.83	1666.17	17.83	-11.14	-5.18
E1-266	Institute of Earth Sciences, Heidelberg University	56.46	287.62	1662.38	18.07	-10.94	-5.27
E1-267	Institute of Earth Sciences, Heidelberg University	56.71	289.58	1660.42	18.25	-11.14	-5.17
E1-268	Institute of Earth Sciences, Heidelberg University	56.96	291.58	1658.42	18.56	-10.75	-5.28
E1-269	Institute of Earth Sciences, Heidelberg University	57.21	293.70	1656.30	19.01	-10.85	-5.09
E1-270	Institute of Earth Sciences, Heidelberg University	57.46	295.59	1654.41	19.37	-11.02	-5.01
E1-271	Institute of Earth Sciences, Heidelberg University	57.71	297.39	1652.61	19.83	-11.29	-4.88
E1-272	Institute of Earth Sciences, Heidelberg University	57.96	299.24	1650.76	20.45	-11.38	-5.00
E1-273	Institute of Earth Sciences, Heidelberg University	58.21	300.95	1649.05	20.86	-11.38	-4.97
E1-274	Institute of Earth Sciences, Heidelberg University	58.46	302.65	1647.35	21.29	-12.41	-7.14
E1-275	Institute of Earth Sciences, Heidelberg University	58.71	304.18	1645.82	21.74	-11.64	-4.78
E1-277	Institute of Earth Sciences, Heidelberg University	59.21	307.23	1642.77	22.69	-11.92	-4.87
E1-279	Institute of Earth Sciences, Heidelberg University	59.71	309.69	1640.31	23.40	-11.79	-4.83
E1-283	Institute of Earth Sciences, Heidelberg University	61.7	375.07	1574.93	40.65	-11.82	-4.82
E1-284	Institute of Earth Sciences, Heidelberg University	61.95	375.98	1574.02	40.28	-11.50	-4.55
E1-285	Institute of Earth Sciences, Heidelberg University	62.2	376.95	1573.05	39.80	-11.50	-4.93
E1-286	Institute of Earth Sciences, Heidelberg University	62.45	377.86	1572.14	39.22	-10.63	-4.98
E1-287	Institute of Earth Sciences, Heidelberg University	62.7	378.82	1571.18	38.84	-10.67	-4.99
E1-288	Institute of Earth Sciences, Heidelberg University	62.95	379.73	1570.27	38.54	-11.15	-5.31
E1-289	Institute of Earth Sciences, Heidelberg University	63.2	380.67	1569.33	38.20	-11.22	-5.48
E1-290	Institute of Earth Sciences, Heidelberg University	63.45	381.57	1568.43	37.79	-11.63	-5.65
E1-291	Institute of Earth Sciences, Heidelberg University	63.7	382.45	1567.55	37.31	-11.77	-5.62
E1-292	Institute of Earth Sciences, Heidelberg University	63.95	383.31	1566.69	37.02	-11.76	-5.88
E1-293	Institute of Earth Sciences, Heidelberg University	64.2	384.22	1565.78	36.60	-11.44	-5.69
E1-294	Institute of Earth Sciences, Heidelberg University	64.45	385.06	1564.94	36.19	-11.44	-5.48
E1-295	Institute of Earth Sciences, Heidelberg University	64.7	386.21	1563.79	35.53	-11.14	-5.57
E1-296	Institute of Earth Sciences, Heidelberg University	64.95	387.18	1562.82	35.13	-10.96	-5.63
E1-297	Institute of Earth Sciences, Heidelberg University	65.2	387.95	1562.05	34.72	-10.89	-5.64
E1-298	Institute of Earth Sciences, Heidelberg University	65.45	388.88	1561.12	34.28	-10.71	-5.07
E1-299	Institute of Earth Sciences, Heidelberg University	65.7	389.67	1560.33	33.99	-10.87	-5.10
E1-300	Institute of Earth Sciences, Heidelberg University	65.95	390.56	1559.44	33.76	-10.63	-5.13
E1-301	Institute of Earth Sciences, Heidelberg University	66.2	391.37	1558.63	33.45	-10.78	-5.45
E1-302	Institute of Earth Sciences, Heidelberg University	66.45	392.22	1557.78	33.15	-10.97	-5.55
E1-303	Institute of Earth Sciences, Heidelberg University	66.7	393.00	1557.00	32.80	-10.70	-5.55
E1-305	Institute of Earth Sciences, Heidelberg University	67.2	394.78	1555.22	31.98	-9.85	-5.68
E1-306	Institute of Earth Sciences, Heidelberg University	67.45	395.71	1554.29	31.54	-10.35	-5.81
E1-307	Institute of Earth Sciences, Heidelberg University	67.7	396.62	1553.38	31.17	-10.08	-5.69
E1-308	Institute of Earth Sciences, Heidelberg University	67.95	397.64	1552.36	30.71	-10.20	-5.70
E1-309	Institute of Earth Sciences, Heidelberg University	68.2	398.46	1551.54	30.33	-10.23	-5.42
E1-310	Institute of Earth Sciences, Heidelberg University	68.45	399.31	1550.69	29.90	-10.33	-5.50
E1-311	Institute of Earth Sciences, Heidelberg University	68.7	400.20	1549.80	29.49	-10.24	-5.24
E1-312	Institute of Earth Sciences, Heidelberg University	68.95	401.07	1548.93	29.01	-10.41	-5.61
E1-313	Institute of Earth Sciences, Heidelberg University	69.2	401.95	1548.05	28.57	-10.19	-5.69
E1-314	Institute of Earth Sciences, Heidelberg University	69.45	402.90	1547.10	28.13	-10.13	-5.89
E1-315	Institute of Earth Sciences, Heidelberg University	69.7	403.78	1546.22	27.67	-10.02	-5.95
E1-316	Institute of Earth Sciences, Heidelberg University	69.95	404.65	1545.35	27.18	-10.09	-5.82
E1-317	Institute of Earth Sciences, Heidelberg University	70.2	405.51	1544.49	26.68	-10.23	-5.62
E1-318	Institute of Earth Sciences, Heidelberg University	70.45	406.19	1543.81	26.36	-10.20	-5.48
E1-319	Institute of Earth Sciences, Heidelberg University	70.7	407.15	1542.85	25.64	-10.27	-5.38
