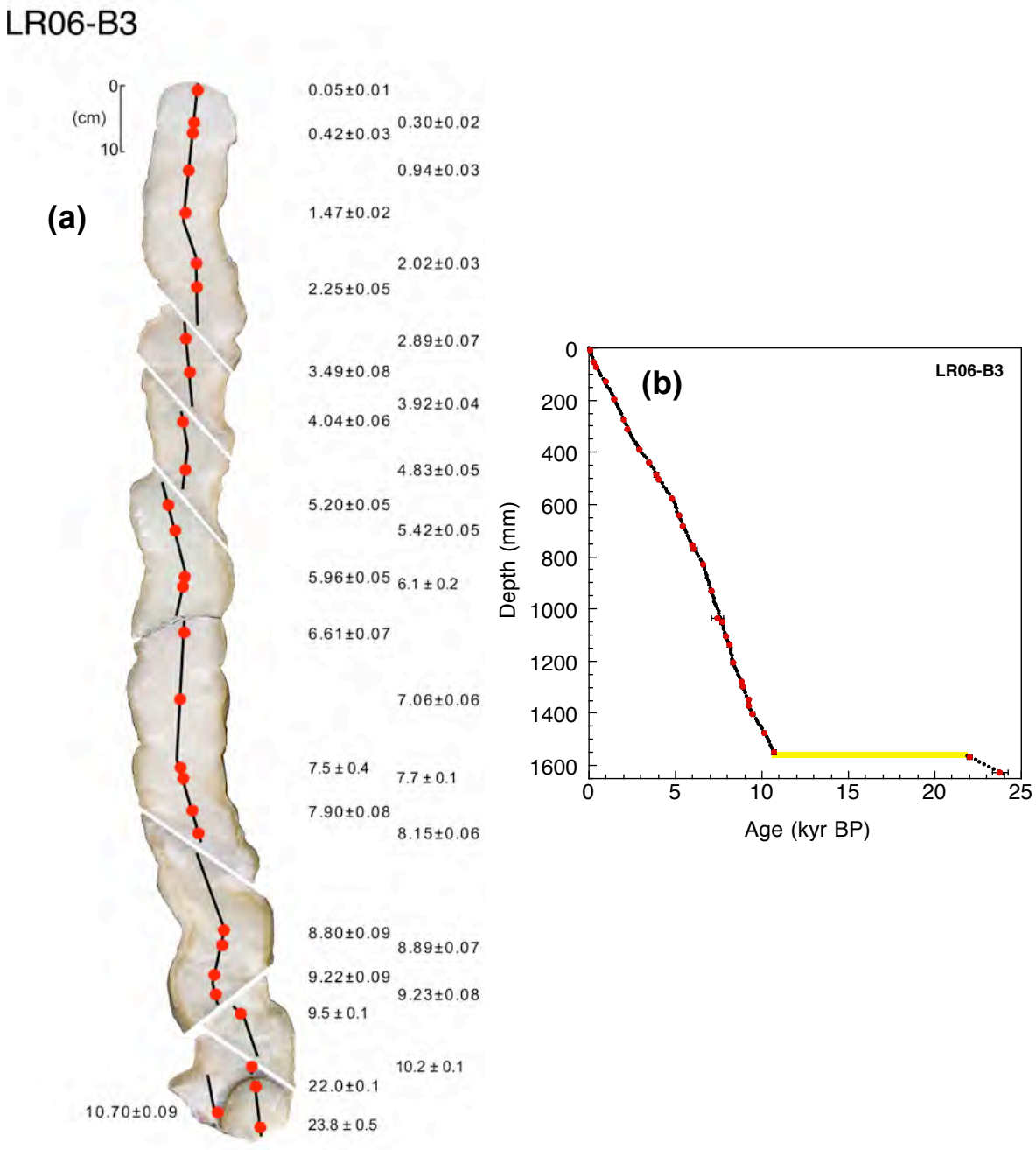
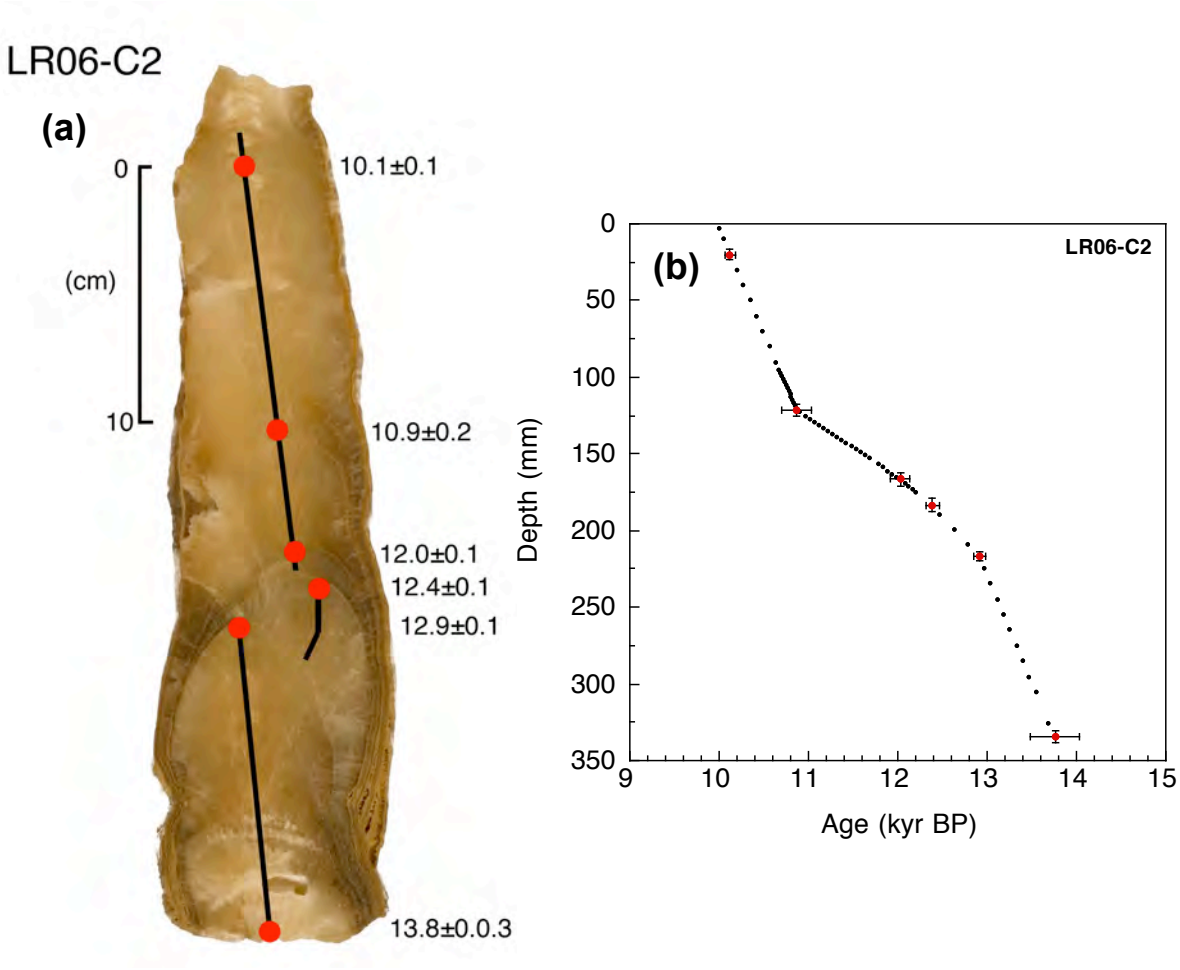
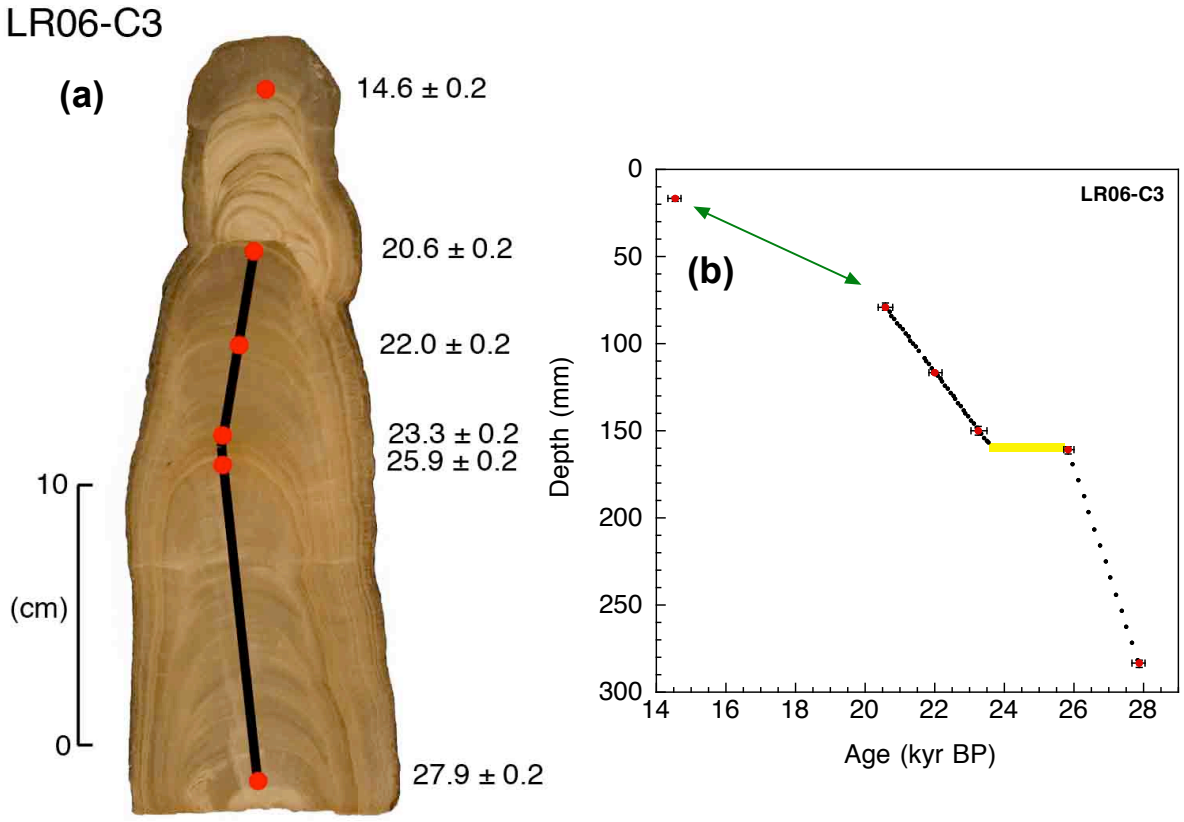
Supplementary Figures



