

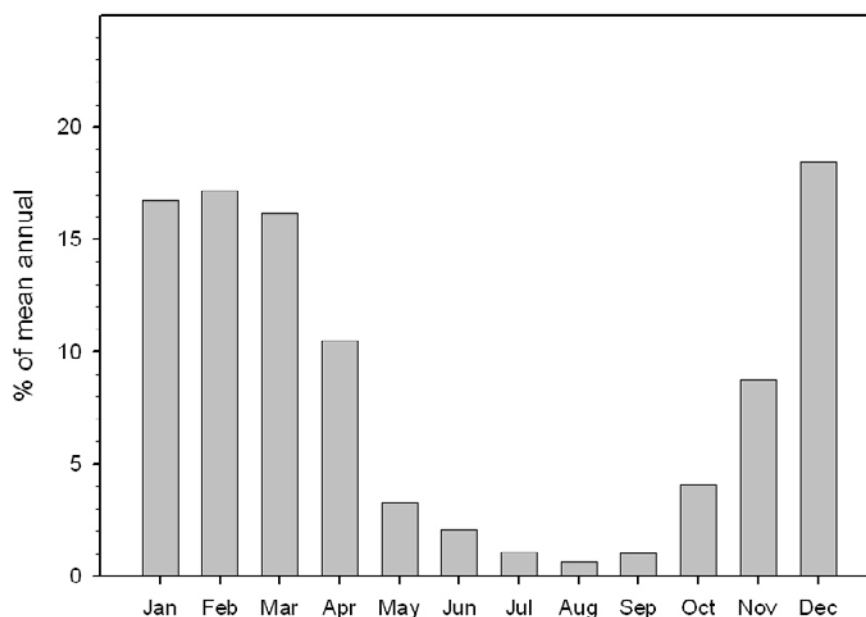
Supplementary Material – Griffiths et al.

Figure S1: Rainfall climatology at Liang Luar from 1998 to 2008. Data is derived from NASA's satellite Tropical Rainfall Measuring Mission database (http://disc.sci.gsfc.nasa.gov/data/datapool/TRMM/01_Data_Products/02_Gridded/0_Monthly_Other_Data_Source_3B_43/index.html) centred at 8° 32'S, 120° 26'E with 0.25° resolution. Monthly values are expressed as the percentage of the mean annual total rainfall, which is 1200 mm for the 1998 to 2008 period.

Table S1: Oxygen ($\delta^{18}\text{O}$) and hydrogen isotope ($\delta^2\text{H}$) compositions of rainfall collected near Liang Luar Cave during the September 2006 – April 2007 period. Delta values are reported as the per mil (‰) difference between the sample and Vienna Standard Mean Ocean Water (V-SMOW).

Date	Rainfall Amount	$\delta^{18}\text{O}$	$\delta^2\text{H}$
South-easterly (dry season) source	mm	‰	‰
10/09/2006	3.5	-5.1	-32
14/09/2006	15.5	-2.0	-9
19/09/2006	4	-1.2	-7
11/10/2006	17.5	-1.3	1
13/10/2006	19.5	-1.2	-7
15/10/2006	22	-1.2	-3
23/10/2006	12.5	-1.2	-8
29/10/2006	27.5	-1.2	-8
3/11/2006	32.5	-3.2	-15
5/11/2006	40.5	-1.2	-8
8/11/2006	3.5	-2.9	-12
13/11/2006	11.5	-2.9	-13
17/11/2006	5.5	-3.0	-14
21/11/2006	14.5	-4.7	-27
22/11/2006	6	-4.8	-31
6/12/2006	32	-4.1	-20
10/12/2006	8.5	-1.9	-3
15/12/2006	27	-3.8	-17
20/12/2006	21.5	-5.1	-30
26/01/2007	13	0.0	-2
18/02/2007	3.5	-2.1	-6
21/02/2007	52.5	-3.9	-15
3/04/2007	15	-5.4	-30
4/04/2007	5.5	-5.5	-32
5/04/2007	11.5	-5.4	-31
8/04/2007	118.5	-5.6	-33
Amount-weight average		-3.5	-21.6
North-westerly (monsoon) source			
1/01/2007	42	-15.9	-106
3/01/2007	22	-8.9	-53
3/02/2007	23	-4.9	-28
23/02/2007	5	-6.2	-38
27/02/2007	21	-11.7	-77
1/03/2007	89	-11.9	-77
2/03/2007	278	-11.5	-77
6/03/2007	63.5	-7.0	-45
7/03/2007	53.5	-6.1	-36
14/03/2007	23	-7.5	-45
15/03/2007	10	-4.9	-30
17/03/2007	8.5	-9.5	-56
30/03/2007	13	-9.4	-61
Amount-weight average		-10.3	-63.7
Total amount-weighted average		-7.2	-44.7

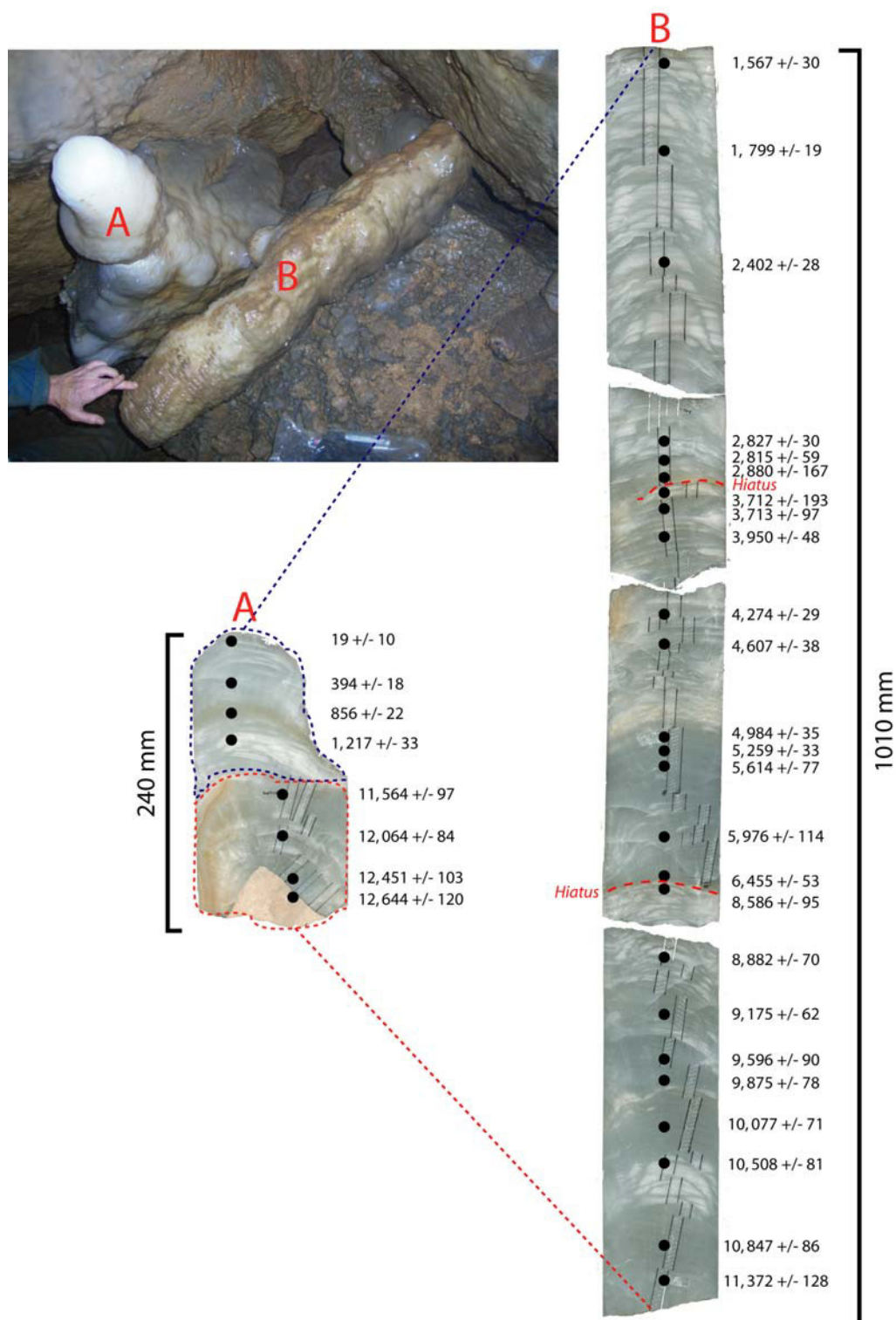


Figure S2: Scanned image of stalagmite LR06-B1 and photograph (top left) while *in situ* at the time of collection in June 2006. Black dots show the positions of the 33 U-Th ages. Section A (240 mm in length) was *in situ* at the time of collection while section B (1010 mm in length) had broken off 96 mm from the base ~1.6 ky B.P.

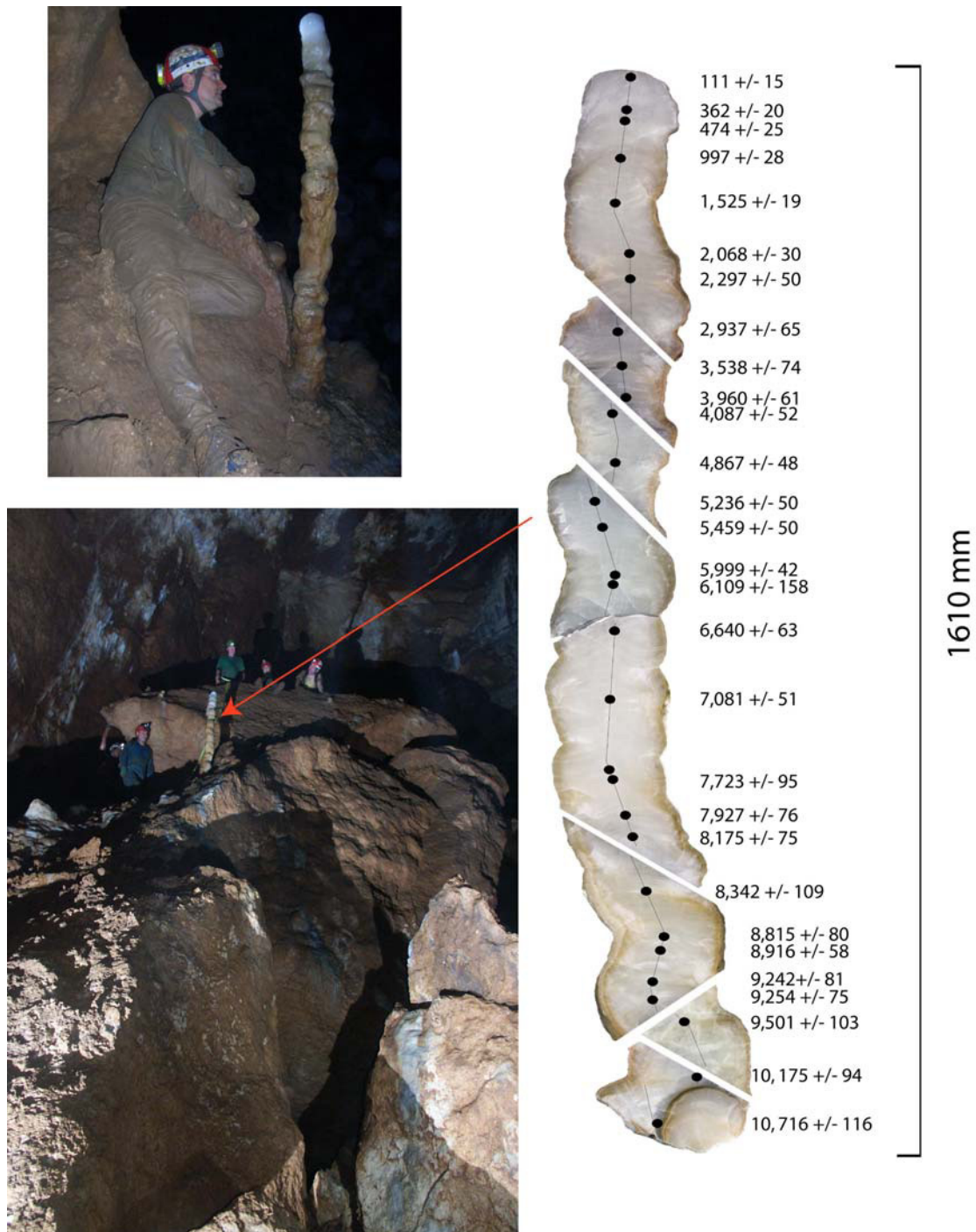


Figure S3: Same as Figure S2 but for stalagmite LR06-B3. Black dots show the positions of the 29 U-Th ages.

²³⁰Th - ²³⁴U dating

The chronologies for stalagmites LR06-B1 and LR06-B3 were constructed from 62 U/Th dates using thermal ionisation mass spectrometry (TIMS) and multi-collector coupled plasma mass spectrometry (MC-ICP-MS). The TIMS analyses were conducted on small pieces of calcite or splits of sample powders (covering ~5 – 10 mm of vertical growth) and weighing between 300 and 1000 mg. Full details of the methods are described in refs S1 and S2. The MC-ICP-MS analyses were performed on calcite samples weighing between 12 and 40 mg. Full details of the method can be found in refs S3 and S4. The depth-age models are shown in Figure S4. Age-uncertainty versus age plots for stalagmites LR06-B1 and LR06-B3 are shown in Figure S5. The data used to calculate each of the ages are shown in Tables S2 and S3. Details of the methods used to derive the age models and age-uncertainty versus age plots can be found in refs S5 and S6.

The $[^{230}\text{Th}/^{232}\text{Th}]_i$ values for LR06-B1 were determined to be 7 ± 2 (using the method of ref S4), which is within the range of values reported for tropical stalagmites (e.g. ref S7). All U-Th ages for both LR06-B1 and LR06-B3 have been corrected using this value and eqn. 1 of ref S4, using the half-lives of ref S8.