E1-320	Institute of Earth Sciences, Heidelberg University	70.95	408.08	1541.92	25.01	-9.97	-5.13
E1-321	Institute of Earth Sciences, Heidelberg University	71.2	408.92	1541.08	24.44	-10.02	-5.10
E1-322	Institute of Earth Sciences, Heidelberg University	71.45	409.76	1540.24	24.01	-9.96	-5.19
E1-323	Institute of Earth Sciences, Heidelberg University	71.7	410.69	1539.31	23.28	-9.89	-5.20
E1-324	Institute of Earth Sciences, Heidelberg University	71.95	411.58	1538.42	22.53	-9.85	-5.14
E1-325	Institute of Earth Sciences, Heidelberg University	72.2	412.25	1537.75	22.21	-9.91	-5.29
E1-326	Institute of Earth Sciences, Heidelberg University	72.45	413.06	1536.94	21.69	-9.83	-5.35
E1-327	Institute of Earth Sciences, Heidelberg University	72.7	413.91	1536.09	20.94	-10.00	-5.47
E1-328	Institute of Earth Sciences, Heidelberg University	72.95	414.89	1535.11	20.00	-9.83	-5.30
E1-329	Institute of Earth Sciences, Heidelberg University	73.2	415.70	1534.30	19.55	-10.19	-5.65
E1-330	Institute of Earth Sciences, Heidelberg University	73.45	416.57	1533.43	18.66	-9.88	-5.49
E1-331	Institute of Earth Sciences, Heidelberg University	73.7	417.43	1532.57	18.08	-9.99	-5.41
E1-333	Institute of Earth Sciences, Heidelberg University	74.2	419.34	1530.66	16.30	-10.01	-5.52
E1-334	Institute of Earth Sciences, Heidelberg University	74.45	420.29	1529.71	15.46	-10.03	-5.52
E1-335	Institute of Earth Sciences, Heidelberg University	74.7	421.36	1528.64	14.40	-10.12	-5.52
E1-336	Institute of Earth Sciences, Heidelberg University	74.95	422.24	1527.76	13.71	-10.17	-5.34
E1-337	Institute of Earth Sciences, Heidelberg University	75.2	422.98	1527.02	13.60	-9.47	-4.78
E1-338	Institute of Earth Sciences, Heidelberg University	75.45	423.82	1526.18	13.73	-9.43	-4.71
E1-339	Institute of Earth Sciences, Heidelberg University	75.7	424.61	1525.39	13.71	-9.46	-4.62
E1-340	Institute of Earth Sciences, Heidelberg University	75.95	425.30	1524.70	13.62	-9.04	-4.47

E1-341	Institute of Earth Sciences, Heidelberg University	76.2	426.12	1523.88	13.37	-8.90	-4.34
E1-342	Institute of Earth Sciences, Heidelberg University	76.45	426.96	1523.04	13.28	-9.21	-4.41
E1-343	Institute of Earth Sciences, Heidelberg University	76.7	427.69	1522.31	13.20	-9.27	-4.38
E1-344	Institute of Earth Sciences, Heidelberg University	76.95	428.38	1521.62	13.13	-9.78	-4.92
E1-345	Institute of Earth Sciences, Heidelberg University	77.2	429.21	1520.79	13.01	-9.39	-4.83
E1-346	Institute of Earth Sciences, Heidelberg University	77.45	429.86	1520.14	13.14	-8.97	-5.18
E1-347	Institute of Earth Sciences, Heidelberg University	77.7	430.73	1519.27	13.06	-9.38	-5.07
E1-348	Institute of Earth Sciences, Heidelberg University	77.95	431.66	1518.34	12.97	-9.62	-5.22
E1-349	Institute of Earth Sciences, Heidelberg University	78.2	432.51	1517.49	12.95	-9.71	-5.29
E1-350	Institute of Earth Sciences, Heidelberg University	78.45	433.32	1516.68	12.99	-9.86	-5.23
E1-351	Institute of Earth Sciences, Heidelberg University	78.7	434.01	1515.99	13.02	-10.14	-5.63
E1-352	Institute of Earth Sciences, Heidelberg University	78.95	434.82	1515.18	13.10	-9.96	-5.56
E1-353	Institute of Earth Sciences, Heidelberg University	79.2	435.66	1514.34	13.05	-10.00	-5.89
E1-354	Institute of Earth Sciences, Heidelberg University	79.45	436.43	1513.57	13.11	-9.95	-5.88
E1-355	Institute of Earth Sciences, Heidelberg University	79.7	437.22	1512.78	13.13	-9.99	-5.87
E1-356	Institute of Earth Sciences, Heidelberg University	79.95	438.07	1511.93	13.08	-10.40	-6.20
E1-357	Institute of Earth Sciences, Heidelberg University	80.2	438.95	1511.05	13.17	-9.61	-5.81
E1-358	Institute of Earth Sciences, Heidelberg University	80.45	439.72	1510.28	13.12	-10.17	-5.97
E1-359	Institute of Earth Sciences, Heidelberg University	80.7	440.46	1509.54	13.13	-9.77	-5.82
E1-360	Institute of Earth Sciences, Heidelberg University	80.95	441.23	1508.77	13.26	-9.81	-5.92
E1-361	Institute of Earth Sciences, Heidelberg University	81.2	442.08	1507.92	13.33	-10.36	-6.37
E1-362	Institute of Earth Sciences, Heidelberg University	81.45	442.86	1507.14	13.52	-9.86	-6.13
E1-363	Institute of Earth Sciences, Heidelberg University	81.7	443.71	1506.29	13.41	-9.74	-6.19
E1-364	Institute of Earth Sciences, Heidelberg University	81.95	444.47	1505.53	13.66	-10.33	-6.25
E1-365	Institute of Earth Sciences, Heidelberg University	82.2	445.24	1504.76	13.75	-10.35	-7.09
E1-366	Institute of Earth Sciences, Heidelberg University	82.45	445.97	1504.03	13.66	-10.05	-6.23
E1-367	Institute of Earth Sciences, Heidelberg University	82.7	446.77	1503.23	13.66	-10.24	-6.54
E1-368	Institute of Earth Sciences, Heidelberg University	82.95	447.53	1502.47	13.89	-10.50	-6.10