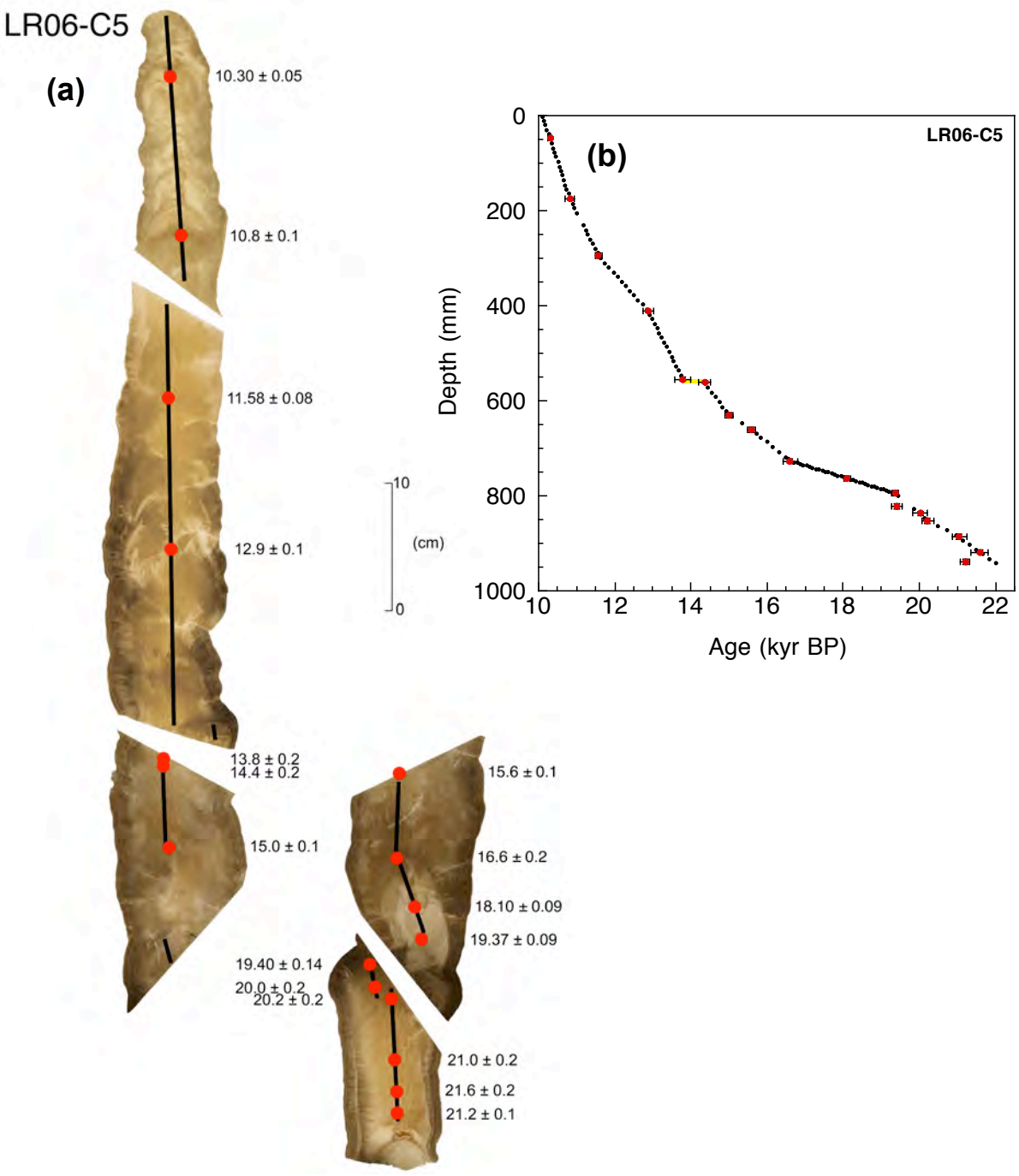
Supplementary Figure S1 I Geochronology for stalagmite LR06-B3. (a) Photo of central slab of the stalagmite cut parallel to the central growth axis. Sampling transects for stable isotopes are shown as black lines. Red dots indicate the positions of ^{230}Th dates (ages in kyr BP ±2σ are given alongside the slab). (b) Age-depth plot. Red dots: ^{230}Th dating samples, black dots: stable isotope samples, yellow shading: position of growth hiatus. The age model was derived using the line of best fit through the ^{230}Th dates (error bars are ±2σ in kyr).



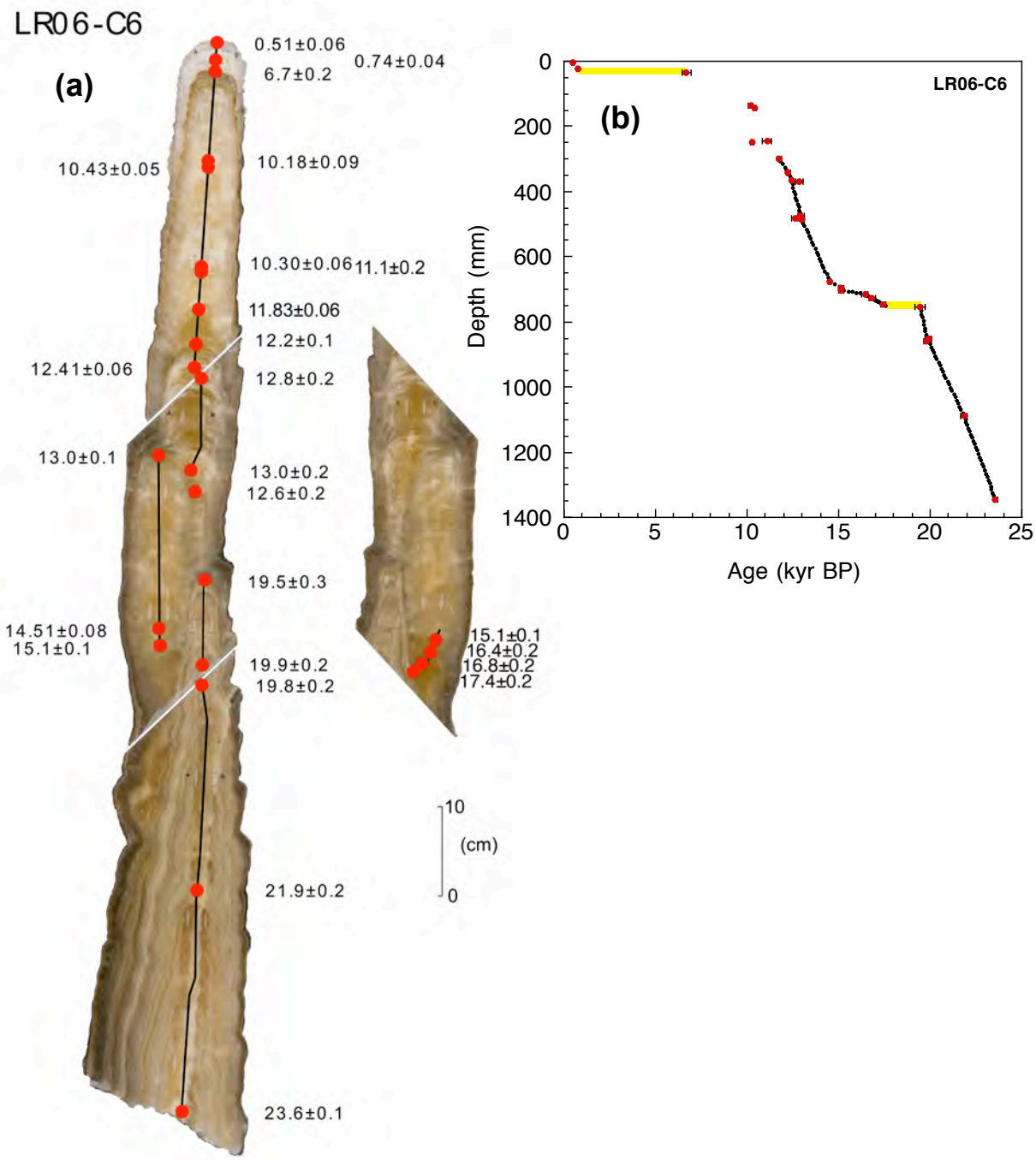
Supplementary Figure S2 I Geochronology for stalagmite LR06-C2. (a) Photo of central slab of the stalagmite cut parallel to the central growth axis. Sampling transects for stable isotopes are shown as black lines. Red dots indicate the positions of ^{230}Th dates (ages in kyr BP ±2σ are given alongside the slab). (b) Age-depth plot. Red dots: ^{230}Th dating samples, black dots: stable isotope samples. The age model was derived using the line of best fit through the ^{230}Th dates (error bars are ±2σ in kyr).



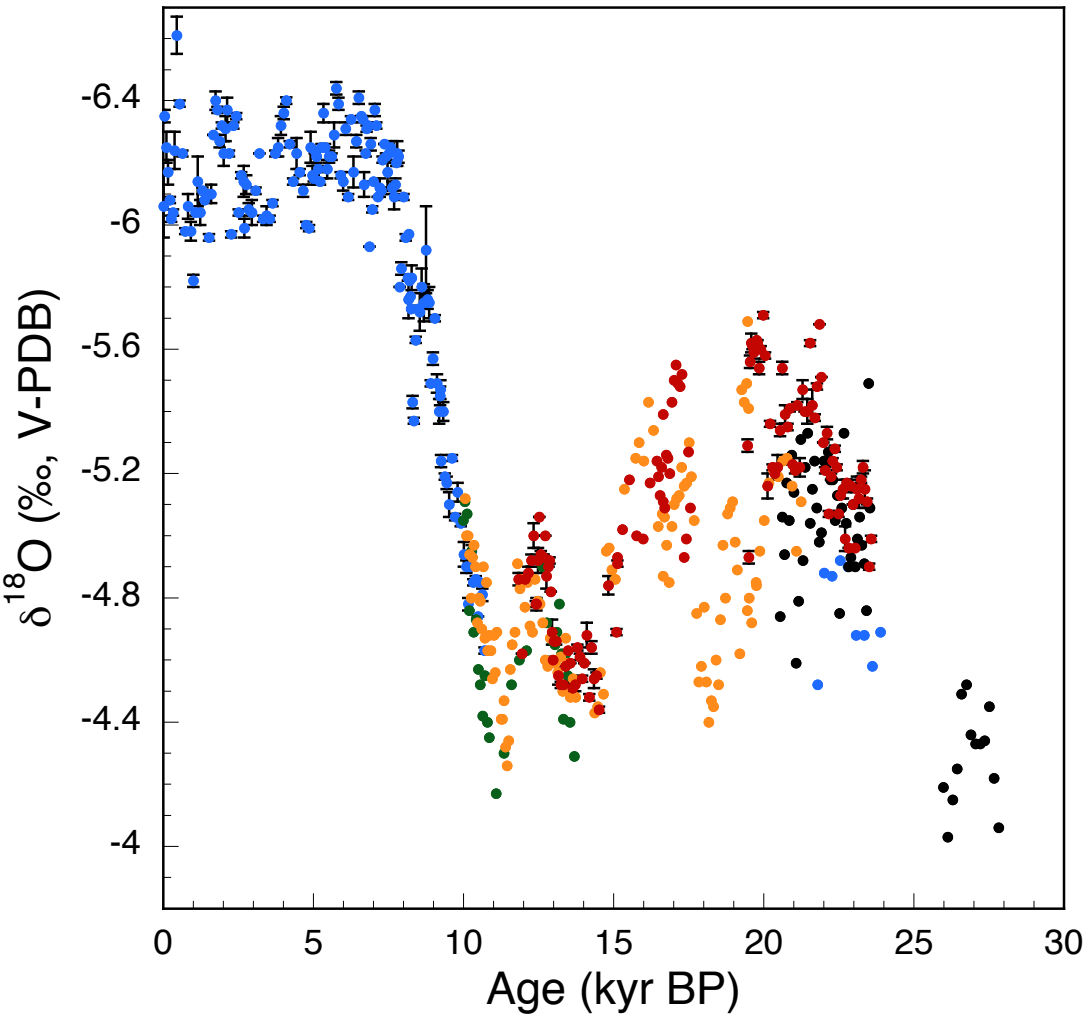
Supplementary Figure S3 I Geochronology for stalagmite LR06-C3. (a) Photo of central slab of the stalagmite cut parallel to the central growth axis. Sampling transects for stable isotopes are shown as black lines. Red dots indicate the positions of ^{230}Th dates (ages in kyr BP ±2σ are given alongside the slab). (b) Age-depth plot. Red dots: ^{230}Th dating samples, black dots: stable isotope samples, yellow shading: growth hiatus, green arrow: section with partially recrystallized aragonite (not analysed). The age model was derived using the line of best fit through the ^{230}Th dates (error bars are ±2σ in kyr).