Table S2: Summary of TIMS U-Th age data for stalagmites LR06-B1 and LR06-B3 from Liang Luar Cave. Ratios in brackets are activity ratios calculated from the atomic ratios, using decay constants in ref. S9. 2 σ errors for the uncorrected (uncorr.) ages were propagated directly from the uncertainties in the ($^{230}\text{Th}/^{238}\text{U}$) and ($^{234}\text{U}/^{238}\text{U}$) ratios. The corrected (corr.) ^{230}Th ages were calculated using equation 1 of ref. S4 using half-lives specified in ref. S8. BP – before present (present = A.D. 1950).

Sample ID.	Depth (mm)	U (ppm)	^{232}Th (ppb)	$\pm 2\sigma$	$[\frac{^{230}\text{Th}}{^{232}\text{Th}}]$	$[\frac{^{230}\text{Th}}{^{238}\text{U}}]$	$\pm 2\sigma$	$[\frac{^{234}\text{U}}{^{238}\text{U}}]$	$\pm 2\sigma$	Uncorr. ^{230}Th age (yr)	$\pm 2\sigma$	Corr. ^{230}Th age (yr ago)	Corr. ^{230}Th age (yr BP)	$\pm 2\sigma$	Corr. initial $[\frac{^{234}\text{U}}{^{238}\text{U}}]$	$\pm 2\sigma$
B1/0003	3	0.2922	0.050	0.000	10.9	0.00061	0.00004	1.2526	0.0019	53	3	19	-39	10	1.2545	0.0018
B1/0042	42	0.2761	0.042	0.001	97.6	0.00492	0.00018	1.2660	0.0014	423	15	396	337	18	1.2682	0.0014
B1/0084	84	0.2285	0.024	0.000	288.5	0.01001	0.00024	1.2471	0.0015	876	21	859	801	22	1.2496	0.0016
B1/0107	107	35.481	4.354	0.082	349.1	0.01410	0.00036	1.2414	0.0012	1242	32	1222	1164	33	1.2441	0.0012
B1/0156	156	0.5405	0.182	0.001	162.3	0.01801	0.00024	1.2058	0.0029	1636	22	1573	1515	30	1.2086	0.0029
B1/0220	220	0.3639	0.038	0.000	591.5	0.02047	0.00020	1.2327	0.0019	1820	18	1806	1748	19	1.2357	0.0019
B1/0317	317	0.3690	0.064	0.001	490.2	0.02776	0.00030	1.2522	0.0030	2437	27	2412	2353	28	1.2559	0.0030
B1/0423	423	0.4507	0.060	0.000	735.6	0.03212	0.00032	1.2394	0.0027	2854	30	2838	2780	30	1.2433	0.0027
B1/0486	486	0.1295	0.089	0.001	194.7	0.04423	0.00103	1.2712	0.0017	3847	91	3728	3670	97	1.2760	0.0017
B1/0510	510	0.2667	0.050	0.001	740.8	0.04585	0.00051	1.2723	0.0027	3986	46	3966	3908	48	1.2774	0.0027
B1/0574	574	0.3283	0.081	0.000	593.2	0.04841	0.00027	1.2404	0.0011	4324	25	4291	4233	29	1.2452	0.0011
B1/0612	612	0.2372	0.087	0.001	433.2	0.05222	0.00033	1.2382	0.0021	4680	31	4625	4567	38	1.2433	0.0021
B1/0690	690	0.2688	0.043	0.000	1059.2	0.05542	0.00034	1.2278	0.0025	5016	33	5004	4946	35	1.2329	0.0026
B1/0709	709	0.2413	0.050	0.001	856.3	0.05848	0.00031	1.2274	0.0020	5301	30	5280	5222	33	1.2326	0.0020
B1/0718	718	0.2183	0.083	0.001	498.8	0.06243	0.00079	1.2227	0.0022	5691	74	5636	5578	77	1.2282	0.0022
B1/0786	786	0.3274	0.068	0.000	1006.7	0.06845	0.00118	1.2697	0.0098	6015	117	6000	5942	114	1.2764	0.0099
B1/0812	812	0.2329	0.075	0.001	656.6	0.06952	0.00049	1.1926	0.0026	6522	49	6481	6423	53	1.1980	0.0027
B1/0831	831	0.2496	0.158	0.001	448.0	0.09341	0.00088	1.2105	0.0020	8714	86	8620	8562	95	1.2175	0.0020
B1/0882	882	0.2783	0.044	0.000	1939.9	0.10162	0.00075	1.2877	0.0013	8913	69	8918	8859	70	1.2971	0.0014
B1/0928	928	0.2929	0.056	0.000	1726.3	0.10803	0.00064	1.3262	0.0023	9210	59	9212	9153	62	1.3368	0.0024
B1/0957	957	0.2164	0.060	0.000	1277.3	0.11733	0.00103	1.3771	0.0020	9647	89	9634	9576	90	1.3896	0.0020
B1/0974	974	0.2332	0.035	0.000	2371.1	0.11658	0.00085	1.3348	0.0021	9902	77	9915	9856	78	1.3464	0.0021
B1/1005	1005	0.2519	0.030	0.000	2965.8	0.11634	0.00076	1.3075	0.0018	10099	70	10117	10059	71	1.3183	0.0018
B1/1048	1048	0.3977	0.150	0.002	976.7	0.12104	0.00082	1.3014	0.0020	10578	77	10550	10492	81	1.3125	0.0021
B1/1108	1108	0.2316	0.090	0.000	964.5	0.12348	0.00088	1.2878	0.0019	10922	83	10890	10832	86	1.2988	0.0020
B1/1129	1129	0.2783	0.067	0.000	1634.5	0.12898	0.00138	1.2892	0.0019	11420	130	11417	11359	128	1.3007	0.0020

Table S2 (continued)

Sample I.D.	Depth (mm)	U (ppm)	^{232}Th (ppb)	$\pm 2\sigma$	$^{230}\text{Th}/^{232}\text{Th}$	$^{230}\text{Th}/^{238}\text{U}$	$\pm 2\sigma$	$^{234}\text{U}/^{238}\text{U}$	$\pm 2\sigma$	Uncorr. ^{230}Th age (yr)	$\pm 2\sigma$	Corr. ^{230}Th age (yr ago)	Corr. ^{230}Th age (yr BP)	$\pm 2\sigma$	Corr. initial $^{234}\text{U}/^{238}\text{U}$	$\pm 2\sigma$
B1/1160	1160	0.3857	0.098	0.000	1589.1	0.13245	0.00102	1.3029	96	11612	96	11610	11552	97	1.3150	0.0021
B1/1203	1203	0.4267	0.115	0.001	1512.2	0.13375	0.00083	1.2641	81	12116	81	12112	12054	84	1.2753	0.0019
B1/1235	1235	0.3626	0.119	0.001	1356.7	0.14644	0.00110	1.3416	103	12511	103	12501	12443	103	1.3560	0.0030
B1/1249	1249	0.3741	0.476	0.001	365.9	0.15325	0.00111	1.3662	102	12873	102	12695	12636	120	1.3816	0.0028
B3/A-AB-a1	7.8	0.3354	0.073	0.001	25.6	0.00183	0.00009	1.2744	8	156	8	111	53	15	1.2745	0.0021
B3/B-AB-a12	484.9	0.3014	0.047	0.001	919.6	0.04743	0.00046	1.3142	39	3992	39	3976	3918	61	1.3177	0.0023
B3/E-AB-b12	1138.1	0.3336	0.064	0.002	1483.1	0.09409	0.00055	1.2905	51	8211	51	8208	8149	75	1.2973	0.0026
B3/H-AB-cl	1550.2	0.4067	0.104	0.002	1422.5	0.11951	0.00081	1.2639	78	10767	78	10759	10701	116	1.2720	0.0021

Table S3: Summary of MC-ICP-MS U-Th age data for stalagmites LR06-B1 and LR06-B3 from Liang Luar Cave. “U ng g⁻¹” is the uranium content of the sample. Activity ratios were determined by the methods described in ref. S3 and the supplementary materials of ref. S5. The corrected (corr.) ²³⁰Th ages were calculated using equation 1 of ref. S4 using half-lives specified in ref. S8. BP – before present (present = A.D. 1950).

Sample I.D.	U ng g ⁻¹	Depth (mm)	[²³⁰ Th/ ²³⁸ U]	±2σ	[²³⁴ U/ ²³⁸ U]	±2σ	[²³² Th/ ²³⁸ U]	±2σ	[²³⁰ Th/ ²³² Th]	Corr. ²³⁰ Th age (yr ago)	Corr. ²³⁰ Th (yr BP)	±2σ	Corr. initial [²³⁴ U/ ²³⁸ U]	±2σ
B1/437	24.8	439	0.0323	0.0006	1.2281	0.0024	0.000133	0.000006	243.7	2826	2768	59	1.2299	0.0024
B1/455	15.6	458	0.0376	0.0005	1.2100	0.0025	0.000876	0.000046	43.0	2892	2833	167	1.2117	0.0025
B1/475	18.4	475	0.0479	0.0005	1.2186	0.0021	0.001032	0.000004	46.4	3727	3669	193	1.2209	0.0021
B3-101	21.2	68.3	0.0047	0.0002	1.2901	0.0022	0.000058	0.000002	80.0	363	305	20	1.2904	0.0022
B3-102	17.7	86.3	0.0059	0.0003	1.3147	0.0026	0.000025	0.000002	235.4	476	418	25	1.3151	0.0025
B3-103	24.8	141.8	0.0126	0.0003	1.3242	0.0022	0.000074	0.000003	171.7	1001	943	28	1.3251	0.0021
B3-104	30.7	208.8	0.0180	0.0002	1.2737	0.0023	0.000037	0.000001	482.0	1531	1473	19	1.2749	0.0023
B3-105	12.1	276.9	0.0244	0.0003	1.2646	0.0022	0.000083	0.000002	293.9	2076	2018	30	1.2662	0.0021
B3-106	12.1	315.4	0.0263	0.0004	1.1967	0.0022	0.000186	0.000001	141.5	2306	2248	50	1.1980	0.0022
B3-107	12.5	390.2	0.0325	0.0007	1.2070	0.0032	0.000047	0.000001	688.6	2949	2891	65	1.2087	0.0033
B3-108	12.0	440.5	0.0437	0.0009	1.3488	0.0029	0.000069	0.000003	628.7	3552	3494	74	1.3523	0.0029
B3-109	15.6	506.0	0.0477	0.0006	1.2870	0.0027	0.000027	0.000001	1800.3	4103	4045	52	1.2903	0.0028
B3-110	12.3	579.4	0.0531	0.0005	1.2076	0.0025	0.000026	0.000002	2065.7	4886	4828	48	1.2105	0.0025
B3-111	12.7	644.4	0.0552	0.0005	1.1673	0.0019	0.000041	0.000001	1347.8	5257	5199	50	1.1698	0.0020
B3-112	16.5	684.2	0.0568	0.0005	1.1561	0.0029	0.000023	0.000002	2502.7	5481	5423	50	1.1585	0.0029
B3-113	13.5	757.3	0.0627	0.0004	1.1638	0.0023	0.000025	0.000001	2474.1	6023	5965	42	1.1666	0.0024
B3-D-SS-2	215	771.6	0.0643	0.0016	1.1638	0.0037	0.000091	0.000006	704.3	6133	6075	158	1.1667	0.0038
B3-E-SS-3	184	833.7	0.0699	0.0006	1.1718	0.0027	0.000051	0.000001	1369.5	6667	6608	63	1.1750	0.0028
B3-E-SS-4	313	934.2	0.0775	0.0005	1.2225	0.0027	0.000037	0.000001	2121.4	7109	7051	51	1.2270	0.0027
B3-114	10.3	1053.6	0.0892	0.0010	1.2901	0.0027	0.000084	0.000001	1061.4	7754	7696	95	1.2965	0.0028
B3-E-SS-6	285	1107.6	0.0900	0.0008	1.2735	0.0024	0.000032	0.000001	2856.4	7959	7900	76	1.2798	0.0025
B3-F-SS-7	265	1208.3	0.0949	0.0011	1.2626	0.0026	0.000215	0.000001	441.8	8375	8317	109	1.2689	0.0027

Table S3 (continued)

Sample I.D.	U ng g ⁻¹	Depth (mm)	[²³⁰ Th/ ²³⁸ U]	±2σ	[²³² Th/ ²³⁸ U]	±2σ	[²³⁰ Th/ ²³² Th]	Corr. ²³⁰ Th age (yr ago)	Corr. ²³⁰ Th age (yr BP)	±2σ	Corr. initial [²³⁴ U/ ²³⁸ U]	±2σ
B3-F-SS-8	211	1279.2	0.0959	0.0008	0.000056	0.000001	1705.3	8850	8792	80	1.2293	0.0028
B3-115	19.7	1300.7	0.0978	0.0006	0.000029	0.000001	3420.1	8952	8893	58	1.2432	0.0022
B3-116	9.6	1348.7	0.1094	0.0009	0.000042	0.000002	2617.0	9279	9221	81	1.3441	0.0029
B3-117	12.0	1375.1	0.1082	0.0008	0.000098	0.000004	1101.1	9291	9233	75	1.3228	0.0026
B3-118	5.6	1406.4	0.1084	0.0009	0.000360	0.000019	301.0	9539	9481	103	1.2722	0.0028
B3-119	7.2	1477.8	0.1183	0.0009	0.000196	0.000007	604.3	10216	10157	94	1.3150	0.0039