E1-369	Institute of Earth Sciences, Heidelberg University	83.2	448.37	1501.63	13.92	-10.12	-6.17
E1-370	Institute of Earth Sciences, Heidelberg University	83.45	449.24	1500.76	13.88	-10.58	-6.08
E1-371	Institute of Earth Sciences, Heidelberg University	83.7	450.07	1499.93	13.75	-10.19	-5.82
E1-372	Institute of Earth Sciences, Heidelberg University	83.95	450.84	1499.16	13.82	-9.96	-5.59
E1-374	Institute of Earth Sciences, Heidelberg University	84.45	452.36	1497.64	13.58	-10.41	-4.89
E1-375	Institute of Earth Sciences, Heidelberg University	84.7	453.12	1496.88	13.36	-9.99	-5.05
E1-376	Institute of Earth Sciences, Heidelberg University	84.95	453.92	1496.08	13.22	-10.06	-4.75
E1-377	Institute of Earth Sciences, Heidelberg University	85.2	454.61	1495.39	12.91	-10.22	-4.48
E1-378	Institute of Earth Sciences, Heidelberg University	85.45	455.37	1494.63	12.98	-9.36	-4.35
E1-379	Institute of Earth Sciences, Heidelberg University	85.7	456.20	1493.80	12.95	-10.28	-4.60
E1-380	Institute of Earth Sciences, Heidelberg University	85.95	456.99	1493.01	12.84	-10.66	-4.58
E1-381	Institute of Earth Sciences, Heidelberg University	86.2	457.79	1492.21	12.70	-11.16	-4.71
E1-382	Institute of Earth Sciences, Heidelberg University	86.45	458.50	1491.50	12.68	-11.04	-4.45
E1-384	Institute of Earth Sciences, Heidelberg University	86.95	460.25	1489.75	13.01	-11.59	-5.11
E1-385	Institute of Earth Sciences, Heidelberg University	87.2	461.08	1488.92	13.30	-11.60	-5.27
E1-387	Institute of Earth Sciences, Heidelberg University	87.7	462.96	1487.04	14.30	-11.60	-5.38
E1-388	Institute of Earth Sciences, Heidelberg University	87.95	463.84	1486.16	14.73	-11.50	-5.35
E1-389	Institute of Earth Sciences, Heidelberg University	88.2	464.75	1485.25	15.21	-11.03	-5.43
E1-390	Institute of Earth Sciences, Heidelberg University	88.45	465.67	1484.33	15.72	-11.37	-5.49
E1-391	Institute of Earth Sciences, Heidelberg University	88.7	466.61	1483.39	16.19	-11.36	-5.64
E1-392	Institute of Earth Sciences, Heidelberg University	88.95	467.62	1482.38	16.53	-11.13	-5.54
E1-393	Institute of Earth Sciences, Heidelberg University	89.2	468.58	1481.42	16.82	-11.17	-5.50
E1-394	Institute of Earth Sciences, Heidelberg University	89.45	469.67	1480.33	17.36	-11.04	-5.78
E1-395	Institute of Earth Sciences, Heidelberg University	89.7	470.74	1479.26	18.05	-10.92	-5.58
E1-396	Institute of Earth Sciences, Heidelberg University	89.95	471.90	1478.10	18.47	-11.29	-5.51
E1-397	Institute of Earth Sciences, Heidelberg University	90.2	473.22	1476.78	19.00	-11.24	-5.48
E1-398	Institute of Earth Sciences, Heidelberg University	90.45	474.60	1475.40	19.89	-11.11	-5.26
E1-399	Institute of Earth Sciences, Heidelberg University	90.7	476.49	1473.51	20.39	-11.06	-5.28
E1-400	Institute of Earth Sciences, Heidelberg University	90.95	478.90	1471.10	20.37	-11.32	-5.39
E1-401	Institute of Earth Sciences, Heidelberg University	91.2	481.73	1468.27	20.16	-11.48	-5.65
E1-402	Institute of Earth Sciences, Heidelberg University	91.45	484.92	1465.08	20.34	-11.27	-5.70
E1-403	Institute of Earth Sciences, Heidelberg University	91.7	488.12	1461.88	21.04	-11.15	-5.61
E1-404	Institute of Earth Sciences, Heidelberg University	91.95	490.74	1459.26	21.83	-11.12	-5.42
E1-405	Institute of Earth Sciences, Heidelberg University	92.2	492.70	1457.30	22.76	-11.15	-5.54
E1-406	Institute of Earth Sciences, Heidelberg University	92.45	494.06	1455.94	23.81	-11.40	-5.56
E1-408	Institute of Earth Sciences, Heidelberg University	92.95	496.41	1453.59	25.75	-11.60	-6.08
E1-409	Institute of Earth Sciences, Heidelberg University	93.2	497.50	1452.50	26.96	-11.51	-5.99
E1-410	Institute of Earth Sciences, Heidelberg University	93.45	498.53	1451.47	28.12	-11.68	-6.25
E1-411	Institute of Earth Sciences, Heidelberg University	93.7	499.36	1450.64	29.07	-11.57	-6.17
E1-412	Institute of Earth Sciences, Heidelberg University	93.95	500.21	1449.79	29.87	-11.44	-6.34
E1-413	Institute of Earth Sciences, Heidelberg University	94.2	500.95	1449.05	30.84	-11.56	-6.27
E1-414	Institute of Earth Sciences, Heidelberg University	94.45	501.74	1448.26	31.66	-11.32	-6.32
E1-415	Institute of Earth Sciences, Heidelberg University	94.7	502.57	1447.43	32.59	-11.26	-5.98
E1-416	Institute of Earth Sciences, Heidelberg University	94.95	503.36	1446.64	33.41	-11.36	-5.48
E1-417	Institute of Earth Sciences, Heidelberg University	95.2	504.28	1445.72	34.29	-11.71	-5.79
E1-418	Institute of Earth Sciences, Heidelberg University	95.45	505.25	1444.75	35.22	-10.96	-5.52
E1-419	Institute of Earth Sciences, Heidelberg University	95.7	506.22	1443.78	36.12	-10.08	-4.91

Table S 6 Stable isotope data of speleothem E23-3. The age of each sample corresponds to the chronology discussed in the main text.