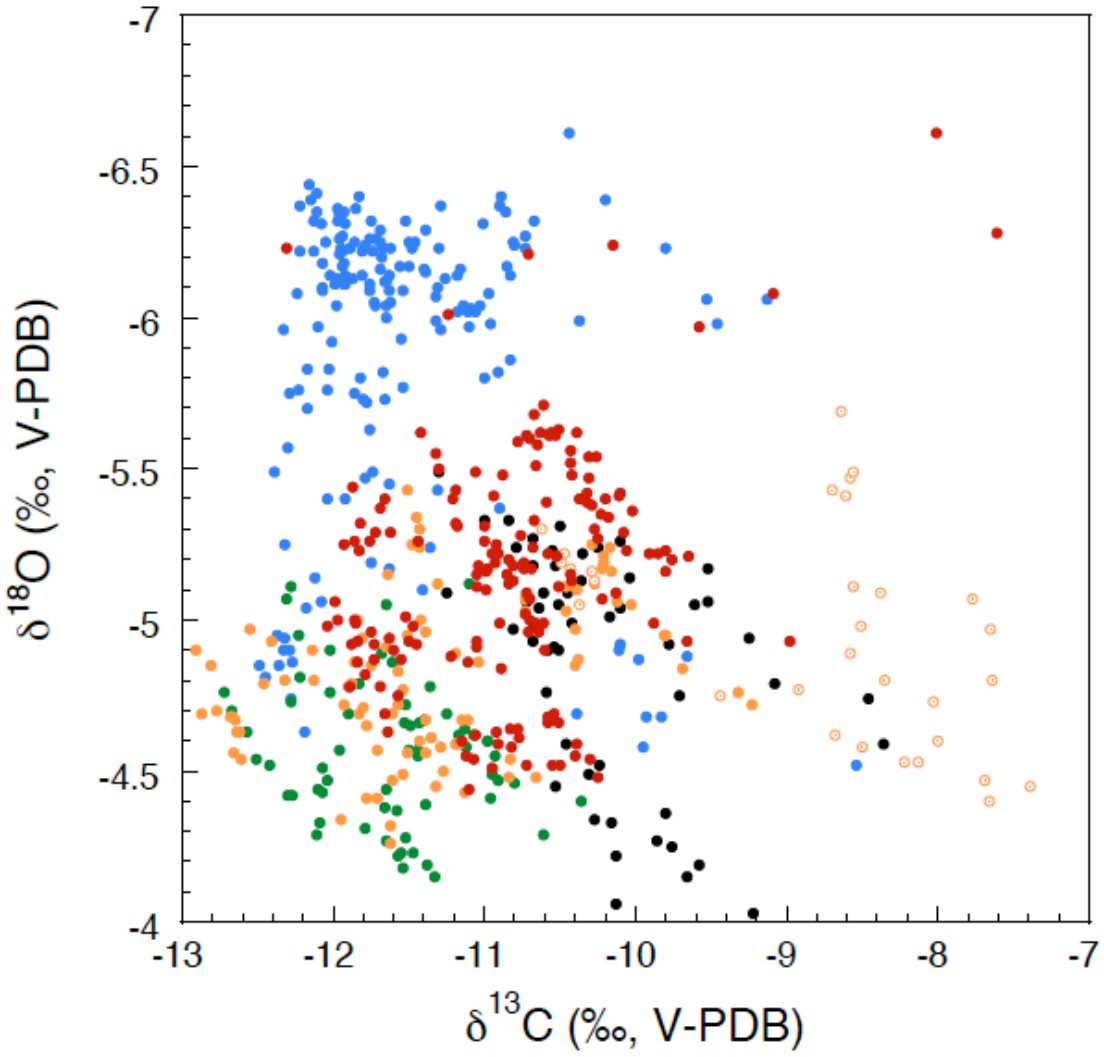
Supplementary Figure S4 I Geochronology for stalagmite LR06-C5. (a) Photo of central slab of the stalagmite cut parallel to the central growth axis. Sampling transects for stable isotopes are shown as black lines. Red dots indicate the positions of ^{230}Th dates (ages in kyr BP ±2σ are given alongside the slab). (b) Age-depth plot. Red dots: ^{230}Th dating samples, black dots: stable isotope samples. The age model was derived using the line of best fit through the ^{230}Th dates (error bars are ±2σ in kyr). Sampling on both sides of the central slab was necessary for this specimen to accommodate a shift in the position of the central growth axis. The image on the left is side "A" of the central slab. The image on the right is the opposite side "B".



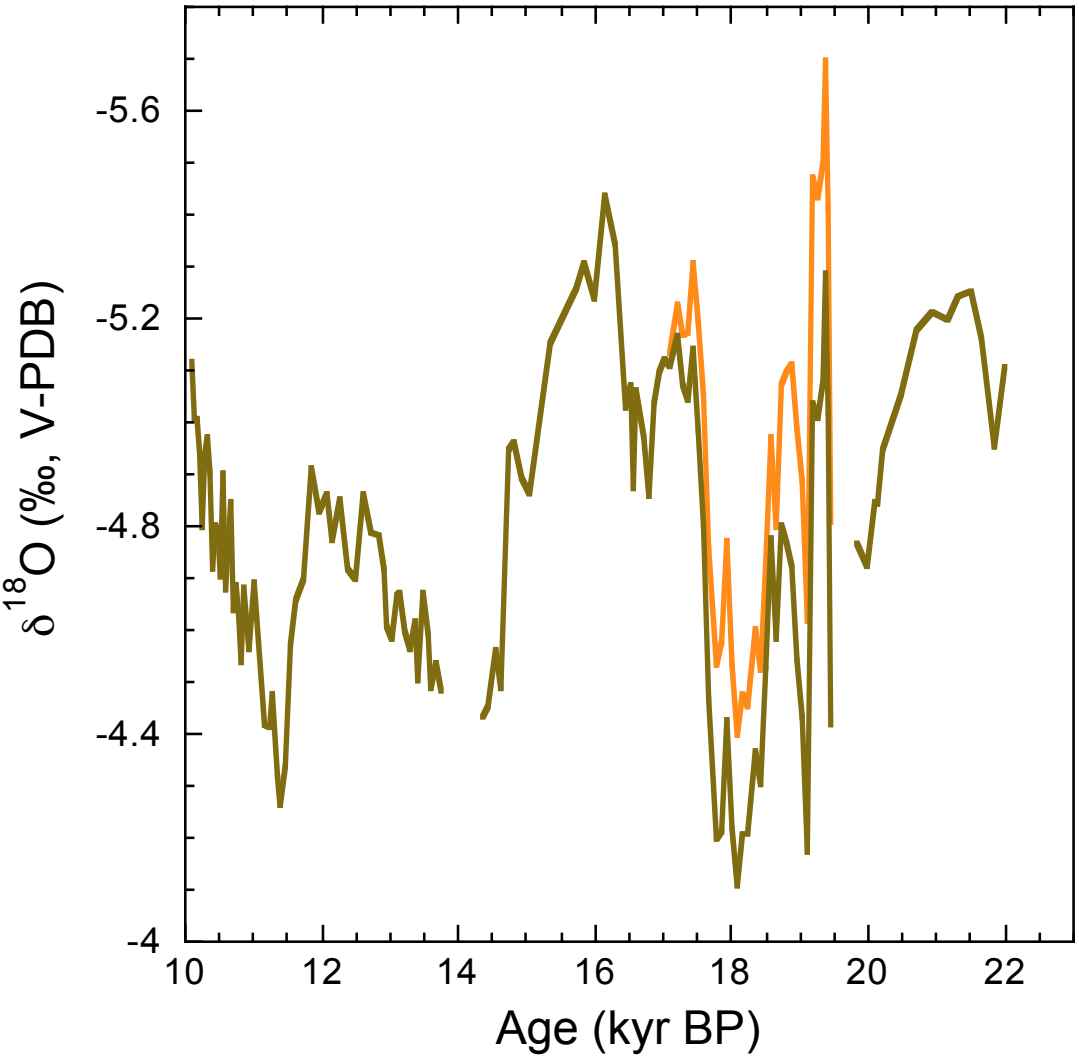
Supplementary Figure S5 I Geochronology for stalagmite LR06-C6. (a) Photo of central slab of the stalagmite cut parallel to the central growth axis. Sampling transects for stable isotopes are shown as black lines. Red dots indicate the positions of ^{230}Th dates (ages in kyr BP ±2σ are given alongside the slab). (b) Age-depth plot. Red dots: ^{230}Th dating samples, black dots: stable isotope samples, yellow shading: position of growth hiatus. The age model was derived using the line of best fit through the ^{230}Th dates (error bars are ±2σ in kyr). Sampling on both sides of the central slab was necessary for this specimen to accommodate a shift in the position of the central growth axis. The image on the left is side "A" of the central slab. The image on the right is the opposite side "B".



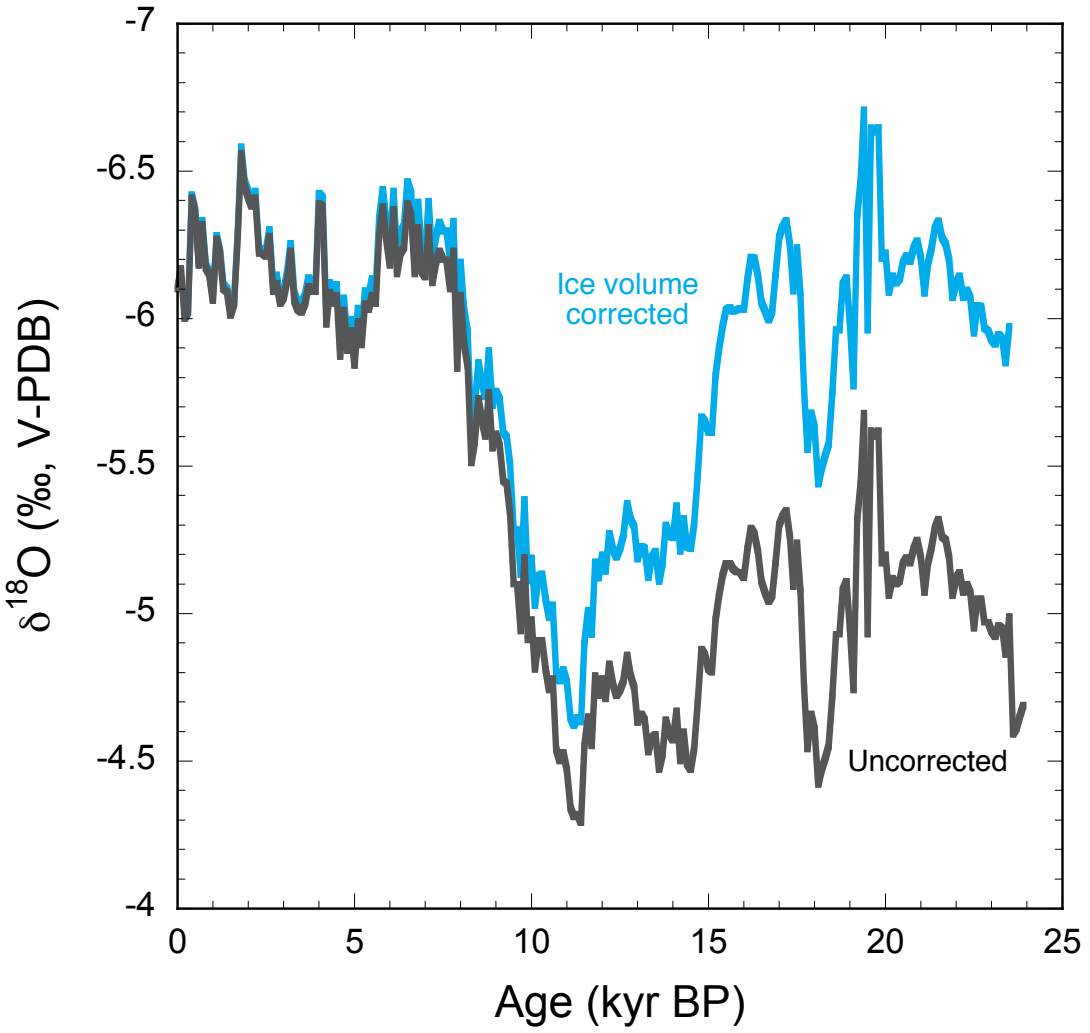
Supplementary Figure S6 I Measurements of $\delta^{18}O$ vs age for the Liang Luar stalagmites. Stalagmites LR06-B3 (blue), LR06-C2 (green), LR06-C3 (black), LR06-C5 (orange) and LR06-C6 (red). Error bars (black) are ± the standard error of the mean of replicate $\delta^{18}O$ measurements. See Supplementary Table S3 for summary of data.