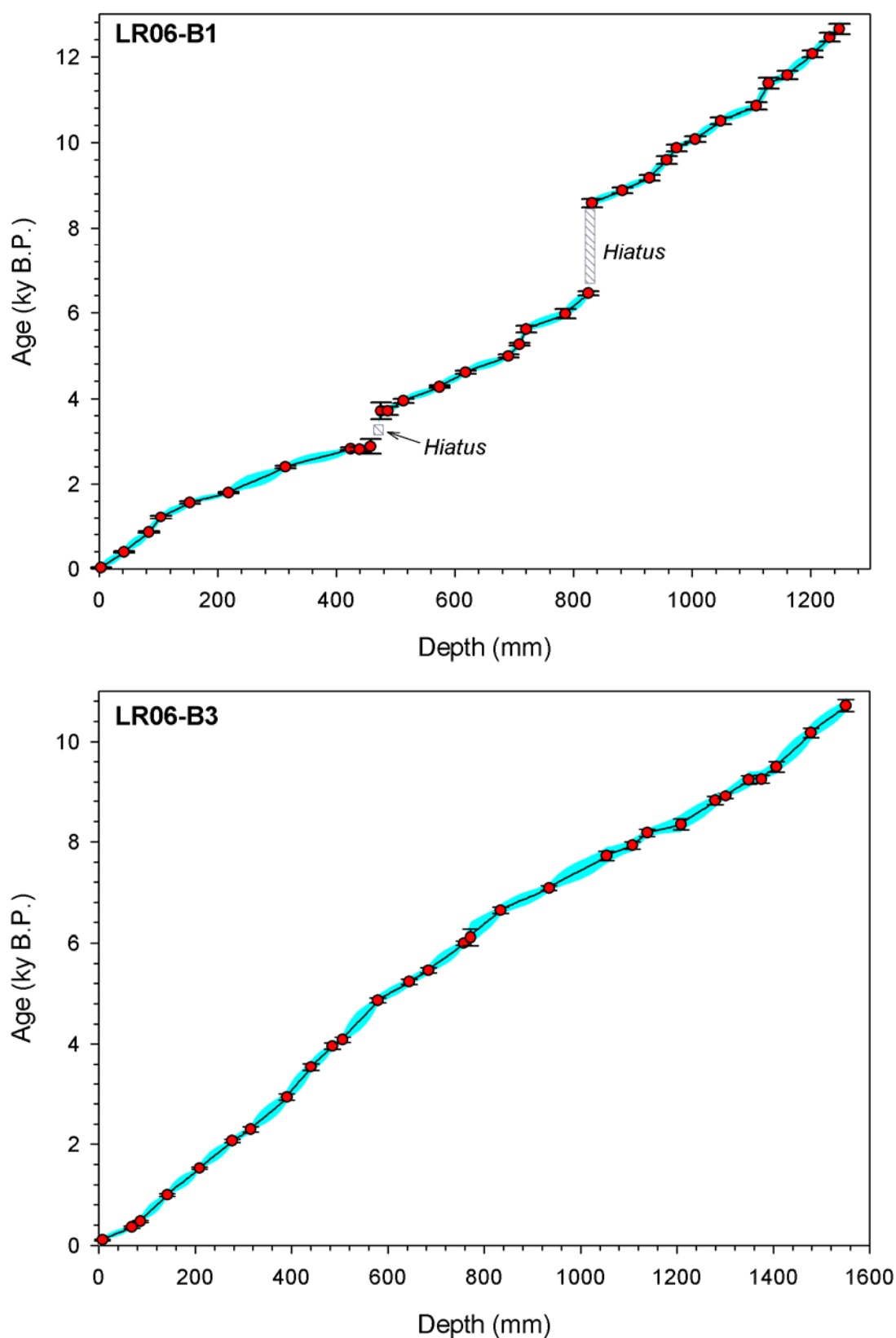


Figure S4: ^{230}Th depth-age models and 95% uncertainties are plotted for stalagmites a) LR06-B1 and b) LR06-B3. 95% uncertainty envelopes are indicated by blue shading. The symbols represent each U-Th age with 95% uncertainty shown by bars.

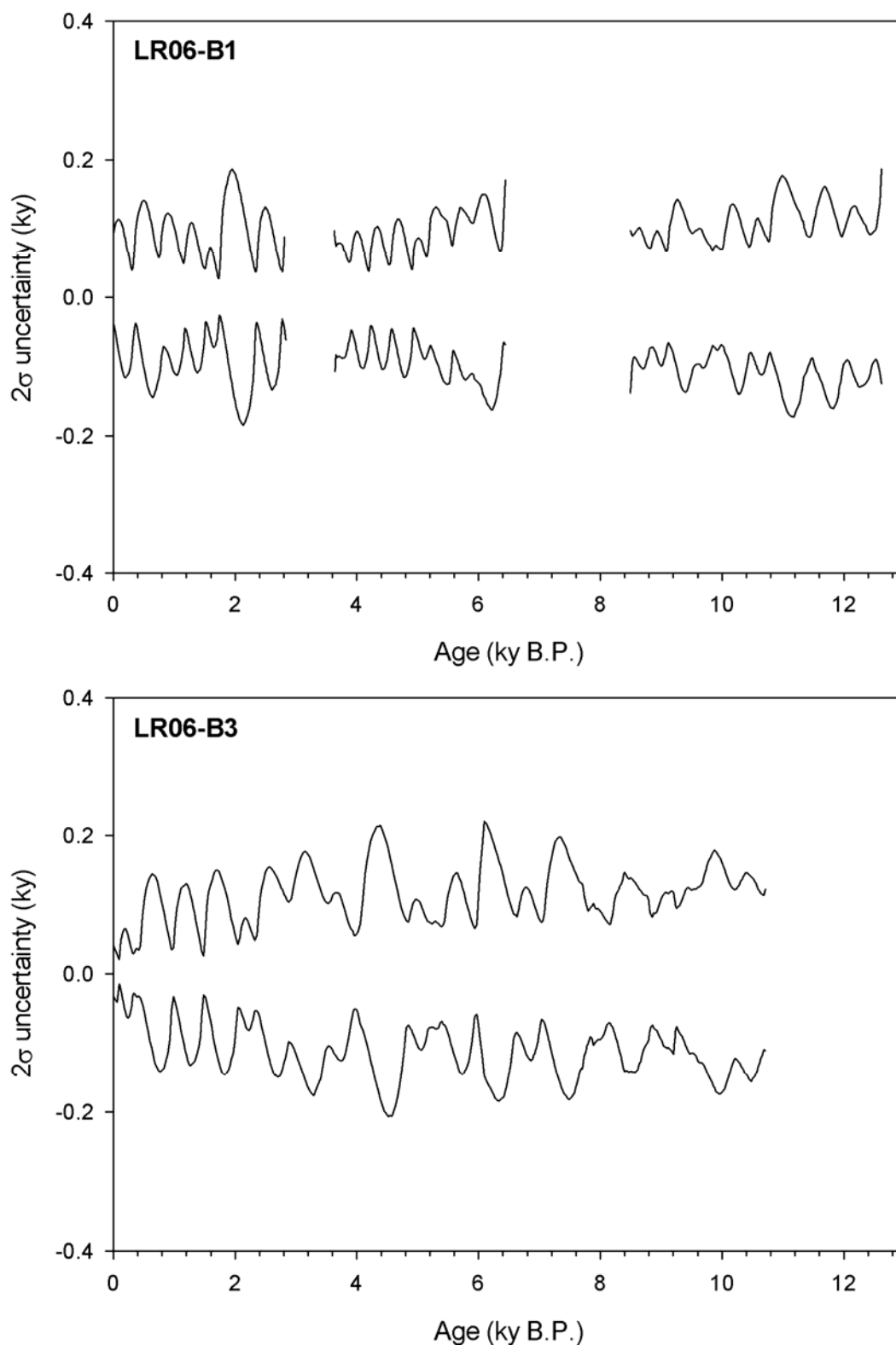


Figure S5: Age uncertainty versus age for stalagmites LR06-B1 and LR06-B3.

Speleothem sampling and stable isotope analysis of calcite powders

Stalagmite LR06-B1 (Fig. S2), which measures 1.25 m in length, was slabbed and embedded in clear casting resin and then microdrilled at 1 mm resolution along the central growth axis using a Taig CNC micromilling lathe.

Measurements of $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ for stalagmite LR06-B1 were performed on calcite powders weighing ~ 1 mg (average 8 year resolution). The isotopes were analysed for CO_2 produced by reaction of the powders with 105% H_3PO_4 at 70°C using a continuous-flow GV2003 gas-source isotope ratio mass spectrometer at the University of Newcastle, Australia. Results are shown as the per mil difference between the sample and Vienna Pee Dee Belemnite using internal working standards of Carrara Marble, which were cross-checked with National Bureau of Standards NBS18 and NBS19 calcite. Mean analytical precision for $\delta^{18}\text{O}$ was better than $\pm 0.1\text{‰}$ for both $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$.

Stalagmite LR06-B3 is 1.6 m in length with Holocene material preserved above a sharp unconformity located 1.5 m below the actively growing upper surface (Fig. S3). The specimen was cut into sections with ends angled at $\sim 45^\circ$ relative to the growth axis (to allow for sample overlap across the cuts). The lengths of the sections were determined to ensure that a 20 mm-thick longitudinal slab would definitely include the central growth axis in each section, thus accommodating movement of the growth axis in any direction. Shorter sections were cut where stalagmite growth was relatively complex, and vice versa. Contiguous low-resolution samples were then milled at ~ 10 mm increments (average 70 year resolution). The sample cross-section was large (5 mm x 5 mm) to allow the samples to extend into the central part of the slab (including the main growth axis) and provide sufficient material for initial U-series dating.

Measurements of $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ for stalagmite LR06-B3 were conducted on an automated individual-carbonate reaction Kiel device coupled to a Finnigan MAT-251 dual-inlet stable isotope mass spectrometer at the Research School of Earth Sciences, ANU. The powdered calcite samples were homogenised and replicate 180–220 μg aliquots of each sample were reacted with anhydrous 103% H_3PO_4 at 90°C to liberate CO_2 for isotopic analysis. The results have been normalised on the VPDB scale such

that NBS-19 yields $\delta^{18}\text{O}_{\text{VPDB}}$ (-2.20‰) and $\delta^{13}\text{C}_{\text{VPDB}}$ (+1.95‰), and NBS-18 yields $\delta^{18}\text{O}_{\text{VPDB}}$ (-23.0‰) and $\delta^{13}\text{C}_{\text{VPDB}}$ (-5.0‰). The measurement precision for NBS-19 ($n = 105$) within the mass spectrometer runs was $\pm 0.06\text{‰}$ for $\delta^{18}\text{O}$ (2σ) and $\pm 0.03\text{‰}$ for $\delta^{13}\text{C}$ (2σ). The average standard error of the mean for replicate measurements of the stalagmite samples ($n = 154$ pairs, Table S5) was 0.02‰ and 0.01‰ for $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$, respectively. In some cases, additional aliquots of a sample were measured until the standard error of the mean $\delta^{18}\text{O}$ value fell below 0.10‰ to ensure that even subtle changes in the speleothem $\delta^{18}\text{O}$ record could be accurately discerned.

To assess interlaboratory performance, 143 replicate samples from stalagmite LR06-B1 were run on the GV2003 (at U. Newcastle) and the Finnigan MAT-251 (at ANU). The average difference between the measurements was less than 0.07‰ for $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$, indicating good analytical agreement between the two laboratories.

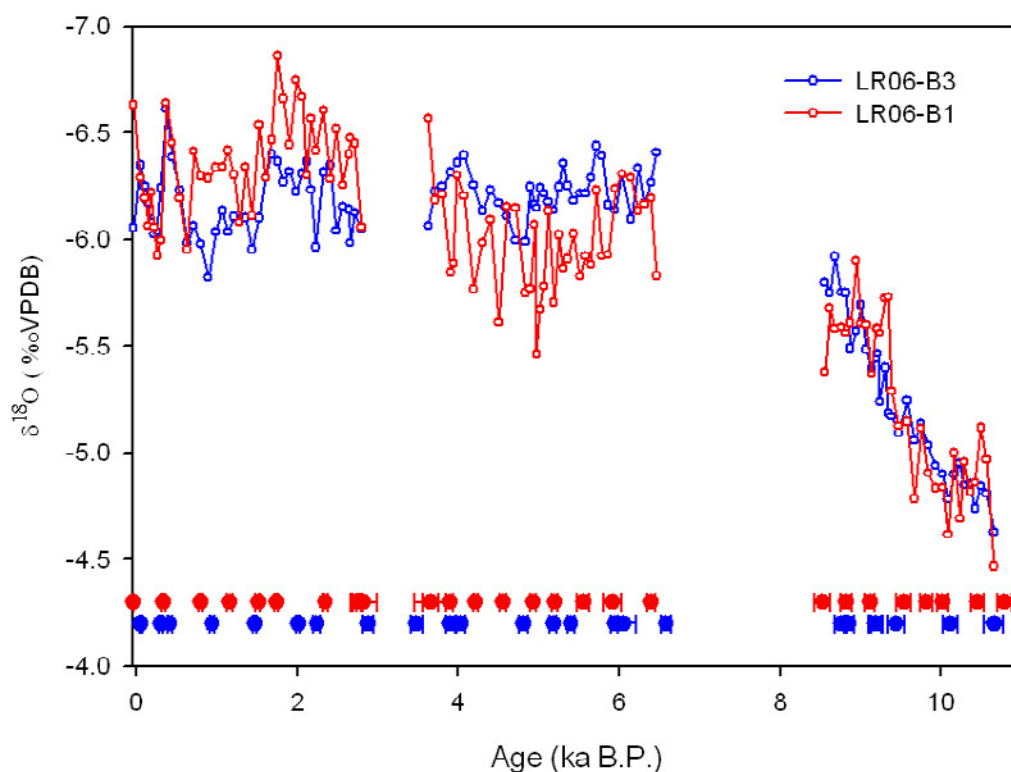


Figure S6: Comparison of $\delta^{18}\text{O}$ for overlapping sections of stalagmites LR06-B1 and LR06-B3. The higher resolution stalagmite LR06-B1 (8-year) was converted to the same resolution as stalagmite LR06-B3 (70-year). Overall there is strong coherence between the two records through the Holocene. The slight differences in trends may be due to the different sampling resolution and techniques used (see sampling descriptions on page 12 above). U-Th ages for the periods of overlap are shown along the bottom.