Sample ID	Lab	dft [cm]	Age [a BP]	Age [a AD]	Age error [a]	$\delta^{13}\text{C}$ [‰ VPDB]	$\delta^{18}\text{O}$ [‰ VPDB]
E23-3-001	Institute of Earth Sciences, Heidelberg University	0.15	-70.84	2020.84		-11.92	-5.04
E23-3-002	Institute of Earth Sciences, Heidelberg University	0.4	-68.93	2018.93		-12.31	-5.02
E23-3-003	Institute of Earth Sciences, Heidelberg University	0.65	-67.34	2017.34		-12.07	-4.95
E23-3-004	Institute of Earth Sciences, Heidelberg University	0.9	-65.61	2015.61		-12.28	-5.08
E23-3-005	Institute of Earth Sciences, Heidelberg University	1.15	-64.11	2014.11		-12.26	-5.28
E23-3-006	Institute of Earth Sciences, Heidelberg University	1.4	-62.56	2012.56		-11.73	-5.18
E23-3-007	Institute of Earth Sciences, Heidelberg University	1.65	-61.20	2011.20		-11.76	-5.24
E23-3-008	Institute of Earth Sciences, Heidelberg University	1.9	-59.28	2009.28		-11.93	-4.73
E23-3-009	Institute of Earth Sciences, Heidelberg University	2.15	-57.55	2007.55		-11.50	-4.30
E23-3-010	Institute of Earth Sciences, Heidelberg University	2.4	-56.60	2006.60		-11.15	-4.19
E23-3-011	Institute of Earth Sciences, Heidelberg University	2.65	-55.78	2005.78		-11.08	-4.20
E23-3-012	Institute of Earth Sciences, Heidelberg University	2.9	-54.74	2004.74		-11.03	-4.22
E23-3-013	Institute of Earth Sciences, Heidelberg University	3.15	-53.94	2003.94		-10.88	-4.21
E23-3-014	Institute of Earth Sciences, Heidelberg University	3.4	-52.32	2002.32		-11.13	-4.21
E23-3-015	Institute of Earth Sciences, Heidelberg University	3.65	-50.80	2000.80		-11.02	-4.19
E23-3-016	Institute of Earth Sciences, Heidelberg University	3.9	-50.02	2000.02		-10.73	-4.22
E23-3-017	Institute of Earth Sciences, Heidelberg University	4.15	-49.37	1999.37		-10.56	-4.22
E23-3-018	Institute of Earth Sciences, Heidelberg University	4.4	-48.07	1998.07		-10.00	-4.03
E23-3-019	Institute of Earth Sciences, Heidelberg University	4.65	-47.09	1997.09		-10.36	-4.17
E23-3-020	Institute of Earth Sciences, Heidelberg University	4.9	-46.44	1996.44		-10.79	-4.26
E23-3-021	Institute of Earth Sciences, Heidelberg University	5.15	-45.26	1995.26		-11.31	-4.51
E23-3-022	Institute of Earth Sciences, Heidelberg University	5.4	-44.11	1994.11		-11.00	-4.37
E23-3-023	Institute of Earth Sciences, Heidelberg University	5.65	-42.97	1992.97		-10.89	-4.47
E23-3-024	Institute of Earth Sciences, Heidelberg University	5.9	-40.83	1990.83		-10.20	-4.10
E23-3-025	Institute of Earth Sciences, Heidelberg University	6.15	-40.25	1990.25		-9.68	-3.99
E23-3-026	Institute of Earth Sciences, Heidelberg University	6.4	-38.74	1988.74		-10.48	-4.26
E23-3-027	Institute of Earth Sciences, Heidelberg University	6.65	-37.85	1987.85		-10.06	-4.20
E23-3-028	Institute of Earth Sciences, Heidelberg University	6.9	-36.77	1986.77		-11.07	-4.48
E23-3-029	Institute of Earth Sciences, Heidelberg University	7.15	-35.73	1985.73		-11.02	-4.82
E23-3-030	Institute of Earth Sciences, Heidelberg University	7.4	-35.14	1985.14		-11.38	-5.01
E23-3-031	Institute of Earth Sciences, Heidelberg University	7.65	-34.13	1984.13		-11.16	-5.03
E23-3-032	Institute of Earth Sciences, Heidelberg University	7.9	-33.14	1983.14		-10.60	-4.59
E23-3-033	Institute of Earth Sciences, Heidelberg University	8.15	-32.46	1982.46		-10.74	-4.33
E23-3-034	Institute of Earth Sciences, Heidelberg University	8.4	-31.84	1981.84		-10.17	-4.04
E23-3-035	Institute of Earth Sciences, Heidelberg University	8.65	-31.11	1981.11		-11.24	-4.19
E23-3-036	Institute of Earth Sciences, Heidelberg University	8.9	-30.36	1980.36		-10.91	-3.93
E23-3-037	Institute of Earth Sciences, Heidelberg University	9.15	-29.34	1979.34		-11.06	-4.21
E23-3-038	Institute of Earth Sciences, Heidelberg University	9.4	-28.52	1978.52		-11.13	-4.28
E23-3-039	Institute of Earth Sciences, Heidelberg University	9.65	-27.78	1977.78		-10.92	-4.21
E23-3-040	Institute of Earth Sciences, Heidelberg University	9.9	-26.88	1976.88		-11.13	-4.33
E23-3-041	Institute of Earth Sciences, Heidelberg University	10.15	-26.10	1976.10		-10.91	-4.34
E23-3-042	Institute of Earth Sciences, Heidelberg University	10.4	-24.99	1974.99		-10.60	-4.34
E23-3-043	Institute of Earth Sciences, Heidelberg University	10.65	-23.68	1973.68		-10.89	-4.53
E23-3-044	Institute of Earth Sciences, Heidelberg University	10.9	-21.98	1971.98		-11.15	-4.60