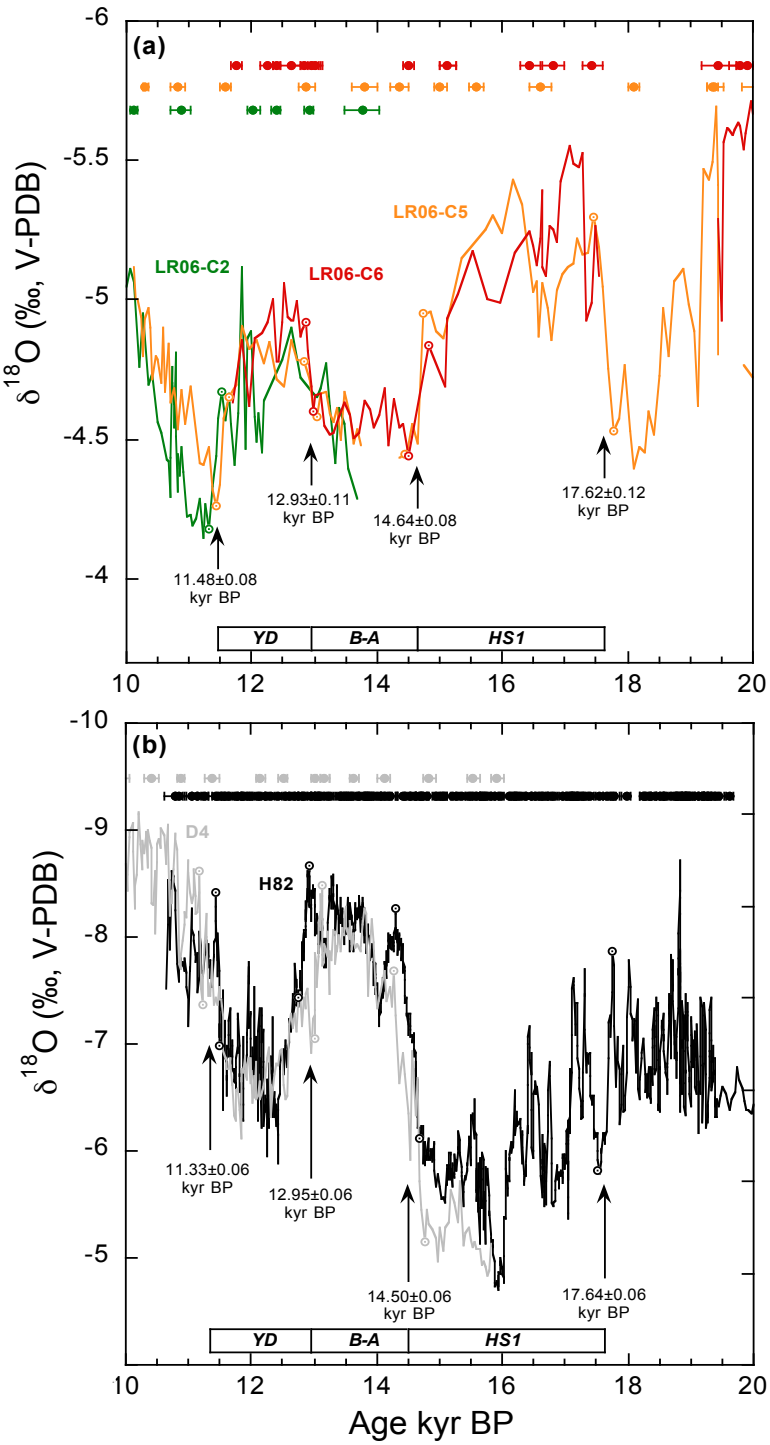
Supplementary Figure S7 I Cross-plot of $\delta^{18}O$ and $\delta^{13}C$ for the Liang Luar stalagmites. Stalagmites LR06-B3 (blue), LR06-C2 (green), LR06-C3 (black), LR06-C5 (orange) and LR06-C6 (red). $\delta^{18}O$ and $\delta^{13}C$ values of samples for LR06-C5 consisting of magnesium calcite and aragonite (open symbols) have been corrected using measured aragonite contents and aragonite–magnesium calcite enrichment factors of +0.7‰ for $\delta^{18}O$ (ref. 45) and +2.5‰ for $\delta^{13}C$ (ref. 46) (Supplementary Table S2). There is no significant correlation between $\delta^{18}O$ and $\delta^{13}C$ for any of the five stalagmites.



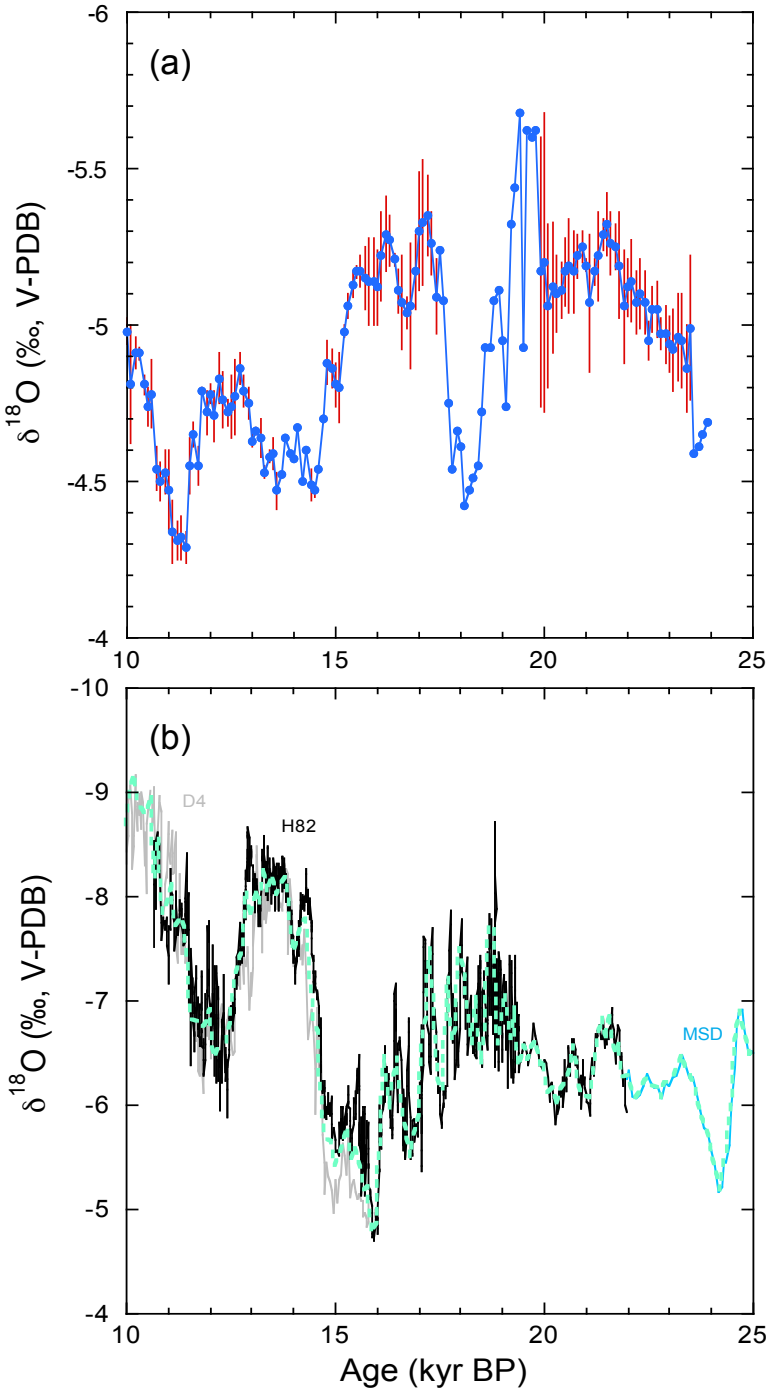
Supplementary Figure S8 I Aragonite correction applied to the $\delta^{18}O$ record for stalagmite LR06-C5. The corrected portion of the record, where the stalagmite contained 22-66% aragonite, is shown in orange (See Supplementary Table S2 for X-ray diffraction analyses of percentage aragonite). Linear interpolation was used to estimate the aragonite contents of intervening samples and corrections applied using an aragonite–magnesium calcite enrichment factor of +0.7‰ for $\delta^{18}O$ (ref. 45).



Supplementary Figure S9 I The ice volume-corrected stalagmite $\delta^{18}O$ record for Flores. The grey curve shows the uncorrected composite stalagmite $\delta^{18}O$ record for Liang Luar. The blue curve shows the record after correction for ice volume-related changes in seawater $\delta^{18}O$ (ref. 52). See Supplementary Fig. S11a for methods used to construct the composite $\delta^{18}O$ record.



Supplementary Figure S10 I Precise timing of abrupt climate change across the Australasian monsoon system. Comparison of stalagmite $\delta^{18}O$ records from (a) Flores and (b) China (Hulu: H82, black[12,47,48] and Dongge: D4, grey[13] caves) spanning the HS1, B-A and YD intervals. ^{230}Th ages (with 2σ errors) for each record are shown at the top of the plots. Open circles show the start and finish of abrupt isotopic shifts related to North Atlantic climate change (arrows indicate positions of the mid-points). The uncertainties attributed to these mid-point transitions were estimated using the chronological uncertainties for each $\delta^{18}O$ time-series and standard error propagation techniques.



Supplementary Figure S11 I Construction of the composite stalagmite $\delta^{18}O$ records for Flores and China. (a) The stalagmite $\delta^{18}O$ records for Liang Luar (this study and refs 26 and 27) were resampled at 100-year resolution and averaged to produce a spliced composite record (blue). Red bars show the standard error of the mean for each 100-year interval in overlapping sections of the records. (b) The same analysis was performed on the Hulu[12,47,48] (H82, black; MSD, blue) and Dongge[13] (D4, grey) cave stalagmite $\delta^{18}O$ records to produce a composite record for China (dashed green). The data for the composite record for Flores are summarised in Supplementary Table S4, and both records are compared with other palaeoclimate records in Fig. 4.