Tests for isotopic equilibrium (“Hendy tests”)

Hendy tests were used to determine if stalagmites LR06-B1 and LR06-B3 were deposited in quasi-isotopic equilibrium. Calcite powders were drilled along a total of twenty-two individual growth layers to assess whether samples LR06-B1 and LR06-B3 were deposited in isotopic equilibrium. For LR06-B1, eight of the tests were conducted on open columnar calcite while ten were conducted on compact columnar calcite. Isotopic values are plotted as distances away from the central growth axis (Figs S7 – S9). Non-equilibrium fractionation during deposition may have occurred if there is a positive correlation between $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ values and if $\delta^{18}\text{O}$ along single growth layers varies by more than 0.5‰ (ref. S10). Our results indicate that $\delta^{18}\text{O}$ values have not varied by more than 0.5‰ along the majority of tested growth layers with little to no covariation between the $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ (Fig. S7 – S10).

The results of these Hendy tests (ref. S10) lead us to believe that stalagmites LR06-B1 and LR06-B3 were deposited at or close to quasi-isotopic equilibrium suggesting that the slow degassing of CO_2 from drip waters maintained isotopic equilibrium among the aqueous species. We thus conclude that the oxygen isotope ratios of LR06-B1 and LR06-B3 primarily record changes in the $\delta^{18}\text{O}$ of the drip water from which the speleothem was formed.

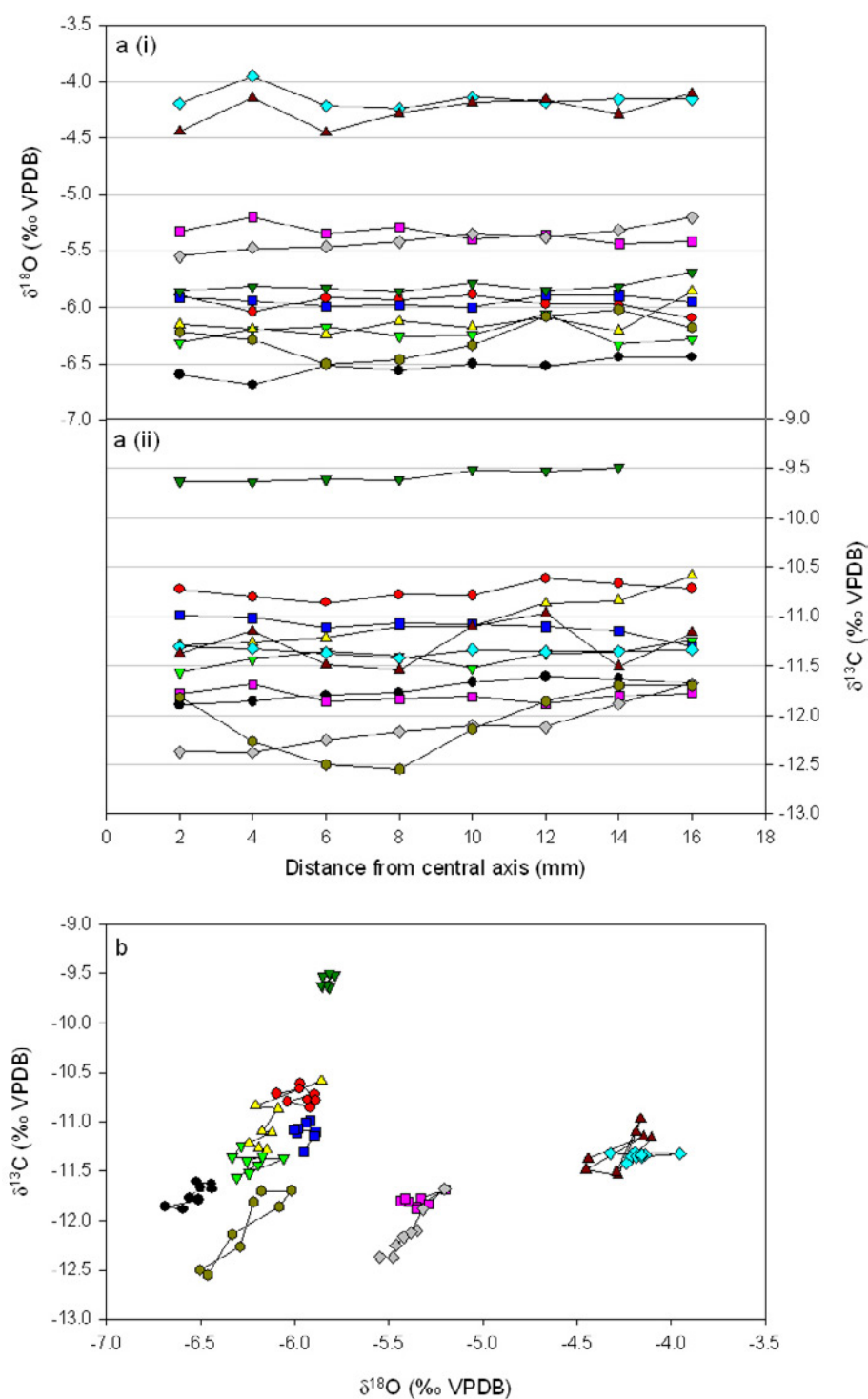


Figure S7: Hendy tests for ten individual growth laminae within stalagmite LR06-B1 for compact, translucent calcite. a(i) $\delta^{18}\text{O}$ and a(ii) $\delta^{13}\text{C}$ along individual calcite layers away from the central growth axis. Layers with $\delta^{18}\text{O}$ variability $<0.5\text{‰}$ are assumed to have been deposited in isotopic equilibrium where the $\delta^{18}\text{O}$ reflects that of the drip-water, rather than kinetic fractionation. b. Cross-plots of $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ along individual growth layers.

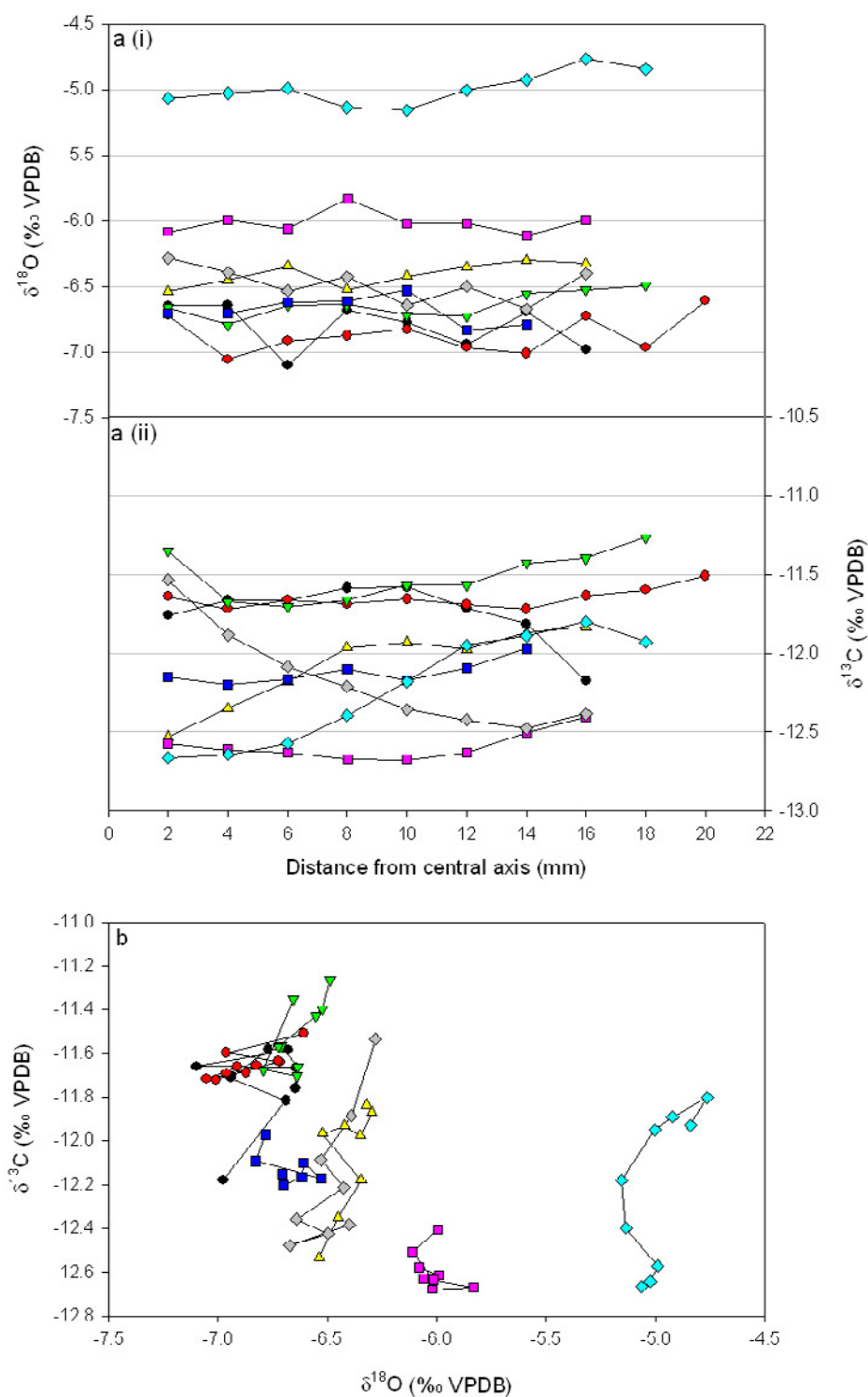


Figure S8: Same as Figure S7 but for eight individual growth laminae for open, opaque calcite.

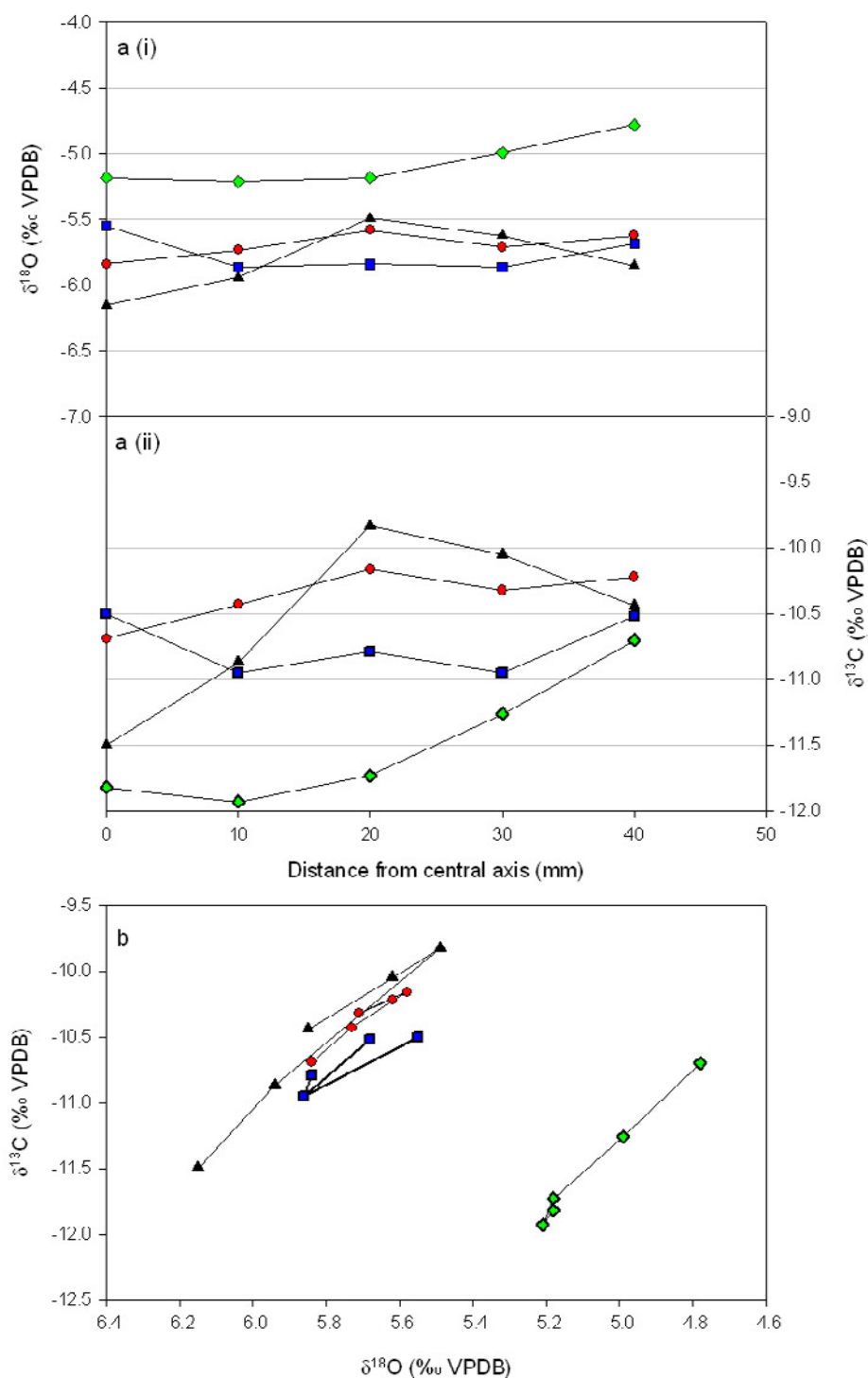


Figure S9: Same as Figure S7 but for four individual growth laminae for stalagmite LR06-B3. In b it is evident that a number of layers display covariation between $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$, however in all but one case (green diamonds) the covariation does not occur sequentially away from the central growth axis.