E23-3-045	Institute of Earth Sciences, Heidelberg University	11.15	-20.60	1970.60		-11.33	-4.81
E23-3-046	Institute of Earth Sciences, Heidelberg University	11.4	-19.45	1969.45		-10.81	-4.56
E23-3-047	Institute of Earth Sciences, Heidelberg University	11.65	-18.19	1968.19		-10.43	-4.36
E23-3-048	Institute of Earth Sciences, Heidelberg University	11.9	-17.44	1967.44		-10.39	-4.04
E23-3-049	Institute of Earth Sciences, Heidelberg University	12.15	-16.80	1966.80		-10.51	-4.01
E23-3-050	Institute of Earth Sciences, Heidelberg University	12.4	-15.60	1965.60		-10.74	-4.16
E23-3-051	Institute of Earth Sciences, Heidelberg University	12.65	-13.78	1963.78		-11.25	-4.30
E23-3-052	Institute of Earth Sciences, Heidelberg University	12.9	-12.95	1962.95		-10.77	-4.35
E23-3-053	Institute of Earth Sciences, Heidelberg University	13.15	-11.51	1961.51		-10.82	-4.34
E23-3-054	Institute of Earth Sciences, Heidelberg University	13.4	-10.77	1960.77			
E23-3-055	Institute of Earth Sciences, Heidelberg University	13.65	-10.16	1960.16		-11.02	-4.50
E23-3-056	Institute of Earth Sciences, Heidelberg University	13.9	-9.47	1959.47		-11.21	-4.66
E23-3-057	Institute of Earth Sciences, Heidelberg University	14.15	-8.57	1958.57		-10.88	-4.47
E23-3-058	Institute of Earth Sciences, Heidelberg University	14.4	-7.59	1957.59		-11.33	-4.73
E23-3-059	Institute of Earth Sciences, Heidelberg University	14.65	-6.70	1956.70		-11.35	-4.91
E23-3-060	Institute of Earth Sciences, Heidelberg University	14.9	-5.56	1955.56		-10.61	-4.93
E23-3-061	Institute of Earth Sciences, Heidelberg University	15.15	-4.74	1954.74		-9.91	-5.06
E23-3-062	Institute of Earth Sciences, Heidelberg University	15.4	-4.16	1954.16		-11.05	-5.37
E23-3-063	Institute of Earth Sciences, Heidelberg University	15.65	-3.53	1953.53		-10.43	-5.34
E23-3-064	Institute of Earth Sciences, Heidelberg University	15.9	-2.90	1952.90		-10.26	-5.27
E23-3-065	Institute of Earth Sciences, Heidelberg University	16.15	-2.33	1952.33		-10.81	-5.44
E23-3-066	Institute of Earth Sciences, Heidelberg University	16.4	-1.69	1951.69		-10.07	-5.22
E23-3-067	Institute of Earth Sciences, Heidelberg University	16.65	-0.99	1950.99		-10.45	-4.79
E23-3-068	Institute of Earth Sciences, Heidelberg University	16.9	-0.35	1950.35		-10.81	-4.60
E23-3-069	Institute of Earth Sciences, Heidelberg University	17.15	0.28	1949.72		-10.27	-4.23
E23-3-070	Institute of Earth Sciences, Heidelberg University	17.4	0.90	1949.10		-11.51	-4.65
E23-3-071	Institute of Earth Sciences, Heidelberg University	17.65	1.43	1948.57		-9.73	-4.08
E23-3-072	Institute of Earth Sciences, Heidelberg University	17.9	1.85	1948.15		-10.90	-4.17
E23-3-073	Institute of Earth Sciences, Heidelberg University	18.15	2.27	1947.73		-9.90	-4.15
E23-3-074	Institute of Earth Sciences, Heidelberg University	18.4	2.67	1947.33		-9.84	-4.30
E23-3-075	Institute of Earth Sciences, Heidelberg University	18.65	3.16	1946.84		-10.69	-4.40
E23-3-076	Institute of Earth Sciences, Heidelberg University	18.9	3.79	1946.21		-11.53	-4.60

E23-3-077	Institute of Earth Sciences, Heidelberg University	19.15	4.43	1945.57	-10.60	-4.32
E23-3-078	Institute of Earth Sciences, Heidelberg University	19.4	5.11	1944.89	-10.98	-4.33
E23-3-079	Institute of Earth Sciences, Heidelberg University	19.65	6.01	1943.99	-11.36	-4.58
E23-3-080	Institute of Earth Sciences, Heidelberg University	19.9	6.62	1943.38	-10.26	-4.24
E23-3-081	Institute of Earth Sciences, Heidelberg University	20.15	7.14	1942.86	-10.23	-4.35
E23-3-082	Institute of Earth Sciences, Heidelberg University	20.4	7.57	1942.43	-9.43	-4.12
E23-3-083	Institute of Earth Sciences, Heidelberg University	20.65	8.06	1941.94	-10.98	-4.43
E23-3-084	Institute of Earth Sciences, Heidelberg University	20.9	8.72	1941.28	-11.42	-4.65
E23-3-085	Institute of Earth Sciences, Heidelberg University	21.15	9.43	1940.57	-11.43	-4.79
E23-3-086	Institute of Earth Sciences, Heidelberg University	21.4	10.27	1939.73	-11.71	-4.97
E23-3-087	Institute of Earth Sciences, Heidelberg University	21.65	11.31	1938.69	-11.29	-4.97
E23-3-088	Institute of Earth Sciences, Heidelberg University	21.9	12.05	1937.95	-11.28	-5.14
E23-3-089	Institute of Earth Sciences, Heidelberg University	22.15	12.52	1937.48	-10.04	-4.78
E23-3-090	Institute of Earth Sciences, Heidelberg University	22.4	12.97	1937.03	-11.03	-5.22