Supplementary Tables

Supplementary Table S1. U and Th isotope data and ^{230}Th age determinations for stalagmites from Liang Luar, Flores, Indonesia.

Lab sample ID	Dist. from top (mm)	U (ppm)	$^{230}Th/^{232}Th$	$^{230}Th/^{238}U$ (±2σ)	$\delta^{234}U$ (‰, ±2σ)	Age (uncorrect.) (kyr BP, ±2σ)	Age* (corrected) (kyr BP, ±2σ)	$\delta^{234}U_{initial}$ (corrected) (‰, ±2σ)
UQ–B3-A-a1	8	0.34	26	0.0018±0.0001	274±1	0.10±0.01	0.05±0.01	274±1
UM–B3-101	56	0.02	80	0.0047±0.0002	290±2	0.34±0.02	0.30±0.02	290±2
UM–B3-102	74	0.02	240	0.0059±0.0003	315±3	0.43±0.03	0.42±0.03	315±3
UM–B3-103	130	0.02	170	0.0126±0.0003	324±2	0.98±0.03	0.94±0.03	325±2
UM–B3-104	197	0.03	480	0.0180±0.0002	274±2	1.49±0.02	1.47±0.02	275±2
UM–B3-105	274	0.01	290	0.0244±0.0003	265±2	2.07±0.03	2.02±0.03	266±2
UM–B3-106	313	0.01	140	0.0263±0.0004	197±2	2.37±0.04	2.25±0.05	198±2
UM–B3-107	388	0.01	690	0.0325±0.0007	207±3	2.92±0.07	2.89±0.07	209±3
UM–B3-108	438	0.01	630	0.0437±0.0009	349±3	3.53±0.08	3.49±0.08	352±3
UQ–B3-B-a12	485	0.30	920	0.0475±0.0005	314±2	3.95±0.04	3.92±0.04	318±2
UM–B3-109	503	0.02	1800	0.0477±0.0006	287±3	4.06±0.05	4.04±0.06	290±3
UM–B3-110	577	0.01	2100	0.0531±0.0005	208±3	4.84±0.05	4.83±0.05	210±3
UM–B3-111	642	0.01	1300	0.0552±0.0005	167±2	5.22±0.05	5.20±0.05	170±2
UM–B3-112	682	0.02	2500	0.0568±0.0005	156±3	5.44±0.05	5.42±0.05	159±3
UM–B3-113	755	0.01	2500	0.0627±0.0004	164±2	5.98±0.05	5.96±0.05	167±2
UM–B3-D-SS-2	769	0.22	700	0.064±0.002	164±4	6.14±0.16	6.1±0.2	167±4
UM–B3-E-SS-3	831	0.18	1400	0.0699±0.0006	172±3	6.65±0.06	6.61±0.07	175±3
UM–B3-E-SS-4	932	0.31	2100	0.0775±0.0005	223±3	7.08±0.05	7.06±0.06	227±3
UM–B3-E-SS-5	1034	0.29	2500	0.086±0.004	294±3	7.5±0.4	7.5±0.4	300±3
UM–B3-114	1051	0.01	1100	0.089±0.001	290±3	7.74±0.09	7.7±0.1	297±3
UM–B3-E-SS-6	1105	0.29	2900	0.0900±0.0008	274±2	7.92±0.08	7.90±0.08	280±2
UQ–B3-E-b12	1138	0.33	1500	0.0941±0.0006	291±2	8.18±0.06	8.15±0.06	297±2
UM–B3-F-SS-7	1206	0.27	440	0.095±0.001	263±3	8.5±0.1	8.3±0.1	269±3
UM–B3-F-SS-8	1277	0.21	1700	0.0959±0.0008	224±3	8.83±0.08	8.80±0.09	229±3
UM–B3-115	1298	0.02	3400	0.0978±0.0006	237±2	8.91±0.06	8.89±0.07	243±2
UM–B3-116	1346	0.01	2600	0.1094±0.0009	335±3	9.24±0.09	9.22±0.09	344±3
UM–B3-117	1373	0.01	1100	0.1082±0.0008	314±3	9.29±0.08	9.23±0.08	323±3
UM–B3-118	1404	0.01	300	0.1084±0.0009	265±3	9.69±0.09	9.5±0.1	272±3
UM–B3-119	1475	0.01	600	0.1183±0.0009	306±4	10.27±0.09	10.2±0.1	315±4
UQ–B3-H-c1	1550	0.41	1400	0.1195±0.0008	264±1	10.75±0.08	10.70±0.09	272±1
UQ-B3-I-a1	1568	0.17	1200	0.279±0.001	501±2	22.1±0.1	22.0±0.1	533±2
UM-B3-1	1627	0.16	230	0.303±0.002	494±9	24.4±0.3	23.8±0.5	528±9

UQ–C2-2	20	0.16	3500	0.1221±0.0005	364±2	10.14±0.06	10.12±0.06	375±2
UQ–C2-6	122	0.19	170	0.1331±0.0009	339±1	11.33±0.09	10.9±0.2	350±1
UQ–C2-3	167	0.20	360	0.1353±0.0008	265±2	12.25±0.08	12.0±0.1	274±2
UQ–C2-4	184	0.25	2500	0.1475±0.0006	359±2	12.42±0.07	12.39±0.07	372±2
UQ–C2-5	217	0.22	4100	0.1602±0.0007	419±2	12.94±0.08	12.92±0.08	435±2
UQ–C2-B-1	335	0.16	110	0.178±0.001	409±3	14.6±0.1	13.8±0.3	425±3
UM-C3-5	17	0.29	2200	0.156±0.002	242±3	14.6±0.2	14.5±0.2	252±3
UQ–C3-2	79	0.20	4700	0.216±0.002	243±2	20.6±0.2	20.6±0.2	257±2
UQ–C3-6	117	0.22	2100	0.230±0.001	246±2	22.1±0.2	22.0±0.2	262±2
UQ–C3-3	150	0.20	5500	0.251±0.002	296±3	23.3±0.2	23.3±0.2	316±3
UQ–C3-4	161	0.18	2800	0.270±0.001	266±2	25.9±0.2	25.9±0.2	286±3
UQ–C3-1	284	0.23	9500	0.288±0.001	266±2	27.9±0.2	27.9±0.2	288±2
UQ–C5-2	48	0.16	5300	0.1250±0.0004	375±2	10.31±0.05	10.30±0.05	386±2
UQ–C5-19	176	0.16	1300	0.126±0.001	312±2	10.9±0.1	10.8±0.1	321±2
UQ-C5-3	295	0.18	710	0.1345±0.0008	314±1	11.69±0.08	11.58±0.08	324±1
UQ-C5-16	412	0.27	5300	0.160±0.001	426±2	12.9±0.1	12.9±0.1	442±2
UQ-C5-9	555	0.19	150	0.177±0.001	417±2	14.4±0.1	13.8±0.2	434±2
UM-C5-11	562	0.21	2000	0.177±0.002	416±3	14.4±0.2	14.4±0.2	433±4
UQ-C5-4	630	0.19	2200	0.1769±0.0009	361±3	15.1±0.1	15.0±0.1	377±3
UQ-C5-5	661	0.25	2900	0.174±0.001	293±2	15.6±0.1	15.6±0.1	306±2
UM-C5-10	727	0.15	3300	0.169±0.002	190±3	16.6±0.2	16.6±0.2	199±3
UQ-C5-15	763	8.27	4700	0.183±0.001	190.5±0.8	18.12±0.09	18.10±0.09	200.5±0.9
UQ-C5-6	793	7.94	120000	0.1948±0.0006	190±1	19.37±0.09	19.37±0.09	200±1
UQ-C5-D-1	823	0.21	1700	0.197±0.001	199±2	19.5±0.1	19.4±0.1	211±2
UQ-C5-18	838	0.20	2900	0.204±0.001	204±1	20.0±0.2	20.0±0.2	216±1
UQ-C5-17	853	0.22	840	0.203±0.001	183±2	20.3±0.1	20.2±0.2	193±2
UQ-C5-13	887	0.22	7600	0.217±0.002	225±2	21.1±0.2	21.0±0.2	238±2
UQ-C5-14	918	0.18	12000	0.227±0.002	255±2	21.6±0.2	21.6±0.2	271±2
UQ-C5-7	940	0.16	8200	0.2264±0.0008	271±2	21.2±0.1	21.2±0.1	288±2
UQ-C6-T-d5/6	5	0.17	26	0.0080±0.0002	134±2	0.72±0.02	0.51±0.06	134±2
UQ-C6-T-d1/2	24	0.19	69	0.0092±0.0003	130±2	0.83±0.03	0.74±0.04	130±2
UQ-C6-T-b3/4	37	0.17	65	0.078±0.001	172±2	7.5±0.1	6.7±0.2	176±2
UQ-C6-T-a24	137	0.21	610	0.1134±0.0009	249±2	10.30±0.09	10.18±0.09	256±2
UM-C6-2	143	0.22	1100	0.1148±0.0004	242±1	10.50±0.05	10.43±0.05	249±1
UQ-C6-T-a13	246	0.23	380	0.118±0.002	194±2	11.3±0.2	11.1±0.2	201±2
UQ-C6-1	248	0.22	880	0.1088±0.0004	190.4±0.9	10.38±0.06	10.30±0.06	196.0±0.9
UQ-C6-6	299	0.35	2200	0.123±0.001	188.6±0.9	11.83±0.06	11.76±0.09	195.0±0.9
UM-C6-4	343	0.41	3200	0.1316±0.0009	229±3	12.3±0.1	12.2±0.1	237±3

UQ-C6-T-a1	365	0.42	2700	0.1368±0.0005	261±2	12.44±0.06	12.41±0.06	270±2
UQ-C6-M-d8	369	0.39	200	0.146±0.002	261±2	13.3±0.2	12.8±0.2	271±2
UQ-C6-M-c1	475	0.43	1200	0.146±0.002	289±1	13.0±0.2	13.0±0.2	300±1
UQ-C6-M-e1	481	0.37	260	0.147±0.001	300±1	12.9±0.1	12.6±0.2	311±1
UQ-C6-M-b22	486	0.42	540	0.1491±0.0009	301±2	13.2±0.1	13.0±0.1	313±2
UQ-C6-M-b3	675	0.24	1500	0.1546±0.0006	228±1	14.57±0.08	14.51±0.08	238±1
UQ-C6-M-b1	695	0.26	740	0.162±0.001	235±1	15.3±0.1	15.1±0.1	245±1
UQ-C6-M-g3	703	0.23	790	0.160±0.001	219±2	15.3 ±0.1	15.1±0.1	229±2
UQ-C6-5	714	0.23	4800	0.166±0.001	176±2	16.5±0.2	16.4±0.2	184±2
UM-C6-3	732	0.28	3000	0.171±0.002	186±3	16.9±0.2	16.8±0.2	195±3
UQ-C6-M-f1	745	0.26	890	0.180±0.001	200±3	17.6±0.2	17.4±0.2	210±3
UQ-C6-M-a10	754	0.33	490	0.201±0.002	208±1	19.7±0.3	19.5±0.3	220±1
UQ-C6-M-a1	850	0.42	770	0.2064±0.001	220±2	20.1±0.2	19.9±0.2	233±2
UQ-C6-B-f5	858	0.45	3200	0.204±0.002	217±1	19.9±0.2	19.8±0.2	229±1
UQ-C6-B-d2	1088	0.35	2200	0.227±0.001	237±2	21.9±0.2	21.9±0.2	252±2
UQ–C6-B-a1	1344	0.23	2100	0.2580±0.0008	312±1	23.6±0.1	23.6±0.1	333±2

* Corrected for detrital ^{230}Th using $[^{230}Th/^{232}Th]_{initial}$ of 7±2 (ref. 26). ^{230}Th (half life): 75,690 ± 230 yrs. ^{234}U (half life): 245,250 ± 490 yrs (ref. 42).