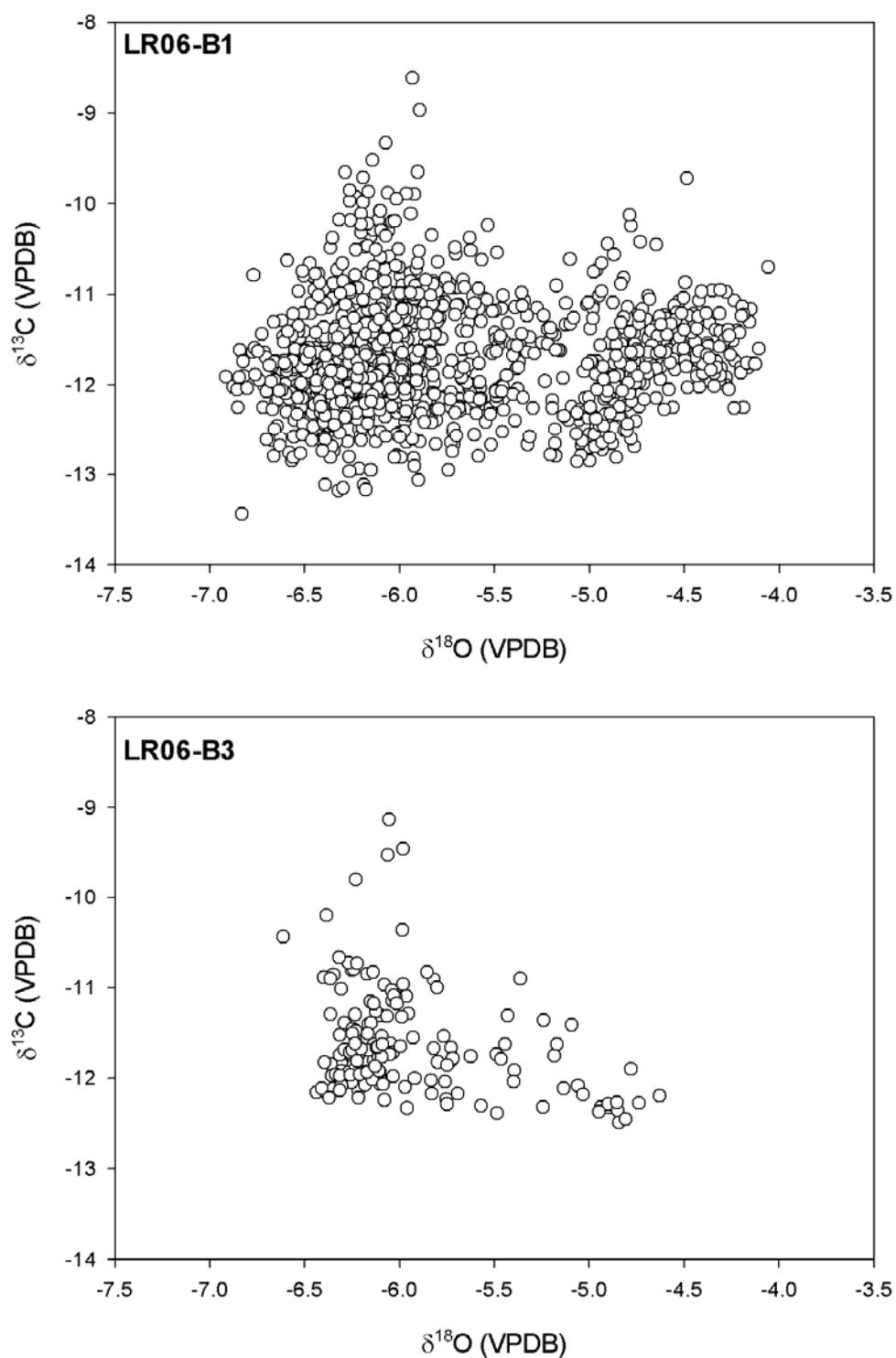


Figure S10: Comparison between $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ along the entire growth axis of stalagmites LR06-B1 and LR06-B3. The poor correlation between the $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ of LR06-B1 ($r^2 = 0.004$, $n = 1240$) and LR06-B3 ($r^2 = 0.09$, $n = 154$) indicates an absence of kinetic fractionation effects.

Table S4: Summary of the $\delta^{18}\text{O}$ of calcite powders drilled along the central growth axis of stalagmite LR06-B1. Results were normalized to the Vienna Pee Dee Belemnite (VPDB) scale using internal and international (NBS18 and NBS19) working standards. Ages are reported as before present (B.P.) where “present” is 1950 A.D.

Sample i.d.	Depth (mm)	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)	Sample i.d.	Depth (mm)	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)	Sample i.d.	Depth (mm)	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)
LR06-B1				E2-4A4	65	588.5	-5.90	E2-1B5	130	1349.7	-6.20
E2-5C12	1	-52.0	-6.26	E2-4C3	66	598.3	-6.06	E2-1A5	131	1356.3	-6.34
E2-5B12	2	-45.7	-6.51	E2-4B3	67	608.3	-6.04	E2-1C4	132	1362.8	-6.37
E2-5A12	3	-38.9	-6.59	E2-4A3	68	618.4	-5.94	E2-1B4	133	1369.3	-6.18
E2-5C11	4	-31.0	-5.93	E2-4C2	69	628.6	-5.96	E2-1A4	134	1375.7	-6.18
E2-5B11	5	-20.8	-6.35	E2-4B2	70	638.8	-6.06	E2-1C3	135	1382.1	-6.10
E2-5A11	6	-10.4	-6.14	E2-4A2	71	649.3	-6.14	E2-1B3	136	1388.6	-6.20
E2-5C10	7	0.1	-6.10	E2-4C1	72	659.9	-6.29	E2-1A3	137	1395.1	-6.33
E2-5B10	8	10.6	-6.30	E2-4B1	73	670.8	-5.89	E2-1C2	138	1401.6	-6.01
E2-5A10	9	21.3	-6.33	E2-4A1	74	681.8	-6.23	E2-1B2	139	1408.1	-5.90
E2-5C9	10	31.9	-6.23	E2-3B7	75	693.1	-6.51	E2-1A2	140	1415.1	-5.96
E2-5B9	11	42.6	-6.24	E2-3A7	76	704.5	-6.62	E2-1C1	141	1422.1	-5.74
E2-5A9	12	52.6	-6.33	E2-3C6	77	716.0	-6.20	E2-1B1	142	1429.0	-5.86
E2-5C8	13	62.4	-6.39	E2-3B6	78	727.7	-6.15	E2-1A1	143	1436.0	-6.11
E2-5B8	14	72.0	-6.12	E2-3A6	79	740.3	-6.30	A1-6C27	144	1443.0	-6.23
E2-5A8	15	81.5	-6.15	E2-3C5	80	752.8	-6.10	A1-6B27	145	1450.2	-6.15
E2-5C7	16	90.7	-6.14	E2-3B5	81	765.1	-6.35	A1-6A27	146	1457.4	-6.17
E2-5B7	17	99.8	-6.07	E2-3A5	82	777.4	-6.26	A1-6C26	147	1464.9	-6.26
E2-5A7	18	108.7	-6.44	E2-3C4	83	789.5	-6.30	A1-6B26	148	1472.6	-6.15
E2-5C6	19	117.7	-6.61	E2-3B4	84	804.5	-6.30	A1-6A26	149	1480.4	-6.18
E2-5B6	20	126.6	-6.17	E2-3A4	85	820.6	-5.92	A1-6C25	150	1488.2	-5.92
E2-5A6	21	135.6	-6.31	E2-3C3	86	839.1	-6.10	A1-6B25	151	1496.5	-5.97
E2-5C5	22	144.7	-6.03	E2-3B3	87	858.0	-6.26	A1-6A25	152	1504.5	-6.03
E2-5B5	23	153.4	-6.17	E2-3A3	88	876.6	-6.34	A1-6C24	153	1511.5	-6.39
E2-5A5	24	162.1	-6.29	E2-3C2	89	895.1	-6.27	A1-6B24	154	1518.0	-6.19
E2-5C4	25	170.9	-6.19	E2-3B2	90	912.8	-6.37	A1-6A24	155	1523.3	-5.99
E2-5B4	26	179.7	-6.29	E2-3A2	91	930.3	-6.41	A1-6C23	156	1528.3	-6.83
E2-5A4	27	188.8	-6.01	E2-3C1	92	947.0	-6.36	A1-6B23	157	1533.0	-6.21
E2-5C3	28	197.9	-5.90	E2-3B1	93	963.6	-6.18	A1-6A23	158	1537.3	-5.98
E2-5B3	29	207.1	-5.90	E2-3A1	94	980.2	-6.39	A1-6C22	159	1541.5	-6.30
E2-5A3	30	216.3	-6.10	E2-2B6	95	996.7	-6.29	A1-6B22	160	1545.5	-6.32
E2-5C2	31	225.5	-5.95	E2-2A6	96	1013.4	-6.28	A1-6A22	161	1549.4	-5.87
E2-5B2	32	234.8	-6.13	E2-2C5	97	1030.2	-6.29	A1-6C21	162	1553.1	-5.91
E2-5A2	33	244.4	-5.99	E2-2B5	98	1047.2	-6.34	A1-6B21	163	1556.6	-5.97
E2-5C1	34	254.2	-5.86	E2-2A5	99	1064.7	-6.31	A1-6A21	164	1560.1	-5.89
E2-5B1	35	264.2	-6.08	E2-2C4	100	1082.2	-6.52	A1-6C20	165	1563.6	-6.12
E2-5A1	36	274.3	-6.22	E2-2B4	101	1101.4	-6.46	A1-6B20	166	1567.1	-5.92
E2-4C13	37	284.3	-6.30	E2-2A4	102	1120.7	-6.30	A1-6A20	167	1570.6	-6.13
E2-4B13	38	294.9	-6.02	E2-2C3	103	1140.6	-6.42	A1-6C19	168	1574.0	-6.15
E2-4A13	39	305.3	-5.99	E2-2B3	104	1158.1	-6.34	A1-6B19	169	1577.4	-6.18
E2-4C12	40	315.8	-6.00	E2-2A3	105	1171.0	-6.41	A1-6A19	170	1580.8	-5.91
E2-4A12	41	326.5	-6.08	E2-2C2	106	1181.7	-6.23	A1-6C18	171	1584.0	-6.18
E2-4C11	42	337.8	-6.26	E2-2B2	107	1190.4	-6.28	A1-6B18	172	1587.2	-6.18
E2-4B11	43	349.4	-6.80	E2-2A2	108	1198.5	-6.39	A1-6A18	173	1590.5	-6.23
E2-4A11	44	361.1	-6.68	E2-2C1	109	1206.3	-6.20	A1-6C17	174	1593.9	-6.28
E2-4C10	45	373.0	-6.60	E2-2B1	110	1213.8	-6.37	A1-6B17	175	1597.2	-5.93
E2-4B10	46	385.0	-6.47	E2-2A1	111	1221.2	-6.56	A1-6A17	176	1600.5	-6.01
E2-4A10	47	397.2	-6.43	E2-1B11	112	1228.4	-6.40	A1-6C16	177	1603.9	-6.04
E2-4C9	48	409.4	-6.66	E2-1A11	113	1235.5	-6.45	A1-6B16	178	1607.3	-6.31
E2-4B9	49	421.2	-6.44	E2-1C10	114	1242.6	-6.40	A1-6A16	179	1610.7	-6.23
E2-4A9	50	432.9	-6.42	E2-1B10	115	1249.6	-6.42	A1-6C15	180	1614.0	-6.23
E2-4C8	51	444.0	-6.47	E2-1A10	116	1256.5	-6.32	A1-6B15	181	1617.1	-6.33
E2-4B8	52	454.9	-6.19	E2-1C9	117	1263.4	-6.23	A1-6A15	182	1620.3	-6.12
E2-4A8	53	465.6	-6.26	E2-1B9	118	1270.4	-6.38	A1-6C14	183	1623.4	-6.22
E2-4C7	54	476.1	-6.32	E2-1A9	119	1277.1	-6.35	A1-6B14	184	1626.6	-6.02
E2-4B7	55	486.6	-6.17	E2-1C8	120	1283.7	-6.04	A1-6A14	185	1629.8	-6.51
E2-4A7	56	497.1	-6.26	E2-1B8	121	1290.2	-5.97	A1-6C13	186	1633.1	-6.33
E2-4C6	57	507.5	-6.10	E2-1A8	122	1296.8	-6.04	A1-6B13	187	1636.3	-6.27
E2-4B6	58	517.9	-6.20	E2-1C7	123	1303.2	-6.15	A1-6A13	188	1639.7	-6.45
E2-4A6	59	528.1	-6.17	E2-1B7	124	1309.6	-5.90	A1-6C12	189	1642.9	-6.32
E2-4C5	60	538.4	-6.20	E2-1A7	125	1316.3	-6.15	A1-6B12	190	1646.1	-6.35
E2-4B5	61	548.9	-6.19	E2-1C6	126	1323.0	-6.05	A1-6A12	191	1649.3	-6.36
E2-4A5	62	558.9	-6.11	E2-1B6	127	1329.7	-5.99	A1-6C11	192	1652.6	-6.22
E2-4C4	63	569.0	-6.07	E2-1A6	128	1336.3	-5.98	A1-6B11	193	1655.8	-6.22
E2-4B4	64	578.7	-6.02	E2-1C5	129	1343.0	-6.02	A1-6A11	194	1659.0	-6.38