E23-3-091	Institute of Earth Sciences, Heidelberg University	22.65	13.46	1936.54	-10.02	-5.13
E23-3-092	Institute of Earth Sciences, Heidelberg University	22.9	14.00	1936.00	-10.41	-5.20
E23-3-093	Institute of Earth Sciences, Heidelberg University	23.15	15.12	1934.88	-9.89	-5.14
E23-3-094	Institute of Earth Sciences, Heidelberg University	23.4	15.75	1934.25	-10.93	-5.12
E23-3-095	Institute of Earth Sciences, Heidelberg University	23.65	16.43	1933.57	-12.33	-5.44
E23-3-096	Institute of Earth Sciences, Heidelberg University	23.9	17.08	1932.92	-11.50	-4.97
E23-3-097	Institute of Earth Sciences, Heidelberg University	24.15	17.62	1932.38	-11.81	-5.09
E23-3-098	Institute of Earth Sciences, Heidelberg University	24.4	18.15	1931.85	-10.89	-4.64
E23-3-099	Institute of Earth Sciences, Heidelberg University	24.65	18.70	1931.30	-11.79	-4.88
E23-3-100	Institute of Earth Sciences, Heidelberg University	24.9	19.21	1930.79	-10.74	-4.68
E23-3-101	Institute of Earth Sciences, Heidelberg University	25.15	19.52	1930.48	-10.76	-4.46
E23-3-102	Institute of Earth Sciences, Heidelberg University	25.4	19.74	1930.26	-11.75	-4.79
E23-3-103	Institute of Earth Sciences, Heidelberg University	25.65	20.03	1929.97	-11.26	-4.67
E23-3-104	Institute of Earth Sciences, Heidelberg University	25.9	20.41	1929.59	-12.28	-4.85
E23-3-105	Institute of Earth Sciences, Heidelberg University	26.15	20.89	1929.11	-12.09	-4.88
E23-3-106	Institute of Earth Sciences, Heidelberg University	26.4	21.62	1928.38	-11.49	-4.87
E23-3-107	Institute of Earth Sciences, Heidelberg University	26.65	22.55	1927.45		
E23-3-108	Institute of Earth Sciences, Heidelberg University	26.9	23.68	1926.32	-11.93	-5.08
E23-3-109	Institute of Earth Sciences, Heidelberg University	27.15	25.89	1924.11	-11.89	-4.86
E23-3-110	Institute of Earth Sciences, Heidelberg University	27.4	27.56	1922.44	-11.97	-4.90
E23-3-111	Institute of Earth Sciences, Heidelberg University	27.65	31.91	1918.09	-11.98	-4.75
E23-3-112	Institute of Earth Sciences, Heidelberg University	27.9	33.43	1916.57	-11.87	-4.70
E23-3-113	Institute of Earth Sciences, Heidelberg University	28.15	35.50	1914.50	-12.26	-5.28
E23-3-114	Institute of Earth Sciences, Heidelberg University	28.4	36.54	1913.46	-11.90	-5.71
E23-3-115	Institute of Earth Sciences, Heidelberg University	28.65	37.82	1912.18	-11.00	-5.40
E23-3-116	Institute of Earth Sciences, Heidelberg University	28.9	39.16	1910.84	-10.92	-5.17
E23-3-117	Institute of Earth Sciences, Heidelberg University	29.15	40.85	1909.15	-11.57	-5.23
E23-3-118	Institute of Earth Sciences, Heidelberg University	29.4	41.91	1908.09	-11.96	-4.92
E23-3-119	Institute of Earth Sciences, Heidelberg University	29.65	44.77	1905.23	-11.91	-4.72
E23-3-120	Institute of Earth Sciences, Heidelberg University	29.9	49.30	1900.70	-10.15	0.89
E23-3-121	Institute of Earth Sciences, Heidelberg University	30.4	52.02	1897.98	-12.17	-4.72
E23-3-122	Institute of Earth Sciences, Heidelberg University	30.9	54.35	1895.65	-11.96	-4.87
E23-3-123	Institute of Earth Sciences, Heidelberg University	31.4	56.13	1893.87	-11.45	-4.95
E23-3-124	Institute of Earth Sciences, Heidelberg University	31.9	57.58	1892.42	-11.74	-5.36
E23-3-125	Institute of Earth Sciences, Heidelberg University	32.4	59.10	1890.90	-11.39	-5.28
E23-3-126	Institute of Earth Sciences, Heidelberg University	32.9	61.95	1888.05	-11.02	-4.97
E23-3-127	Institute of Earth Sciences, Heidelberg University	33.4	64.54	1885.46	-11.07	-4.63
E23-3-128	Institute of Earth Sciences, Heidelberg University	33.9	67.55	1882.45	-12.04	-4.83
E23-3-129	Institute of Earth Sciences, Heidelberg University	34.4	69.94	1880.06	-11.65	-4.77
E23-3-130	Institute of Earth Sciences, Heidelberg University	34.9	71.94	1878.06	-11.55	-4.85
E23-3-131	Institute of Earth Sciences, Heidelberg University	35.4	74.42	1875.58	-11.73	-4.98
E23-3-132	Institute of Earth Sciences, Heidelberg University	35.9	77.93	1872.07	-11.18	-4.44
E23-3-133	Institute of Earth Sciences, Heidelberg University	36.4	80.22	1869.78	-11.54	-4.38
E23-3-134	Institute of Earth Sciences, Heidelberg University	36.9	81.81	1868.19	-11.67	-4.70
E23-3-135	Institute of Earth Sciences, Heidelberg University	37.4	83.50	1866.50	-11.51	-4.77
E23-3-136	Institute of Earth Sciences, Heidelberg University	37.9	85.31	1864.69	-11.17	-4.35