Supplementary Table S2. X-ray diffraction results for selected stalagmite samples from Liang Luar, Flores, Indonesia.

Stalagmite ID	Depth (mm)	Age (kyr BP)	Aragonite[#] (%)	Magnesium calcite (%)
LR06-C2	150	11.60	0	100
LR06-C2	275	13.33	0	100
LR06-C3	63	–	22	78
LR06-C3	91	21.04	0	100
LR06-C5	300	11.64	0	100
LR06-C5	728	16.66	0	100
LR06-C5	738	17.06	0	100
LR06-C5	748	17.46	24	76
LR06-C5	757	17.85	53	47
LR06-C5	767	18.24	36	64
LR06-C5	776	18.62	26	74
LR06-C5	786	19.00	66	34
LR06-C5	796	19.38	59	41
LR06-C5	933	21.84	0	100
LR06-C6	536	13.40	0	100
LR06-C6	766	19.50	0	100
LR06-C6	1144	22.24	0	100

[#] XRD analyses of percentage aragonite were performed using a SIEMENS D501 Bragg-Brentano diffractometer equipped with a graphite monochromator and scintillation detector, using CuKa radiation. Quantitative estimates are based on the Siroquant 3.0 program.

Supplementary Table S3. $\delta^{18}O$ results for stalagmites from Liang Luar, Flores, Indonesia. $\delta^{18}O$ values are reported relative to the Vienna Peedee belemnite (V-PDB) where $\delta^{18}O = 1000 \times [(^{18}O/^{16}O)_{sample}/(^{18}O/^{16}O)_{V\text{-}PBD} - 1]$. Sample depths are mid-point distances measured relative to the top of the specimen. Replicate aliquots of sample powders for LR06-B3 and LR06-C6 were analysed to check for homogeneity.

Distance from top (mm)	Age (kyr BP)	$\delta^{18}O$ ave (V-PDB ‰)	n	±SE (‰)
LR06-B3				
1.3	0.02	-6.06	2	0.10
7.8	0.05	-6.35	2	0.02
18.3	0.11	-6.25	2	0.05
28.8	0.16	-6.17	2	0.04
38.9	0.22	-6.08	2	0.01
48.7	0.27	-6.02	2	0.01
58.5	0.32	-6.04	2	0.01
68.2	0.38	-6.24	2	0.06
78.0	0.45	-6.61	2	0.06
87.8	0.55	-6.39	2	0.01
97.6	0.64	-6.23	2	0.01
107.4	0.73	-5.98	2	0.01
117.1	0.82	-6.06	2	0.04
126.9	0.92	-5.98	2	0.03
136.7	1.00	-5.82	2	0.02
146.5	1.08	-6.04	2	0.01
156.3	1.15	-6.14	2	0.08
166.0	1.23	-6.04	2	0.04
175.8	1.31	-6.11	2	0.01
185.6	1.38	-6.08	2	0.00
195.4	1.46	-6.10	2	0.00
205.2	1.53	-5.96	2	0.01
215.0	1.60	-6.10	2	0.03
224.9	1.67	-6.29	2	0.00
234.8	1.74	-6.40	2	0.03
244.7	1.81	-6.37	2	0.01
254.6	1.88	-6.27	2	0.02
264.4	1.95	-6.32	2	0.01
274.3	2.02	-6.23	2	0.04
284.3	2.08	-6.31	2	0.04
294.2	2.13	-6.37	2	0.04
304.1	2.19	-6.23	3	0.01
314.0	2.26	-5.97	2	0.01
323.9	2.34	-6.32	2	0.01
333.9	2.43	-6.35	2	0.01
343.8	2.51	-6.04	2	0.01
353.7	2.60	-6.16	2	0.01
363.6	2.68	-6.14	2	0.05
366.1	2.70	-5.99	2	0.03
372.7	2.76	-6.13	2	0.03
382.9	2.85	-6.05	2	0.02
393.1	2.95	-6.04	2	0.04
403.3	3.08	-6.11	2	0.01
413.5	3.20	-6.23	2	0.00
423.7	3.32	-6.02	2	0.01
433.9	3.44	-6.03	2	0.03
444.1	3.55	-6.02	2	0.01
454.3	3.64	-6.07	2	0.01
464.5	3.73	-6.23	2	0.01
474.7	3.83	-6.25	2	0.03
484.9	3.92	-6.32	2	0.03
498.3	4.01	-6.36	2	0.02
508.8	4.10	-6.40	2	0.01
519.3	4.21	-6.26	2	0.01
529.8	4.32	-6.14	2	0.01
540.4	4.44	-6.23	2	0.05
550.8	4.55	-6.17	2	0.01
561.1	4.66	-6.11	2	0.02
571.5	4.77	-6.00	2	0.01
581.8	4.86	-5.99	2	0.01
592.2	4.91	-6.25	2	0.05
602.5	4.97	-6.16	2	0.03
608.2	5.01	-6.15	2	0.01
615.8	5.05	-6.24	2	0.01
625.9	5.11	-6.22	2	0.02
636.1	5.16	-6.18	2	0.01
646.3	5.22	-6.14	2	0.01
656.4	5.28	-6.25	2	0.01
666.6	5.34	-6.36	2	0.03
676.8	5.39	-6.25	2	0.01
687.0	5.46	-6.18	2	0.03
697.1	5.53	-6.22	2	0.02
707.3	5.61	-6.22	2	0.01
717.5	5.69	-6.29	2	0.04
727.6	5.76	-6.44	2	0.02
737.8	5.84	-6.39	2	0.02
748.0	5.91	-6.16	2	0.01
758.2	5.99	-6.14	2	0.03
768.5	6.07	-6.31	2	0.02
778.9	6.16	-6.09	2	0.01

789.2	6.25	-6.34	2	0.01
799.5	6.34	-6.17	2	0.05
809.8	6.43	-6.27	2	0.02
819.5	6.51	-6.41	2	0.02
829.5	6.60	-6.35	2	0.00
839.5	6.65	-6.34	2	0.01
849.5	6.69	-6.13	2	0.04
859.6	6.74	-6.23	2	0.01
869.6	6.78	-6.31	2	0.01
879.6	6.83	-6.32	2	0.01
889.6	6.87	-5.93	2	0.00
899.6	6.91	-6.26	2	0.02
909.7	6.96	-6.05	2	0.01
919.7	7.00	-6.14	2	0.00
929.7	7.05	-6.37	2	0.02
939.7	7.10	-6.32	2	0.01
949.7	7.15	-6.09	2	0.00
959.8	7.21	-6.12	2	0.03
969.8	7.26	-6.11	2	0.01
979.8	7.31	-6.21	2	0.01
989.8	7.37	-6.26	2	0.00
999.8	7.42	-6.22	2	0.01
1009.9	7.47	-6.17	3	0.06
1019.9	7.53	-6.23	2	0.03
1029.8	7.58	-6.25	2	0.02
1039.7	7.63	-6.12	2	0.02
1049.5	7.69	-6.09	2	0.04
1059.3	7.73	-6.13	2	0.02
1069.2	7.76	-6.20	2	0.01
1079.0	7.80	-6.23	2	0.04
1088.9	7.84	-6.22	2	0.02
1098.7	7.88	-5.80	2	0.00
1108.5	7.93	-5.86	2	0.02
1118.4	8.00	-6.09	2	0.01
1128.2	8.07	-5.96	2	0.01
1138.1	8.15	-5.83	2	0.01
1147.9	8.17	-5.76	2	0.06
1152.3	8.18	-5.97	1	–
1159.8	8.20	-5.82	1	–
1169.8	8.23	-5.77	1	–
1179.7	8.25	-5.73	1	–
1189.7	8.28	-5.83	2	0.04
1199.7	8.31	-5.43	2	0.02
1209.7	8.35	-5.37	2	0.01
1219.6	8.41	-5.63	2	0.01
1229.6	8.48	-5.73	2	0.01
1239.6	8.55	-5.72	2	0.06
1249.5	8.61	-5.80	2	0.06
1259.5	8.68	-5.75	2	0.06
1269.5	8.75	-5.92	2	0.14
1279.7	8.81	-5.76	2	0.03
1290.1	8.86	-5.75	2	0.05
1300.6	8.91	-5.49	2	0.01
1311.1	8.98	-5.57	2	0.02
1321.5	9.05	-5.70	2	0.01
1332.0	9.12	-5.49	2	0.03
1342.4	9.19	-5.40	2	0.04
1352.9	9.22	-5.45	2	0.03
1363.6	9.23	-5.47	2	0.03
1374.4	9.25	-5.24	2	0.02
1385.3	9.33	-5.40	2	0.03
1391.2	9.38	-5.19	2	0.01
1398.7	9.44	-5.17	2	0.02
1408.9	9.53	-5.10	2	0.04
1419.0	9.62	-5.25	2	0.01
1429.1	9.72	-5.06	2	0.01
1439.2	9.81	-5.14	2	0.03
1449.3	9.91	-5.04	2	0.01
1459.4	10.01	-4.94	2	0.04
1469.5	10.10	-4.90	2	0.02
1475.1	10.16	-4.78	2	0.02
1482.4	10.21	-4.90	2	0.00
1491.8	10.28	-4.95	2	0.02
1499.3	10.33	-4.85	2	0.01
1509.5	10.41	-4.86	2	0.01
1519.6	10.48	-4.74	2	0.00
1529.8	10.55	-4.85	2	0.01
1539.9	10.63	-4.81	2	0.02
1550.2	10.70	-4.63	2	0.01
hiatus				
1560.9	21.80	-4.52	1	–
1567.9	22.01	-4.88	1	–
1576.9	22.28	-4.87	1	–
1586.0	22.55	-4.92	1	–
1595.0	22.81	-4.90	1	–
1604.1	23.08	-4.68	1	–
1613.1	23.35	-4.68	1	–
1622.1	23.62	-4.58	1	–
1631.2	23.89	-4.69	1	–
LR06-C2				
2.5	9.99	-5.05	1	–
10.0	10.05	-5.11	1	–
20.0	10.12	-5.07	1	–
30.0	10.19	-4.76	1	–
40.0	10.27	-4.95	1	–