A1-6C10	195	1662.1	-6.36	A1-4C10	270	2072.3	-6.64	A1-1C10	345	2480.8	-6.30
A1-6B10	196	1665.1	-6.33	A1-4B10	271	2078.1	-6.57	A1-1B10	346	2484.5	-6.60
A1-6A10	197	1668.3	-6.54	A1-4A10	272	2083.9	-6.82	A1-1A10	347	2488.1	-6.52
A1-6C9	198	1671.5	-6.37	A1-4C9	273	2089.5	-6.88	A1-1C9	348	2491.6	-6.52
A1-6B9	199	1674.8	-6.34	A1-4B9	274	2095.1	-6.61	A1-1B9	349	2495.4	-6.66
A1-6A9	200	1678.0	-6.38	A1-4A9	275	2101.0	-6.38	A1-1A9	350	2499.1	-6.40
A1-6C8	201	1681.4	-6.44	A1-4C8	276	2106.9	-6.35	A1-1C8	351	2502.6	-6.15
A1-6B8	202	1684.8	-6.51	A1-4B8	277	2112.8	-6.37	A1-1B8	352	2506.2	-6.40
A1-6A8	203	1688.1	-6.54	A1-4A8	278	2118.7	-6.31	A1-1A8	353	2510.0	-6.43
A1-6C7	204	1691.6	-6.49	A1-4C7	279	2124.6	-6.28	A1-1C7	354	2513.6	-6.41
A1-6B7	205	1695.1	-6.26	A1-4B7	280	2130.5	-6.62	A1-1B7	355	2517.0	-6.31
A1-6A7	206	1698.7	-6.13	A1-4A7	281	2136.4	-6.06	A1-1A7	356	2520.6	-6.37
A1-6C6	207	1702.3	-6.40	A1-4C6	282	2142.2	-6.41	A1-1C6	357	2524.3	-6.37
A1-6B6	208	1705.9	-6.49	A1-4B6	283	2148.0	-6.53	A1-1B6	358	2527.8	-6.25
A1-6A6	209	1709.6	-6.22	A1-4A6	284	2153.8	-6.43	A1-1A6	359	2531.3	-6.41
A1-6C5	210	1713.3	-6.02	A1-4C5	285	2159.5	-6.31	A1-1C5	360	2534.8	-6.43
A1-6B5	211	1717.0	-6.41	A1-4B5	286	2165.5	-6.22	A1-1B5	361	2538.3	-6.35
A1-6A5	212	1720.9	-6.45	A1-4A5	287	2171.5	-6.47	A1-1A5	362	2541.9	-6.22
A1-6C4	213	1724.8	-6.75	A1-4C4	288	2177.6	-6.84	A1-1C4	363	2545.4	-6.46
A1-6B4	214	1728.7	-6.76	A1-4B4	289	2183.7	-6.53	A1-1B4	364	2549.0	-6.35
A1-6A4	215	1732.9	-6.56	A1-4A4	290	2189.8	-6.27	A1-1A4	365	2552.6	-6.33
A1-6C3	216	1737.7	-6.85	A1-4C3	291	2196.0	-6.64	A1-1C3	366	2556.2	-6.17
A1-6B3	217	1742.8	-6.59	A1-4B3	292	2202.3	-6.61	A1-1B3	367	2559.7	-6.49
A1-6A3	218	1748.5	-6.85	A1-4A3	293	2208.6	-6.49	A1-1A3	368	2563.2	-6.19
A1-6C2	219	1755.2	-6.92	A1-4C2	294	2215.0	-6.44	A1-1C2	369	2566.9	-6.32
A1-6B2	220	1762.6	-6.55	A1-4B2	295	2221.4	-6.48	A1-1B2	370	2570.6	-6.14
A1-6A2	221	1769.8	-6.85	A1-4A2	296	2227.8	-6.27	A1-1A2	371	2574.1	-6.15
A1-6C1	222	1776.9	-6.59	A1-4C1	297	2234.6	-6.40	A1-1C1	372	2577.6	-6.36
A1-6B1	223	1783.9	-6.46	A1-4B1	298	2241.4	-6.56	A1-1B1	373	2581.1	-6.50
A1-6A1	224	1790.7	-6.53	A1-4A1	299	2248.0	-6.71	A1-1A1	374	2584.7	-6.45
A1-5C15	225	1797.5	-6.77	A1-3C4	300	2254.6	-6.23	B1-6B12	375	2588.3	-6.50
A1-5B15	226	1804.4	-6.73	A1-3B4	301	2261.1	-6.50	B1-6A12	376	2591.9	-6.19
A1-5A15	227	1811.3	-6.82	A1-3A4	302	2267.5	-6.40	B1-6C11	377	2595.2	-6.06
A1-5C14	228	1818.1	-6.40	A1-3C3	303	2274.0	-6.55	B1-6B11	378	2598.7	-6.32
A1-5B14	229	1825.0	-6.63	A1-3B3	304	2280.6	-6.51	B1-6A11	379	2602.1	-6.53
A1-5A14	230	1831.7	-6.67	A1-3A3	305	2287.1	-6.47	B1-6C10	380	2605.7	-6.22
A1-5C13	231	1838.4	-6.40	A1-3C2	306	2293.8	-6.41	B1-6B10	381	2609.3	-6.19
A1-5B13	232	1845.1	-6.27	A1-3B2	307	2300.6	-6.27	B1-6A10	382	2612.8	-6.27
A1-5A13	233	1851.8	-6.37	A1-3A2	308	2307.4	-6.55	B1-6C9	383	2616.4	-6.28
A1-5C12	234	1858.5	-6.39	A1-3C1	309	2314.3	-6.28	B1-6B9	384	2620.0	-6.16
A1-5B12	235	1865.1	-6.56	A1-3B1	310	2321.5	-6.57	B1-6A9	385	2623.5	-6.50
A1-5A12	236	1871.5	-6.11	A1-3A1	311	2328.8	-6.60	B1-6C8	386	2627.0	-6.15
A1-5C11	237	1877.9	-6.31	A1-2C11	312	2336.3	-6.65	B1-6B8	387	2630.5	-6.26
A1-5B11	238	1884.1	-6.39	A1-2B11	313	2343.8	-6.18	B1-6A8	388	2634.0	-5.88
A1-5A11	239	1890.3	-6.52	A1-2A11	314	2351.3	-6.34	B1-6C7	389	2637.5	-6.55
A1-5C10	240	1896.5	-6.62	A1-2C10	315	2358.1	-6.41	B1-6B7	390	2641.0	-6.24
A1-5B10	241	1902.6	-6.60	A1-2B10	316	2363.7	-6.20	B1-6A7	391	2644.6	-6.47
A1-5A10	242	1908.8	-6.35	A1-2A10	317	2369.0	-6.34	B1-6C6	392	2648.1	-6.37
A1-5C9	243	1914.8	-6.29	A1-2C9	318	2373.8	-6.58	B1-6B6	393	2651.8	-6.65
A1-5B9	244	1920.8	-6.47	A1-2B9	319	2378.4	-6.11	B1-6A6	394	2655.6	-6.57
A1-5A9	245	1926.9	-6.69	A1-2A9	320	2382.9	-6.17	B1-6C5	395	2659.2	-6.40
A1-5C8	246	1933.1	-6.76	A1-2C8	321	2387.2	-6.09	B1-6B5	396	2662.8	-6.71
A1-5B8	247	1938.8	-6.61	A1-2B8	322	2391.5	-6.27	B1-6A5	397	2666.5	-6.48
A1-5A8	248	1944.5	-6.74	A1-2A8	323	2395.7	-6.30	B1-6C4	398	2670.1	-6.43
A1-5C7	249	1950.4	-6.56	A1-2C7	324	2399.9	-6.09	B1-6B4	399	2674.0	-6.28
A1-5B7	250	1956.3	-6.47	A1-2B7	325	2403.9	-6.23	B1-6A4	400	2677.8	-6.36
A1-5A7	251	1962.2	-6.50	A1-2A7	326	2408.0	-6.32	B1-6C3	401	2681.6	-6.56
A1-5C6	252	1967.9	-6.32	A1-2C6	327	2411.9	-6.28	B1-6B3	402	2685.5	-6.40
A1-5B6	253	1973.4	-6.72	A1-2B6	328	2415.9	-6.51	B1-6A3	403	2689.4	-6.07
A1-5A6	254	1979.1	-6.57	A1-2A6	329	2419.9	-6.70	B1-6C2	404	2693.3	-6.38
A1-5C5	255	1985.1	-6.34	A1-2C5	330	2423.9	-6.56	B1-6B2	405	2697.3	-6.11
A1-5B5	256	1990.9	-6.78	A1-2B5	331	2427.8	-6.63	B1-6A2	406	2701.2	-6.19
A1-5A5	257	1996.6	-6.44	A1-2A5	332	2431.7	-6.40	B1-6C1	407	2705.1	-6.44
A1-5C4	258	2002.2	-6.66	A1-2C4	333	2435.6	-6.41	B1-6B1	408	2709.1	-6.28
A1-5B4	259	2007.9	-6.54	A1-2B4	334	2439.4	-6.21	B1-6A1	409	2713.0	-6.33
A1-5A4	260	2013.7	-6.58	A1-2A4	335	2443.2	-6.24	B1-5C18	410	2717.0	-6.50
A1-5C3	261	2019.5	-6.70	A1-2C3	336	2447.1	-6.06	B1-5B18	411	2721.0	-6.40
A1-5B3	262	2025.4	-6.37	A1-2B3	337	2451.1	-6.23	B1-5A18	412	2725.3	-6.25
A1-5A3	263	2031.3	-6.32	A1-2A3	338	2454.9	-6.20	B1-5C17	413	2729.6	-6.29
A1-5C2	264	2037.0	-6.52	A1-2C2	339	2458.7	-6.08	B1-5B17	414	2733.7	-6.27
A1-5B2	265	2042.8	-6.71	A1-2B2	340	2462.5	-6.31	B1-5A17	415	2737.8	-6.41
A1-5A2	266	2048.7	-6.41	A1-2A2	341	2466.2	-6.43	B1-5C16	416	2742.0	-6.36
A1-5C1	267	2054.5	-6.66	A1-2C1	342	2469.8	-6.51	B1-5B16	417	2746.3	-6.22
A1-5B1	268	2060.4	-6.51	A1-2B1	343	2473.5	-6.39	B1-5A16	418	2750.6	-6.45
A1-5A1	269	2066.3	-6.67	A1-2A1	344	2477.1	-6.20	B1-5C15	419	2755.1	-6.36