E23-3-137	Institute of Earth Sciences, Heidelberg University	38.4	86.95	1863.05	-11.05	-4.42
E23-3-138	Institute of Earth Sciences, Heidelberg University	38.9	89.79	1860.21	-11.10	-4.48
E23-3-139	Institute of Earth Sciences, Heidelberg University	39.4	92.10	1857.90	-10.55	-4.37
E23-3-140	Institute of Earth Sciences, Heidelberg University	39.9	94.14	1855.86	-10.74	-4.41
E23-3-141	Institute of Earth Sciences, Heidelberg University	40.4	95.81	1854.19	-10.51	-4.36
E23-3-142	Institute of Earth Sciences, Heidelberg University	40.9	97.24	1852.76	-10.57	-4.49
E23-3-143	Institute of Earth Sciences, Heidelberg University	41.4	98.42	1851.58	-10.06	-4.64
E23-3-144	Institute of Earth Sciences, Heidelberg University	41.9	100.47	1849.53	-8.48	-0.85
E23-3-145	Institute of Earth Sciences, Heidelberg University	42.4	102.31	1847.69	-9.47	-4.72
E23-3-146	Institute of Earth Sciences, Heidelberg University	42.9	105.51	1844.49	-9.72	-4.89
E23-3-147	Institute of Earth Sciences, Heidelberg University	43.4	108.70	1841.30		
E23-3-148	Institute of Earth Sciences, Heidelberg University	43.9	112.10	1837.90	-10.34	-5.41
E23-3-149	Institute of Earth Sciences, Heidelberg University	44.4	114.86	1835.14	-10.06	-4.81
E23-3-150	Institute of Earth Sciences, Heidelberg University	44.9	117.68	1832.32	-10.49	-4.71
E23-3-151	Institute of Earth Sciences, Heidelberg University	45.4	119.95	1830.05	-10.21	-5.09
E23-3-152	Institute of Earth Sciences, Heidelberg University	45.9	122.38	1827.62	-10.40	-5.18
E23-3-153	Institute of Earth Sciences, Heidelberg University	46.4	124.44	1825.56	-10.12	-5.11
E23-3-154	Institute of Earth Sciences, Heidelberg University	46.9	126.61	1823.39	-9.99	-4.99
E23-3-155	Institute of Earth Sciences, Heidelberg University	47.4	129.45	1820.55	-9.92	-5.08
E23-3-156	Institute of Earth Sciences, Heidelberg University	47.9	131.49	1818.51	-10.08	-5.11

E23-3-157	Institute of Earth Sciences, Heidelberg University	48.4	133.25	1816.75	-10.20	-5.38
E23-3-158	Institute of Earth Sciences, Heidelberg University	48.9	135.13	1814.87	-9.82	-4.96
E23-3-159	Institute of Earth Sciences, Heidelberg University	49.4	136.67	1813.33	-9.91	-4.35
E23-3-160	Institute of Earth Sciences, Heidelberg University	49.9	138.95	1811.05	-9.85	-4.20
E23-3-161	Institute of Earth Sciences, Heidelberg University	50.4	140.43	1809.57	-9.72	-4.07
E23-3-162	Institute of Earth Sciences, Heidelberg University	50.9	141.69	1808.31	-9.45	-3.97
E23-3-163	Institute of Earth Sciences, Heidelberg University	51.4	142.84	1807.16	-9.08	-3.79
E23-3-164	Institute of Earth Sciences, Heidelberg University	51.9	144.21	1805.79	-9.30	-3.96
E23-3-165	Institute of Earth Sciences, Heidelberg University	52.4	145.59	1804.41	-9.33	-3.98
E23-3-166	Institute of Earth Sciences, Heidelberg University	52.9	147.11	1802.89	-9.83	-4.31
E23-3-167	Institute of Earth Sciences, Heidelberg University	53.4	149.03	1800.97	-10.19	-4.47
E23-3-168	Institute of Earth Sciences, Heidelberg University	53.9	151.04	1798.96	-10.14	-4.50
E23-3-169	Institute of Earth Sciences, Heidelberg University	54.4	153.45	1796.55	-10.19	-4.57
E23-3-170	Institute of Earth Sciences, Heidelberg University	54.9	155.12	1794.88	-9.88	-4.61
E23-3-171	Institute of Earth Sciences, Heidelberg University	55.4	156.87	1793.13	-9.87	-4.61
E23-3-172	Institute of Earth Sciences, Heidelberg University	55.9	159.45	1790.55	-9.77	-4.54
E23-3-173	Institute of Earth Sciences, Heidelberg University	56.4	161.10	1788.90	-10.37	-4.54
E23-3-174	Institute of Earth Sciences, Heidelberg University	56.9	162.68	1787.32	-11.43	-4.68
E23-3-175	Institute of Earth Sciences, Heidelberg University	57.4	164.59	1785.41	-10.90	-5.17
E23-3-176	Institute of Earth Sciences, Heidelberg University	57.9	166.98	1783.02	-11.06	-5.17
E23-3-177	Institute of Earth Sciences, Heidelberg University	58.4	168.47	1781.53	-10.63	-4.94
E23-3-178	Institute of Earth Sciences, Heidelberg University	58.9	169.89	1780.11	-10.90	-5.57
E23-3-179	Institute of Earth Sciences, Heidelberg University	59.4	171.29	1778.71	-11.02	-5.68
E23-3-180	Institute of Earth Sciences, Heidelberg University	59.9	172.37	1777.63	-10.92	-5.39
E23-3-181	Institute of Earth Sciences, Heidelberg University	60.4	173.23	1776.77	-10.13	-5.10
E23-3-182	Institute of Earth Sciences, Heidelberg University	60.9	174.46	1775.54	-10.38	-5.29