50.0	10.34	-4.69	1	–
60.0	10.42	-4.73	1	–
70.0	10.49	-4.57	1	–
80.0	10.56	-4.52	1	–
90.0	10.64	-4.42	1	–
95.0	10.67	-4.42	1	–
97.0	10.69	-4.29	1	–
99.0	10.70	-4.43	1	–
101.0	10.72	-4.76	1	–
103.0	10.73	-4.70	1	–
105.0	10.75	-4.63	1	–
107.0	10.76	-4.54	1	–
109.0	10.78	-4.81	1	–
111.0	10.79	-4.51	1	–
113.0	10.81	-4.31	1	–
115.0	10.82	-4.44	1	–
117.0	10.84	-4.39	1	–
119.0	10.85	-4.37	1	–
121.0	10.87	-4.47	1	–
123.0	10.91	-4.38	1	–
125.0	10.96	-4.23	1	–
127.0	11.01	-4.23	1	–
129.0	11.06	-4.19	1	–
131.0	11.11	-4.22	1	–
133.0	11.17	-4.28	1	–
135.0	11.22	-4.15	1	–
137.0	11.27	-4.27	1	–
139.0	11.32	-4.18	1	–
141.0	11.37	-4.33	1	–
143.0	11.42	-4.44	1	–
145.0	11.48	-4.57	1	–
147.0	11.53	-4.67	1	–
149.0	11.58	-4.57	1	–
151.0	11.63	-4.66	1	–
153.0	11.68	-4.55	1	–
155.0	11.73	-4.41	1	–
157.0	11.79	-4.60	1	–
159.0	11.84	-5.12	1	–
161.0	11.89	-4.47	1	–
163.0	11.94	-4.86	1	–
165.0	11.99	-4.89	1	–
167.0	12.04	-4.58	1	–
169.0	12.08	-4.49	1	–
171.0	12.12	-4.60	1	–
173.0	12.16	-4.46	1	–
175.0	12.20	-4.64	1	–
189.8	12.47	-4.79	1	–
199.3	12.63	-4.90	1	–
208.8	12.78	-4.72	1	–
224.6	12.97	-4.66	1	–
234.7	13.04	-4.65	1	–
244.8	13.11	-4.69	1	–
254.9	13.19	-4.78	1	–
265.0	13.26	-4.62	1	–
275.1	13.33	-4.41	1	–
285.2	13.40	-4.62	1	–
295.3	13.47	-4.55	1	–
305.4	13.55	-4.40	1	–
325.6	13.69	-4.29	1	–
LR06-C3				
78.0	20.54	-4.74	1	–
80.0	20.62	-5.06	1	–
82.0	20.70	-4.94	1	–
84.0	20.77	-5.17	1	–
86.0	20.85	-5.05	1	–
88.0	20.93	-5.26	1	–
90.0	21.00	-5.14	1	–
92.0	21.08	-4.59	1	–
94.0	21.16	-4.79	1	–
96.0	21.23	-5.31	1	–
98.0	21.31	-4.92	1	–
100.0	21.39	-5.22	1	–
102.0	21.46	-5.33	1	–
104.0	21.54	-5.04	1	–
106.0	21.62	-5.15	1	–
108.0	21.69	-5.24	1	–
110.0	21.77	-5.09	1	–
112.0	21.85	-4.98	1	–
114.0	21.92	-5.01	1	–
116.0	22.00	-5.24	1	–
118.0	22.08	-5.23	1	–
120.0	22.15	-5.27	1	–
122.0	22.23	-5.18	1	–
124.0	22.30	-5.18	1	–
126.0	22.37	-5.05	1	–
128.0	22.45	-5.13	1	–
130.0	22.52	-4.75	1	–
132.0	22.60	-5.09	1	–
134.0	22.67	-5.33	1	–
136.0	22.75	-5.04	1	–
138.0	22.82	-4.90	1	–
140.0	22.90	-4.93	1	–
142.0	22.97	-5.10	1	–
144.0	23.05	-4.90	1	–
146.0	23.12	-4.99	1	–

148.0	23.20	-5.06	1	–
150.0	23.27	-4.97	1	–
152.0	23.35	-4.91	1	–
154.0	23.42	-4.76	1	–
156.0	23.49	-5.49	1	–
157.0	23.53	-5.09	1	–
hiatus				
169.1	25.98	-4.19	1	–
178.4	26.13	-4.03	1	–
187.8	26.29	-4.15	1	–
197.1	26.44	-4.25	1	–
206.5	26.59	-4.49	1	–
215.9	26.75	-4.52	1	–
225.2	26.90	-4.36	1	–
234.6	27.06	-4.33	1	–
243.9	27.21	-4.33	1	–
253.3	27.36	-4.34	1	–
262.7	27.52	-4.45	1	–
272.0	27.67	-4.22	1	–
281.4	27.83	-4.06	1	–
LR06-C5				
2.5	10.11	-5.12	1	–
9.9	10.14	-5.00	1	–
19.6	10.18	-5.00	1	–
29.3	10.22	-4.94	1	–
39.0	10.26	-4.80	1	–
48.8	10.30	-4.93	1	–
58.5	10.34	-4.97	1	–
68.2	10.38	-4.90	1	–
77.9	10.42	-4.72	1	–
87.6	10.46	-4.80	1	–
97.4	10.51	-4.79	1	–
107.1	10.55	-4.70	1	–
116.8	10.59	-4.90	1	–
126.5	10.63	-4.67	1	–
136.3	10.67	-4.85	1	–
146.0	10.71	-4.63	1	–
155.7	10.75	-4.68	1	–
165.4	10.79	-4.63	1	–
175.1	10.83	-4.54	1	–
184.9	10.89	-4.68	1	–
194.6	10.95	-4.56	1	–
204.3	11.01	-4.69	1	–
231.1	11.18	-4.41	1	–
241.0	11.24	-4.41	1	–
250.8	11.30	-4.47	1	–
260.7	11.37	-4.32	1	–
270.5	11.43	-4.26	1	–
280.4	11.49	-4.34	1	–
290.3	11.55	-4.57	1	–
300.1	11.64	-4.65	1	–
310.0	11.75	-4.69	1	–
319.8	11.86	-4.91	1	–
329.7	11.96	-4.83	1	–
339.6	12.07	-4.86	1	–
349.4	12.18	-4.77	1	–
359.3	12.29	-4.85	1	–
369.1	12.40	-4.71	1	–
379.0	12.51	-4.69	1	–
388.9	12.62	-4.86	1	–
398.7	12.73	-4.79	1	–
408.6	12.84	-4.78	1	–
418.4	12.92	-4.72	1	–
428.3	12.98	-4.60	1	–
438.2	13.05	-4.58	1	–
448.0	13.11	-4.67	1	–
457.9	13.17	-4.67	1	–
467.7	13.24	-4.59	1	–
477.6	13.30	-4.56	1	–
487.5	13.37	-4.61	1	–
497.3	13.43	-4.50	1	–
507.2	13.49	-4.67	1	–
517.0	13.56	-4.59	1	–
526.9	13.62	-4.48	1	–
536.8	13.68	-4.54	1	–
546.6	13.75	-4.48	1	–
hiatus				
563.0	14.37	-4.43	1	–
573.0	14.46	-4.45	1	–
582.9	14.56	-4.56	1	–
592.9	14.65	-4.49	1	–
602.8	14.75	-4.95	1	–
612.7	14.84	-4.96	1	–
622.7	14.94	-4.89	1	–
632.3	15.06	-4.86	1	–
648.2	15.36	-5.15	1	–
669.6	15.73	-5.25	1	–
677.2	15.85	-5.30	1	–
687.5	16.00	-5.24	1	–
697.8	16.16	-5.43	1	–
708.1	16.32	-5.34	1	–
718.4	16.48	-5.03	1	–
723.5	16.56	-5.07	1	–
725.5	16.59	-4.87	1	–
727.5	16.63	-5.06	1	–

729.5	16.71	-4.97	1	–
731.5	16.79	-4.85	1	–
733.5	16.88	-5.03	1	–
735.5	16.96	-5.10	1	–
737.5	17.04	-5.12	1	–
* 739.5	17.12	-5.13	1	–
* 741.5	17.21	-5.22	1	–
* 743.5	17.29	-5.16	1	–
* 745.5	17.37	-5.17	1	–
* 747.5	17.45	-5.30	1	–
* 749.5	17.53	-5.19	1	–
* 751.5	17.62	-5.05	1	–
* 753.5	17.70	-4.75	1	–
* 755.5	17.78	-4.53	1	–
* 757.5	17.86	-4.58	1	–
* 759.5	17.95	-4.77	1	–
* 761.5	18.03	-4.53	1	–
* 763.5	18.11	-4.40	1	–
* 765.5	18.19	-4.47	1	–
* 767.5	18.27	-4.45	1	–
* 769.5	18.35	-4.60	1	–
* 771.5	18.43	-4.52	1	–
* 773.5	18.50	-4.73	1	–
* 775.5	18.58	-4.97	1	–
* 777.5	18.66	-4.80	1	–
* 779.5	18.74	-5.07	1	–
* 781.5	18.82	-5.09	1	–
* 783.5	18.90	-5.11	1	–
* 785.5	18.98	-4.98	1	–
* 787.5	19.06	-4.89	1	–
* 789.5	19.14	-4.62	1	–
* 791.5	19.21	-5.47	1	–
* 793.5	19.29	-5.43	1	–
* 795.5	19.37	-5.49	1	–
* 797.5	19.40	-5.69	1	–
* 799.5	19.43	-5.41	1	–
* 800.5	19.45	-4.80	1	–
hiatus				
826.9	19.86	-4.76	1	–
836.1	20.01	-4.72	1	–
845.2	20.12	-4.85	1	–
846.3	20.14	-4.84	1	–
853.7	20.24	-4.95	1	–
863.7	20.48	-5.05	1	–
873.6	20.72	-5.17	1	–
883.5	20.96	-5.21	1	–
893.4	21.16	-5.19	1	–
903.3	21.33	-5.24	1	–
913.2	21.50	-5.25	1	–
923.1	21.67	-5.16	1	–
933.0	21.84	-4.95	1	–
942.9	22.02	-5.11	1	–
LR06-C6				
305.7	11.84	-4.86	2	0.02
315.6	11.95	-4.62	2	0.00
325.6	12.06	-4.86	2	0.01
335.5	12.16	-4.88	2	0.02
345.5	12.26	-4.92	2	0.02
355.4	12.34	-5.00	2	0.04
365.4	12.41	-4.78	2	0.01
369.3	12.43	-4.78	2	0.02
379.3	12.48	-4.92	3	0.04
389.2	12.53	-5.06	2	0.00
399.1	12.58	-4.94	2	0.01
409.0	12.63	-4.93	2	0.01
419.0	12.67	-4.93	2	0.01
428.9	12.72	-5.00	2	0.00
438.8	12.77	-4.87	2	0.04
448.3	12.82	-4.90	2	0.00
457.3	12.87	-4.92	2	0.01
466.2	12.91	-4.82	2	0.00
475.2	12.95	-4.69	2	0.04
481.4	12.98	-4.60	2	0.01
486.4	13.01	-4.66	2	0.01
496.4	13.09	-4.66	2	0.01
506.3	13.16	-4.55	3	0.03
516.2	13.24	-4.52	2	0.01
526.2	13.32	-4.52	2	0.00
536.1	13.40	-4.58	3	0.05
546.1	13.48	-4.63	2	0.00
556.0	13.56	-4.59	2	0.00
565.9	13.64	-4.51	2	0.01
575.9	13.72	-4.52	2	0.02
585.8	13.80	-4.64	2	0.01
595.8	13.88	-4.61	2	0.01
605.7	13.95	-4.54	2	0.01
615.6	14.03	-4.59	2	0.00
625.6	14.11	-4.68	2	0.04
635.5	14.19	-4.48	2	0.01
645.5	14.27	-4.64	2	0.02
655.4	14.35	-4.54	2	0.03
665.3	14.43	-4.55	2	0.01
675.3	14.51	-4.44	2	0.01
685.2	14.82	-4.84	3	0.03
694.3	15.10	-4.69	2	0.01