B1-5B15	420	2759.7	-6.27	B1-3B9	503	3817.7	-6.14	C2-13B2	578	4266.7	-5.66
B1-5A15	421	2764.4	-6.10	B1-3A9	504	3825.1	-5.99	C2-13A2	579	4274.9	-5.98
B1-5C14	422	2769.2	-6.08	B1-3C8	505	3833.0	-5.80	C2-13C1	580	4283.2	-5.69
B1-5B14	423	2773.6	-6.14	B1-3B8	506	3840.9	-5.99	C2-13B1	581	4291.1	-5.90
B1-5A14	424	2777.7	-6.27	B1-3A8	507	3848.8	-5.91	C2-13A1	582	4298.8	-6.07
B1-5C13	425	2780.2	-6.37	B1-3C7	508	3857.2	-5.99	C2-12B4	583	4306.5	-5.65
B1-5B13	426	2782.4	-6.39	B1-3B7	509	3865.8	-5.54	C2-12A4	584	4314.5	-6.07
B1-5A13	427	2783.6	-6.37	B1-3A7	510	3874.9	-5.95	C2-12C3	585	4322.0	-5.80
B1-5C12	428	2784.7	-6.19	B1-3C6	511	3884.7	-5.49	C2-12B3	586	4329.3	-5.82
B1-5B12	429	2785.5	-6.10	B1-3B6	512	3894.5	-5.74	C2-12A3	587	4336.7	-5.81
B1-5A12	430	2786.4	-6.28	B1-3A6	513	3904.1	-5.96	C2-12C2	588	4343.9	-5.84
B1-5C11	431	2787.4	-6.39	B1-3C5	514	3912.6	-5.71	C2-12B2	589	4351.0	-5.84
B1-5B11	432	2788.3	-6.26	B1-3B5	515	3920.4	-5.94	C2-12A2	590	4358.1	-6.11
B1-5A11	433	2789.2	-6.07	B1-3A5	516	3927.7	-5.63	C2-12C1	591	4365.2	-6.25
B1-5C10	434	2790.1	-6.23	B1-3C4	517	3934.7	-6.16	C2-12B1	592	4372.3	-6.07
B1-5B10	435	2790.9	-6.10	B1-3B4	518	3940.9	-5.97	C2-12A1	593	4379.2	-5.57
B1-5A10	436	2791.8	-6.33	B1-3A4	519	3946.8	-6.00	C2-11C7	594	4386.2	-6.14
B1-5C9	437	2792.9	-6.19	B1-3C3	520	3952.4	-5.80	C2-11B7	595	4393.2	-5.99
B1-5B9	438	2794.6	-6.01	B1-3B3	521	3958.2	-5.92	C2-11A7	596	4400.3	-5.89
B1-5A9	439	2796.5	-5.92	B1-3A3	522	3963.7	-5.82	C2-11C6	597	4407.2	-6.27
B1-5C8	440	2799.1	-6.05	B1-3C2	523	3969.1	-6.08	C2-11B6	598	4414.0	-5.99
B1-5B8	441	2801.5	-6.33	B1-3B2	524	3974.6	-6.03	C2-11A6	599	4420.9	-6.18
B1-5A8	442	2804.0	-6.07	B1-3A2	525	3979.9	-6.11	C2-11C5	600	4428.0	-6.30
B1-5C7	443	2806.6	-6.05	B1-3C1	526	3985.1	-6.29	C2-11B5	601	4435.1	-6.39
B1-5B7	444	2809.3	-6.09	B1-3B1	527	3990.4	-6.12	C2-11A5	602	4442.2	-6.29
B1-5A7	445	2811.4	-6.28	B1-3A1	528	3995.6	-6.23	C2-11C4	603	4449.3	-6.26
B1-5C6	446	2813.3	-6.16	B1-2C8	529	4000.6	-6.45	C2-11B4	604	4456.4	-6.12
B1-5B6	447	2815.3	-6.46	B1-2B8	530	4005.7	-6.57	C2-11A4	605	4463.5	-6.25
B1-5A6	448	2817.3	-6.32	B1-2A8	531	4010.6	-6.67	C2-11C3	606	4470.8	-5.37
B1-5C5	449	2819.2	-6.39	B1-2C7	532	4015.5	-6.02	C2-11B3	607	4478.0	-5.71
B1-5B5	450	2821.0	-5.98	B1-2B7	533	4020.4	-6.39	C2-11A3	608	4485.5	-5.92
B1-5A5	451	2822.6	-6.04	B1-2A7	534	4025.5	-6.16	C2-11C2	609	4493.0	-5.89
B1-5C4	452	2824.4	-6.06	B1-2C6	535	4030.6	-5.91	C2-11B2	610	4500.4	-5.96
B1-5B4	453	2826.1	-6.20	B1-2B6	536	4035.6	-6.08	C2-11A2	611	4508.2	-5.91
B1-5A4	454	2827.9	-5.98	B1-2A6	537	4040.5	-6.07	C2-11C1	612	4516.1	-5.36
B1-5C3	455	2829.7	-5.87	B1-2C5	538	4045.4	-6.07	C2-11B1	613	4524.3	-5.87
B1-5B3	456	2832.0	-6.23	B1-2B5	539	4050.2	-6.01	C2-11A1	614	4533.0	-5.75
B1-5A3	457	2834.6	-6.09	B1-2A5	540	4055.0	-6.23	C2-10B3	615	4541.7	-5.62
B1-5C2	458	2836.8	-5.92	B1-2C4	541	4059.7	-6.18	C2-10A3	616	4550.3	-5.96
B1-5B2	459	2839.0	-6.07	B1-2B4	542	4064.4	-6.07	C2-10C2	617	4559.2	-5.77
B1-5A2	460	2841.3	-5.84	B1-2A4	543	4069.2	-6.22	C2-10B2	618	4567.1	-6.00
B1-5C1	461	2843.4	-6.17	B1-2C3	544	4073.9	-6.28	C2-10A2	619	4574.5	-6.07
HIATUS				B1-2B3	545	4078.8	-6.23	C2-10C1	620	4581.4	-5.90
B1-4B3	471	3640.6	-6.43	B1-2A3	546	4083.5	-6.27	C2-10B1	621	4587.7	-5.84
B1-4A3	472	3642.0	-6.37	B1-2C2	547	4088.2	-6.17	C2-10A1	622	4593.7	-5.99
B1-4C2	473	3643.5	-6.30	B1-2B2	548	4093.0	-6.20	C2-9C5	623	4599.8	-5.58
B1-4B2	474	3644.9	-6.44	B1-2A2	549	4097.8	-6.28	C2-9B5	624	4605.9	-5.83
B1-4A2	475	3646.2	-6.37	B1-2C1	550	4102.5	-6.43	C2-9A5	625	4611.6	-5.82
B1-4C1	476	3647.8	-6.54	B1-2B1	551	4107.5	-6.28	C2-9C4	626	4617.2	-5.66
B1-4B1	477	3649.6	-6.03	B1-2A1	552	4112.5	-6.37	C2-9B4	627	4622.7	-6.20
B1-4A1	478	3651.9	-6.02	B1-1C3	553	4117.4	-6.20	C2-9A4	628	4628.1	-5.74
B1-3B17	479	3654.8	-5.94	B1-1B3	554	4122.3	-6.25	C2-9C3	629	4633.6	-6.16
B1-3A17	480	3657.6	-6.13	B1-1A3	555	4127.3	-5.98	C2-9B3	630	4638.9	-6.33
B1-3C16	481	3659.8	-6.20	B1-1C2	556	4132.5	-6.10	C2-9A3	631	4644.1	-5.82
B1-3B16	482	3662.9	-6.03	B1-1B2	557	4137.5	-6.21	C2-9C2	632	4649.4	-5.96
B1-3A16	483	3666.0	-5.94	B1-1A2	558	4142.4	-6.00	C2-9B2	633	4654.6	-5.69
B1-3C15	484	3668.7	-6.20	B1-1C1	559	4147.4	-6.06	C2-9A2	634	4659.7	-6.01
B1-3B15	485	3673.0	-5.98	B1-1B1	560	4152.4	-6.04	C2-9C1	635	4664.7	-6.10
B1-3A15	486	3678.8	-6.07	B1-1A1	561	4157.7	-6.10	C2-9B1	636	4669.9	-6.00
B1-3C14	487	3686.1	-6.10	C2-13C7	562	4163.1	-5.91	C2-9A1	637	4675.0	-5.70
B1-3B14	488	3694.0	-6.01	C2-13B7	563	4168.6	-6.04	C2-8C2	638	4679.9	-6.28
B1-3A14	489	3703.6	-6.06	C2-13A7	564	4173.9	-6.01	C2-8B2	639	4684.8	-6.13
B1-3C13	490	3713.9	-6.18	C2-13C6	565	4179.2	-6.22	C2-8A2	640	4689.7	-5.88
B1-3B13	491	3723.4	-6.21	C2-13B6	566	4184.6	-6.11	C2-8C1	641	4694.6	-6.08
B1-3A13	492	3732.2	-6.11	C2-13A6	567	4190.2	-5.92	C2-8B1	642	4699.6	-5.99
B1-3C12	493	3740.6	-6.19	C2-13C5	568	4195.9	-5.89	C2-8A1	643	4704.6	-5.99
B1-3B12	494	3748.8	-5.91	C2-13B5	569	4201.6	-5.61	C2-7B4	644	4709.3	-5.95
B1-3A12	495	3756.8	-6.13	C2-13A5	570	4207.6	-5.87	C2-7A4	645	4713.9	-5.79
B1-3C11	496	3764.5	-5.98	C2-13C4	571	4213.6	-5.92	C2-7C3	646	4718.7	-6.02
B1-3B11	497	3772.0	-5.76	C2-13B4	572	4219.7	-5.83	C2-7B3	647	4723.7	-5.98
B1-3A11	498	3779.5	-5.82	C2-13A4	573	4226.1	-5.93	C2-7A3	648	4728.5	-5.82
B1-3C10	499	3787.1	-5.93	C2-13C3	574	4233.4	-5.87	C2-7C2	649	4733.4	-6.19
B1-3B10	500	3794.9	-6.00	C2-13B3	575	4241.4	-5.71	C2-7B2	650	4738.1	-6.00
B1-3A10	501	3802.4	-5.91	C2-13A3	576	4249.9	-5.70	C2-7A2	651	4742.8	-6.01
B1-3C9	502	3810.1	-6.30	C2-13C2	577	4258.5	-5.82	C2-7C1	652	4747.5	-6.25

C2-7B1	653	4752.3	-5.45	C2-5A5	728	5633.1	-6.21	C2-1A9	803	6158.0	-6.54
C2-7A1	654	4757.3	-6.05	C2-5C4	729	5638.9	-5.67	C2-1C8	804	6168.9	-6.28
C2-6C11	655	4762.0	-5.63	C2-5B4	730	5644.5	-5.86	C2-1B8	805	6179.8	-6.13
C2-6B11	656	4766.5	-5.83	C2-5A4	731	5650.0	-5.91	C2-1A8	806	6191.3	-6.34
C2-6A11	657	4771.4	-5.59	C2-5C3	732	5655.4	-5.94	C2-1C7	807	6202.5	-6.05
C2-6C10	658	4776.1	-5.73	C2-5B3	733	5660.9	-5.80	C2-1B7	808	6213.7	-6.00
C2-6B10	659	4780.8	-5.92	C2-5A3	734	5666.0	-6.07	C2-1A7	809	6224.9	-6.20
C2-6A10	660	4785.6	-5.47	C2-5C2	735	5671.0	-5.87	C2-1C6	810	6236.1	-6.50
C2-6C9	661	4790.5	-5.94	C2-5B2	736	5676.0	-6.19	C2-1B6	811	6247.3	-6.39
C2-6B9	662	4795.4	-6.04	C2-5A2	737	5681.0	-6.30	C2-1A6	812	6258.2	-6.13
C2-6A9	663	4800.1	-5.78	C2-5C2	738	5686.0	-5.81	C2-1C5	813	6269.6	-6.26
C2-6C8	664	4804.8	-6.17	C2-5B1	739	5690.9	-6.39	C2-1B5	814	6281.1	-6.25
C2-6B8	665	4809.7	-5.72	C2-5A1	740	5695.8	-6.14	C2-1A5	815	6293.0	-6.16
C2-6A8	666	4814.6	-6.11	C2-4C5	741	5700.5	-6.26	C2-1C4	816	6304.8	-6.21
C2-6C7	667	4819.4	-6.04	C2-4B5	742	5705.2	-6.15	C2-1B4	817	6316.6	-6.32
C2-6B7	668	4824.3	-6.29	C2-4A5	743	5710.1	-6.11	C2-1A4	818	6328.1	-6.06
C2-6A7	669	4829.3	-5.97	C2-4C4	744	5714.9	-6.02	C2-1C3	819	6340.5	-6.18
C2-6C6	670	4834.1	-6.21	C2-4B4	745	5719.6	-5.88	C2-1B3	820	6353.1	-6.21
C2-6B6	671	4839.1	-6.10	C2-4A4	746	5724.4	-6.32	C2-1A3	821	6366.2	-6.15
C2-6A6	672	4844.3	-5.96	C2-4C3	747	5729.2	-6.54	C2-1C2	822	6379.8	-6.08
C2-6C5	673	4849.6	-5.73	C2-4B3	748	5734.0	-6.21	C2-1B2	823	6393.8	-6.28
C2-6B5	674	4854.5	-6.16	C2-4A3	749	5738.9	-6.23	C2-1A2	824	6407.7	-6.21
C2-6A5	675	4859.6	-6.66	C2-4C2	750	5743.8	-6.19	C2-1C1	825	6421.7	-6.18
C2-6C4	676	4864.7	-6.27	C2-4B2	751	5748.7	-5.86	C2-1B1	826	6436.2	-6.32
C2-6B4	677	4869.9	-5.96	C2-4A2	752	5753.7	-6.14	C2-1A1	827	6450.8	-5.83
C2-6A4	678	4875.3	-5.90	C2-4C2	753	5758.6	-6.32	HIATUS			
C2-6C3	679	4880.7	-5.67	C2-4B1	754	5763.4	-6.38	C1-2C8	828	8537.3	-5.55
C2-6B3	680	4886.2	-5.79	C2-4A1	755	5768.1	-6.29	C1-2B8	829	8545.0	-5.51
C2-6C2	681	4891.7	-6.04	C2-3C6	756	5772.8	-6.02	C1-2A8	830	8553.0	-5.69
C2-6B2	682	4897.2	-5.57	C2-3B6	757	5777.5	-5.96	C1-2C7	831	8560.9	-5.92
C2-6A2	683	4902.7	-5.88	C2-3A6	758	5782.3	-6.14	C1-2B7	832	8568.8	-5.98
C2-6C1	684	4908.7	-6.04	C2-3C5	759	5787.1	-5.95	C1-2A7	833	8576.5	-6.03
C2-6B1	685	4914.5	-5.61	C2-3B5	760	5792.0	-5.90	C1-2C6	834	8583.9	-5.47
C2-6A1	686	4920.3	-5.98	C2-3A5	761	5797.0	-6.27	C1-2B6	835	8591.1	-5.38
C2-5C18	687	4926.7	-5.58	C2-3C4	762	5802.0	-6.39	C1-2A6	836	8598.2	-5.40
C2-5B18	688	4933.6	-5.96	C2-3B4	763	5807.0	-5.87	C1-2C5	837	8604.7	-5.82
C2-5A18	689	4941.0	-6.27	C2-3A4	764	5812.0	-6.01	C1-2B5	838	8611.1	-5.83
C2-5C17	690	4951.6	-5.94	C2-3C3	765	5816.8	-6.19	C1-2A5	839	8617.3	-5.13
C2-5B17	691	4964.6	-6.04	C2-3B3	766	5821.7	-5.95	C1-2C4	840	8623.4	-5.46
C2-5A17	692	4979.2	-6.28	C2-3A3	767	5826.7	-6.29	C1-2B4	841	8629.3	-5.58
C2-5C16	693	4994.7	-5.45	C2-3C2	768	5831.9	-6.03	C1-2A4	842	8635.2	-5.58
C2-5B16	694	5009.5	-5.69	C2-3B2	769	5837.0	-6.32	C1-2C3	843	8640.8	-5.49
C2-5A16	695	5023.8	-5.99	C2-3A2	770	5842.0	-6.02	C1-2B3	844	8646.2	-5.67
C2-5C15	696	5037.9	-5.54	C2-3C1	771	5847.0	-6.35	C1-2A3	845	8651.8	-5.69
C2-5B15	697	5051.7	-5.84	C2-3B1	772	5852.2	-6.16	C1-2C2	846	8657.2	-6.00
C2-5A15	698	5065.3	-5.82	C2-3A1	773	5857.5	-5.78	C1-2B2	847	8662.6	-5.97
C2-5C14	699	5078.6	-5.85	C2-2C5	774	5863.0	-6.13	C1-2A2	848	8668.0	-5.35
C2-5B14	700	5092.1	-5.69	C2-2B5	775	5868.6	-6.13	C1-2C1	849	8673.4	-5.63
C2-5A14	701	5105.1	-5.80	C2-2A5	776	5874.4	-6.28	C1-2B1	850	8678.5	-5.66
C2-5C13	702	5118.2	-5.80	C2-2C4	777	5880.2	-6.02	C1-2A1	851	8683.5	-5.73
C2-5B13	703	5131.8	-6.08	C2-2B4	778	5886.3	-5.67	C1-1C6	852	8688.7	-5.48
C2-5A13	704	5146.0	-6.19	C2-2A4	779	5892.6	-6.44	C1-1B6	853	8693.9	-5.21
C2-5C12	705	5160.5	-6.09	C2-2C3	780	5899.1	-6.40	C1-1A6	854	8699.3	-5.43
C2-5B12	706	5175.3	-5.85	C2-2B3	781	5905.8	-6.02	C1-1C5	855	8704.3	-5.24
C2-5A12	707	5191.2	-5.63	C2-2A3	782	5912.7	-6.34	C1-1B5	856	8709.3	-5.92
C2-5C11	708	5208.7	-5.71	C2-2C2	783	5920.2	-5.97	C1-1A5	857	8714.2	-5.40
C2-5B11	709	5228.0	-6.12	C2-2B2	784	5928.6	-6.14	C1-1C4	858	8719.1	-5.92
C2-5A11	710	5257.4	-6.18	C2-2A2	785	5938.3	-6.22	C1-1A4	859	8724.4	-5.87
C2-5C10	711	5288.8	-5.76	C2-2C1	786	5950.8	-6.34	C1-1C3	860	8729.6	-5.35
C2-5B10	712	5321.4	-5.87	C2-2B1	787	5964.3	-6.30	C1-1B3	861	8734.6	-5.50
C2-5A10	713	5352.5	-5.84	C2-2A1	788	5978.4	-6.19	C1-1A3	862	8739.7	-5.46
C2-5C9	714	5383.2	-5.93	C2-1C13	789	5993.2	-6.03	C1-1C2	863	8744.8	-5.36
C2-5B9	715	5413.9	-5.71	C2-1B13	790	6007.4	-6.37	C1-1B2	864	8750.1	-5.52
C2-5A9	716	5444.9	-6.02	C2-1A13	791	6021.2	-6.23	C1-1A2	865	8755.3	-5.90
C2-5C8	717	5476.6	-6.09	C2-1C12	792	6034.1	-6.12	C1-1C1	866	8760.6	-5.72
C2-5B8	718	5508.4	-5.92	C2-1B12	793	6045.8	-6.29	C1-1B1	867	8766.0	-5.64
C2-5A8	719	5540.2	-5.79	C2-1A12	794	6057.5	-6.31	C1-1A1	868	8771.4	-5.40
C2-5C7	720	5563.3	-5.82	C2-1C11	795	6069.6	-6.43	D1-13A6	869	8776.9	-5.63
C2-5B7	721	5580.7	-5.79	C2-1B11	796	6081.0	-6.65	D1-13C5	870	8782.3	-5.74
C2-5A7	722	5593.2	-5.64	C2-1A11	797	6092.7	-6.56	D1-13B5	871	8787.9	-5.93
C2-5C6	723	5601.3	-5.93	C2-1C10	798	6104.3	-6.44	D1-13A5	872	8793.5	-5.59
C2-5B6	724	5608.3	-5.84	C2-1B10	799	6115.3	-6.63	D1-13C4	873	8799.2	-5.71
C2-5A6	725	5614.8	-5.87	C2-1A10	800	6125.9	-6.08	D1-13B4	874	8805.1	-5.81
C2-5C5	726	5621.3	-6.03	C2-1C9	801	6136.4	-6.06	D1-13A4	875	8811.1	-5.87
C2-5B5	727	5627.3	-5.84	C2-1B9	802	6147.2	-6.34	D1-13C3	876	8817.6	-6.18