E23-3-183	Institute of Earth Sciences, Heidelberg University	61.4	175.95	1774.05	-10.58	-5.40
E23-3-184	Institute of Earth Sciences, Heidelberg University	61.9	177.35	1772.65	-10.14	-5.47
E23-3-185	Institute of Earth Sciences, Heidelberg University	62.4	178.83	1771.17	-10.10	-5.46
E23-3-186	Institute of Earth Sciences, Heidelberg University	62.9	179.58	1770.42	-9.85	-5.49
E23-3-187	Institute of Earth Sciences, Heidelberg University	63.4	180.60	1769.40	-10.05	-5.28
E23-3-188	Institute of Earth Sciences, Heidelberg University	63.9	182.15	1767.85	-10.22	-5.12
E23-3-189	Institute of Earth Sciences, Heidelberg University	64.4	184.76	1765.24	-9.82	-4.60
E23-3-190	Institute of Earth Sciences, Heidelberg University	64.9	187.18	1762.82	-10.65	-4.71
E23-3-191	Institute of Earth Sciences, Heidelberg University	65.4	188.47	1761.53	-11.58	-5.20
E23-3-192	Institute of Earth Sciences, Heidelberg University	65.9	189.97	1760.03	-9.77	-5.20
E23-3-193	Institute of Earth Sciences, Heidelberg University	66.4	191.51	1758.49	-9.93	-5.23
E23-3-194	Institute of Earth Sciences, Heidelberg University	66.9	194.00	1756.00	-9.69	-4.89
E23-3-195	Institute of Earth Sciences, Heidelberg University	67.4	195.74	1754.26	-9.63	-4.72
E23-3-196	Institute of Earth Sciences, Heidelberg University	67.9	198.99	1751.01	-9.60	-4.57
E23-3-197	Institute of Earth Sciences, Heidelberg University	68.4	202.12	1747.88	-10.17	-4.71
E23-3-198	Institute of Earth Sciences, Heidelberg University	68.9	204.38	1745.62	-11.72	-6.17
E23-3-199	Institute of Earth Sciences, Heidelberg University	69.4	207.75	1742.25	-11.33	-6.07
E23-3-200	Institute of Earth Sciences, Heidelberg University	69.9	210.56	1739.44	-10.79	-5.52
E23-3-201	Institute of Earth Sciences, Heidelberg University	70.4	213.02	1736.98	-11.35	-5.01
E23-3-202	Institute of Earth Sciences, Heidelberg University	70.9	214.54	1735.46	-11.45	-5.36
E23-3-203	Institute of Earth Sciences, Heidelberg University	71.4	215.59	1734.41	-11.21	-5.57
E23-3-204	Institute of Earth Sciences, Heidelberg University	71.9	216.54	1733.46	-10.47	-5.29
E23-3-205	Institute of Earth Sciences, Heidelberg University	72.4	218.02	1731.98	-9.88	-4.53
E23-3-206	Institute of Earth Sciences, Heidelberg University	72.9	219.91	1730.09	-9.74	-4.24
E23-3-207	Institute of Earth Sciences, Heidelberg University	73.4	221.84	1728.16	-10.02	-4.07
E23-3-208	Institute of Earth Sciences, Heidelberg University	73.9	224.76	1725.24	-9.86	-4.14
E23-3-209	Institute of Earth Sciences, Heidelberg University	74.4	226.42	1723.58		
E23-3-210	Institute of Earth Sciences, Heidelberg University	74.9	227.89	1722.11	-11.05	-4.82
E23-3-211	Institute of Earth Sciences, Heidelberg University	75.4	230.48	1719.52	-10.55	-4.84
E23-3-212	Institute of Earth Sciences, Heidelberg University	75.9	232.68	1717.32	-10.23	-4.76
E23-3-213	Institute of Earth Sciences, Heidelberg University	76.4	234.55	1715.45	-10.20	-4.62
E23-3-214	Institute of Earth Sciences, Heidelberg University	76.9	236.35	1713.65	-10.12	-4.67
E23-3-215	Institute of Earth Sciences, Heidelberg University	77.4	238.27	1711.73	-10.12	-4.69
E23-3-216	Institute of Earth Sciences, Heidelberg University	77.9	240.58	1709.42	-10.34	-4.74
E23-3-217	Institute of Earth Sciences, Heidelberg University	78.4	242.42	1707.58	-10.50	-4.98
E23-3-218	Institute of Earth Sciences, Heidelberg University	78.9	243.49	1706.51	-10.04	-4.98
E23-3-219	Institute of Earth Sciences, Heidelberg University	79.4	244.31	1705.69	-9.89	-4.97
E23-3-220	Institute of Earth Sciences, Heidelberg University	79.9	245.11	1704.89	-10.26	-5.04
E23-3-221	Institute of Earth Sciences, Heidelberg University	80.4	246.17	1703.83	-10.67	-5.10
E23-3-222	Institute of Earth Sciences, Heidelberg University	80.9	249.05	1700.95	-10.17	-5.01
E23-3-223	Institute of Earth Sciences, Heidelberg University	81.4	251.06	1698.94	-10.78	-5.39
E23-3-224	Institute of Earth Sciences, Heidelberg University	81.9	252.88	1697.12	-10.40	-5.44
E23-3-225	Institute of Earth Sciences, Heidelberg University	82.4	254.82	1695.18	-10.75	-5.48
E23-3-226	Institute of Earth Sciences, Heidelberg University	82.9			-7.92	-4.73
E23-3-227	Institute of Earth Sciences, Heidelberg University	83.4			-8.62	-5.00
E23-3-228	Institute of Earth Sciences, Heidelberg University	83.9			-8.66	-4.89