695.2	15.13	-4.91	2	0.01
702.1	15.13	-4.93	1	–
704.1	15.30	-5.02	1	–
706.1	15.53	-5.18	1	–
708.1	15.76	-5.00	1	–
710.1	15.98	-4.99	1	–
712.1	16.21	-5.17	1	–
714.1	16.44	-5.24	1	–
716.1	16.49	-5.19	1	–
718.1	16.54	-5.13	1	–
720.1	16.60	-5.22	1	–
722.1	16.65	-5.25	2	0.14
724.1	16.70	-5.09	1	–
726.1	16.75	-5.26	1	–
728.1	16.81	-5.25	1	–
730.1	16.87	-5.20	1	–
732.1	16.94	-5.43	1	–
734.1	17.01	-5.50	1	–
736.1	17.08	-5.55	1	–
738.1	17.14	-5.49	1	–
740.1	17.21	-5.48	1	–
742.1	17.28	-5.52	1	–
744.1	17.35	-4.93	1	–
746.1	17.42	-4.99	1	–
748.1	17.49	-5.27	1	–
750.1	17.56	-5.09	1	–
hiatus				
755.4	19.46	-5.29	3	0.02
766.1	19.50	-4.93	3	0.02
776.7	19.54	-5.56	2	0.02
787.4	19.59	-5.62	2	0.03
798.0	19.63	-5.61	2	0.01
808.7	19.67	-5.59	2	0.02
819.3	19.72	-5.61	2	0.01
830.0	19.76	-5.63	2	0.00
840.6	19.80	-5.62	2	0.01
851.3	19.85	-5.54	2	0.02
859.8	19.90	-5.60	3	0.01
868.9	19.98	-5.71	2	0.01
877.9	20.05	-5.58	2	0.01
887.0	20.13	-5.16	2	0.04
896.1	20.21	-5.36	2	0.01
905.5	20.29	-5.22	2	0.01
915.2	20.37	-5.20	2	0.02
925.0	20.46	-5.22	2	0.04
934.7	20.54	-5.34	2	0.02
944.5	20.62	-5.54	3	0.02
954.2	20.71	-5.39	2	0.03
964.0	20.79	-5.35	2	0.01
973.7	20.87	-5.41	2	0.01
983.5	20.96	-5.23	2	0.00
993.2	21.04	-5.21	2	0.01
1003.0	21.12	-5.42	2	0.01
1012.7	21.20	-5.22	4	0.03
1022.5	21.29	-5.47	2	0.03
1032.2	21.37	-5.40	2	0.00
1042.0	21.45	-5.40	2	0.04
1051.6	21.54	-5.62	2	0.01
1061.0	21.62	-5.42	2	0.05
1070.5	21.70	-5.38	2	0.01
1079.9	21.78	-5.48	2	0.01
1089.3	21.86	-5.68	2	0.00
1098.8	21.92	-5.51	2	0.00
1108.3	21.98	-5.30	2	0.00
1117.8	22.05	-5.21	2	0.01
1127.3	22.11	-5.33	2	0.02
1136.8	22.17	-5.07	2	0.01
1146.3	22.24	-5.19	2	0.01
1155.9	22.30	-5.24	2	0.01
1165.4	22.37	-5.28	2	0.01
1174.9	22.43	-5.22	2	0.01
1184.4	22.49	-5.07	2	0.01
1194.7	22.56	-5.13	2	0.01
1205.8	22.64	-5.15	2	0.03
1216.3	22.71	-4.99	2	0.04
1226.3	22.77	-5.17	2	0.01
1236.3	22.84	-4.96	2	0.00
1246.2	22.91	-5.16	2	0.02
1256.2	22.97	-5.10	2	0.00
1266.2	23.04	-4.96	2	0.00
1276.1	23.11	-5.15	2	0.04
1286.1	23.17	-5.12	2	0.03
1296.1	23.24	-5.18	2	0.01
1306.0	23.31	-5.22	2	0.02
1316.0	23.37	-5.15	2	0.06
1326.0	23.44	-5.11	2	0.01
1336.0	23.51	-4.90	2	0.01
1345.9	23.57	-4.99	2	0.01

* $\delta^{18}O$ values for LR06-C5 corrected for aragonite content (Supplementary Table S2). Samples were corrected using the aragonite–magnesium calcite enrichment factor of +0.7‰ (ref. 45).

Supplementary Table S4. Composite stalagmite $\delta^{18}O$ record for Flores. Stalagmite $\delta^{18}O$ records for Liang Luar are based on data in Supplementary Table S3 and refs 26 and 27. The records were resampled at 100-year resolution and averaged to produce a spliced composite record. Standard errors (SE) were calculated for 100-year intervals in overlapping sections of the records.

Age (kyr BP)	$\delta^{18}O$ ave. (‰ V-PDB ± SE)
0.0	-6.10
0.1	-6.17±0.09
0.2	-6.00±0.10
0.3	-6.02±0.01
0.4	-6.41±0.07
0.5	-6.36±0.14
0.6	-6.18±0.12
0.7	-6.32±0.25
0.8	-6.17±0.13
0.9	-6.15±0.15
1.0	-6.06±0.23
1.1	-6.27±0.20
1.2	-6.22±0.14
1.3	-6.10±0.00
1.4	-6.09±0.00
1.5	-6.01±0.01
1.6	-6.05±0.05
1.7	-6.28±0.06
1.8	-6.56±0.19
1.9	-6.45±0.16
2.0	-6.41±0.16
2.1	-6.38±0.04
2.2	-6.41±0.21
2.3	-6.22±0.07
2.4	-6.22±0.12
2.5	-6.21±0.13
2.6	-6.28±0.12
2.7	-6.09±0.08
2.8	-6.12±0.03
2.9	-6.05
3.0	-6.07
3.1	-6.13
3.2	-6.23
3.3	-6.06
3.4	-6.03
3.5	-6.02
3.6	-6.05
3.7	-6.11± 0.07
3.8	-6.09± 0.15
3.9	-6.09±0.22
4.0	-6.39±0.03
4.1	-6.38±0.02
4.2	-5.98±0.29
4.3	-6.09±0.08
4.4	-6.05±0.15
4.5	-6.08±0.12
4.6	-5.87±0.28
4.7	-6.03±0.04
4.8	-5.89±0.11
4.9	-5.96±0.23
5.0	-5.84±0.31
5.1	-5.99±0.23
5.2	-5.91±0.24
5.3	-6.05±0.25
5.4	-6.03±0.22
5.5	-6.08±0.12
5.6	-6.05±0.17
5.7	-6.28±0.03
5.8	-6.38±0.04
5.9	-6.27±0.07
6.0	-6.18±0.02
6.1	-6.37±0.12
6.2	-6.15±0.04
6.3	-6.22±0.03
6.4	-6.24±0.01
6.5	-6.39
6.6	-6.35
6.7	-6.15
6.8	-6.31
6.9	-6.16
7.0	-6.14
7.1	-6.31
7.2	-6.12
7.3	-6.19
7.4	-6.23
7.5	-6.20
7.6	-6.20
7.7	-6.10
7.8	-6.23
7.9	-5.83
8.0	-6.08
8.1	-5.91
8.2	-5.84
8.3	-5.51
8.4	-5.58
8.5	-5.73
8.6	-5.65±0.13
8.7	-5.60±0.20
8.8	-5.75±0.03
8.9	-5.56±0.03
9.0	-5.61±0.00
9.1	-5.57±0.02
9.2	-5.45±0.04
9.3	-5.44±0.10
9.4	-5.34±0.15
9.5	-5.10±0.02
9.6	-5.10±0.11
9.7	-4.94±0.15
9.8	-5.19±0.06
9.9	-4.91±0.14
10.0	-4.98±0.04
10.1	-4.81±0.19
10.2	-4.91±0.05
10.3	-4.91±0.02
10.4	-4.81±0.03
10.5	-4.74±0.06
10.6	-4.78±0.11
10.7	-4.54±0.07
10.8	-4.50±0.06
10.9	-4.53±0.07
11.0	-4.47±0.13
11.1	-4.34±0.10
11.2	-4.31±0.06
11.3	-4.32±0.07
11.4	-4.29±0.05
11.5	-4.55±0.09
11.6	-4.65±0.04
11.7	-4.55±0.06
11.8	-4.79±0.01
11.9	-4.72±0.07
12.0	-4.78±0.03
12.1	-4.71±0.08

12.2	-4.83±0.08
12.3	-4.76±0.09
12.4	-4.72±0.04
12.5	-4.74±0.10
12.6	-4.77±0.12
12.7	-4.86±0.05
12.8	-4.79±0.05
12.9	-4.75±0.05
13.0	-4.63±0.02
13.1	-4.66±0.01
13.2	-4.64±0.06
13.3	-4.53±0.02
13.4	-4.58±0.02
13.5	-4.59±0.05
13.6	-4.47±0.06
13.7	-4.52±0.00
13.8	-4.64
13.9	-4.59
14.0	-4.57
14.1	-4.67
14.2	-4.50
14.3	-4.60
14.4	-4.49±0.05
14.5	-4.47±0.02
14.6	-4.54±0.01
14.7	-4.70±0.01
14.8	-4.88±0.07
14.9	-4.86±0.06
15.0	-4.81±0.07
15.1	-4.80±0.11
15.2	-4.98±0.02
15.3	-5.06±0.04
15.4	-5.13±0.04
15.5	-5.17±0.02
15.6	-5.17±0.05
15.7	-5.15±0.10
15.8	-5.14±0.14
15.9	-5.14±0.14
16.0	-5.12±0.12
16.1	-5.22±0.14
16.2	-5.29±0.12
16.3	-5.27±0.08
16.4	-5.21±0.02
16.5	-5.11±0.07
16.6	-5.07±0.15
16.7	-5.04±0.05
16.8	-5.06±0.20
16.9	-5.17±0.12
17.0	-5.30±0.19
17.1	-5.33±0.20
17.2	-5.35±0.13
17.3	-5.26±0.10
17.4	-5.09±0.12
17.5	-5.24±0.00
17.6	-5.08
17.7	-4.75
17.8	-4.54
17.9	-4.66
18.0	-4.61
18.1	-4.42
18.2	-4.47
18.3	-4.51
18.4	-4.55
18.5	-4.72
18.6	-4.93
18.7	-4.93
18.8	-5.08
18.9	-5.11
19.0	-4.95
19.1	-4.74
19.2	-5.32
19.3	-5.44
19.4	-5.68
19.5	-4.93
19.6	-5.62
19.7	-5.60
19.8	-5.62
19.9	-5.17±0.43
20.0	-5.20±0.48
20.1	-5.06±0.26
20.2	-5.12±0.21
20.3	-5.10±0.12
20.4	-5.11±0.09
20.5	-5.17±0.11
20.6	-5.19±0.15
20.7	-5.17±0.13
20.8	-5.22±0.07
20.9	-5.25±0.05
21.0	-5.19±0.02
21.1	-5.07±0.22
21.2	-5.17±0.04
21.3	-5.22±0.14
21.4	-5.29±0.05
21.5	-5.32±0.10
21.6	-5.26±0.10
21.7	-5.25±0.07
21.8	-5.19±0.17
21.9	-5.06±0.18
22.0	-5.12±0.09
22.1	-5.14±0.13
22.2	-5.07±0.10
22.3	-5.10±0.11
22.4	-5.07±0.10
22.5	-4.95±0.06
22.6	-5.05±0.07
22.7	-5.05±0.09
22.8	-4.97±0.05
22.9	-4.97±0.09
23.0	-4.94±0.09
23.1	-4.92±0.13
23.2	-4.96±0.14
23.3	-4.95±0.15
23.4	-4.86±0.14
23.5	-4.99±0.23
23.6	-4.59
23.7	-4.61
23.8	-4.65
23.9	-4.69