D1-13B3	877	8824.3	-5.63	D1-9C4	952	9491.8	-4.98	D1-6C4	1027	10278.5	-4.69
D1-13A3	878	8831.0	-5.81	D1-9B4	953	9506.9	-5.18	D1-6B4	1028	10287.4	-4.87
D1-13C2	879	8838.1	-5.83	D1-9A4	954	9523.6	-4.94	D1-6A4	1029	10296.1	-4.91
D1-13B2	880	8845.5	-5.46	D1-9C3	955	9541.2	-4.98	D1-6C3	1030	10305.0	-5.00
D1-13A2	881	8853.9	-5.73	D1-9B3	956	9559.9	-5.01	D1-6B3	1031	10313.8	-4.89
D1-13C1	882	8862.3	-5.72	D1-9A3	957	9579.6	-4.83	D1-6A3	1032	10322.6	-4.79
D1-13B1	883	8870.7	-5.84	D1-9C2	958	9599.3	-4.98	D1-6C2	1033	10331.6	-4.97
D1-13A1	884	8878.6	-5.50	D1-9B2	959	9617.3	-5.16	D1-6B2	1034	10340.7	-4.89
D1-12C3	885	8886.2	-5.83	D1-9A2	960	9634.5	-5.15	D1-6A2	1035	10349.7	-5.00
D1-12B3	886	8893.4	-5.37	D1-9C1	961	9650.1	-4.98	D1-6C1	1036	10358.7	-5.07
D1-12A3	887	8900.6	-5.61	D1-9B1	962	9665.2	-5.08	D1-6B1	1037	10367.7	-4.78
D1-12C2	888	8907.5	-5.60	D1-9A1	963	9680.1	-5.22	D1-6A1	1038	10376.8	-4.75
D1-12B2	889	8914.2	-5.77	D1-8C8	964	9694.6	-4.79	D1-5C6	1039	10386.3	-5.06
D1-12A2	890	8920.6	-5.44	D1-8B8	965	9709.3	-4.78	D1-5B6	1040	10396.0	-4.71
D1-12C1	891	8927.0	-5.57	D1-8A8	966	9724.0	-4.87	D1-5A6	1041	10406.0	-5.02
D1-12B1	892	8933.1	-5.45	D1-8C7	967	9738.9	-4.94	D1-5C5	1042	10416.5	-4.99
D1-12A1	893	8938.9	-5.63	D1-8B7	968	9753.6	-4.91	D1-5B5	1043	10427.3	-4.67
D1-11C6	894	8944.7	-5.73	D1-8A7	969	9768.5	-4.73	D1-5A5	1044	10438.5	-4.84
D1-11B6	895	8950.5	-5.81	D1-8C6	970	9783.7	-4.95	D1-5C4	1045	10450.1	-4.89
D1-11A6	896	8956.3	-5.81	D1-8B6	971	9799.6	-5.25	D1-5B4	1046	10462.4	-4.80
D1-11C5	897	8962.0	-5.69	D1-8A6	972	9816.5	-5.31	D1-5A4	1047	10475.1	-5.04
D1-11B5	898	8967.4	-5.29	D1-8C5	973	9834.3	-5.10	D1-5C3	1048	10488.0	-4.93
D1-11A5	899	8973.0	-5.67	D1-8B5	974	9850.3	-5.12	D1-5B3	1049	10497.7	-4.80
D1-11C4	900	8978.9	-5.93	D1-8A5	975	9865.4	-5.13	D1-5A3	1050	10506.6	-4.95
D1-11B4	901	8984.6	-5.72	D1-8C4	976	9874.3	-5.01	D1-5C2	1051	10514.0	-4.93
D1-11A4	902	8990.3	-5.89	D1-8B4	977	9882.7	-4.88	D1-5B2	1052	10520.9	-4.97
D1-11C3	903	8995.9	-5.97	D1-8A4	978	9889.8	-4.97	D1-5A2	1053	10527.5	-4.81
D1-11B3	904	9001.7	-5.46	D1-8C3	979	9896.5	-4.65	D1-5C1	1054	10533.9	-5.21
D1-11A3	905	9007.4	-5.60	D1-8B3	980	9903.0	-4.86	D1-5B1	1055	10540.0	-4.76
D1-11C2	906	9013.1	-5.68	D1-8A3	981	9909.0	-5.18	D1-5A1	1056	10545.9	-4.98
D1-11B2	907	9018.6	-5.49	D1-8C2	982	9914.9	-5.31	D1-4C6	1057	10551.6	-4.94
D1-11A2	908	9024.5	-5.23	D1-8B2	983	9920.7	-5.19	D1-4B6	1058	10557.3	-5.18
D1-11C1	909	9030.2	-5.60	D1-8A2	984	9926.5	-5.14	D1-4A6	1059	10563.1	-5.18
D1-11B1	910	9036.0	-5.49	D1-8C1	985	9932.3	-5.39	D1-4C5	1060	10568.8	-5.07
D1-11A1	911	9041.8	-5.63	D1-8B1	986	9937.9	-5.33	D1-4B5	1061	10574.0	-4.86
D1-10A11	912	9047.7	-5.33	D1-8A1	987	9943.5	-4.83	D1-4A5	1062	10579.3	-5.04
D1-10C10	913	9053.6	-5.45	D1-7C13	988	9949.2	-4.78	D1-4C4	1063	10584.6	-4.87
D1-10B10	914	9059.4	-5.34	D1-7B13	989	9954.9	-4.99	D1-4B4	1064	10589.7	-4.93
D1-10A10	915	9065.0	-5.39	D1-7A13	990	9960.5	-5.01	D1-4A4	1065	10594.6	-5.00
D1-10C9	916	9070.7	-5.51	D1-7C12	991	9966.0	-4.88	D1-4C3	1066	10599.5	-5.00
D1-10B9	917	9076.4	-5.49	D1-7B12	992	9971.6	-4.74	D1-4B3	1067	10604.5	-4.93
D1-10A9	918	9082.5	-5.33	D1-7A12	993	9977.3	-4.99	D1-4A3	1068	10609.8	-4.99
D1-10C8	919	9088.7	-5.52	D1-7C11	994	9983.0	-4.92	D1-4C2	1069	10615.0	-5.00
D1-10B8	920	9094.9	-5.52	D1-7B11	995	9988.8	-5.20	D1-4B2	1070	10620.1	-4.93
D1-10A8	921	9101.2	-5.61	D1-7A11	996	9994.5	-4.86	D1-4A2	1071	10625.2	-5.18
D1-10C7	922	9107.7	-5.55	D1-7C10	997	10000.4	-4.94	D1-4C1	1072	10630.3	-4.78
D1-10B7	923	9114.3	-5.58	D1-7B10	998	10006.5	-4.99	D1-4B1	1073	10635.3	-4.94
D1-10A7	924	9121.2	-5.38	D1-7A10	999	10012.7	-4.62	D1-4A1	1074	10640.2	-4.78
D1-10C6	925	9128.9	-5.18	D1-7C9	1000	10019.3	-4.72	D1-3B4	1075	10645.2	-4.88
D1-10B6	926	9136.9	-5.38	D1-7B9	1001	10026.3	-4.78	D1-3A4	1076	10650.1	-4.76
D1-10A6	927	9145.7	-5.45	D1-7A9	1002	10033.9	-4.80	D1-3C3	1077	10655.0	-5.04
D1-10C5	928	9157.6	-5.60	D1-7C8	1003	10042.4	-4.96	D1-3B3	1078	10659.9	-4.86
D1-10B5	929	9171.3	-5.30	D1-7B8	1004	10051.4	-4.87	D1-3A3	1079	10664.8	-4.85
D1-10A5	930	9187.7	-5.31	D1-7A8	1005	10061.6	-4.84	D1-3C2	1080	10669.5	-4.85
D1-10C4	931	9204.3	-5.56	D1-7C7	1006	10072.9	-4.85	D1-3B2	1081	10674.5	-4.74
D1-10B4	932	9220.2	-5.49	D1-7B7	1007	10085.4	-4.91	D1-3A2	1082	10679.6	-4.81
D1-10A4	933	9235.3	-5.64	D1-7A7	1008	10097.5	-4.43	D1-3C1	1083	10684.9	-4.83
D1-10C3	934	9249.5	-5.57	D1-7C6	1009	10109.6	-4.50	D1-3B1	1084	10690.1	-4.91
D1-10B3	935	9263.5	-5.76	D1-7B6	1010	10120.5	-4.63	D1-3A1	1085	10695.1	-4.65
D1-10A3	936	9277.4	-5.50	D1-7A6	1011	10131.1	-4.60	D1-2C13	1086	10700.1	-4.46
D1-10C2	937	9291.1	-5.40	D1-7C5	1012	10141.1	-4.93	D1-2B13	1087	10705.3	-4.37
D1-10B2	938	9304.7	-5.60	D1-7B5	1013	10150.8	-4.74	D1-2A13	1088	10710.4	-4.38
D1-10A2	939	9317.9	-5.57	D1-7A5	1014	10160.5	-4.64	D1-2C12	1089	10715.5	-4.51
D1-10C1	940	9331.1	-5.62	D1-7C4	1015	10170.1	-4.81	D1-2B12	1090	10720.6	-4.20
D1-10B1	941	9344.2	-5.73	D1-7B4	1016	10179.6	-4.86	D1-2A12	1091	10725.6	-4.26
D1-10A1	942	9357.5	-5.57	D1-7A4	1017	10188.9	-4.99	D1-2C11	1092	10730.7	-4.21
D1-9C7	943	9370.5	-5.67	D1-7C3	1018	10198.1	-5.00	D1-2B11	1093	10736.0	-4.31
D1-9B7	944	9383.4	-5.78	D1-7B3	1019	10207.3	-5.00	D1-2A11	1094	10741.3	-4.60
D1-9A7	945	9396.2	-5.53	D1-7A3	1020	10216.2	-4.75	D1-2C10	1095	10746.4	-4.38
D1-9C6	946	9409.1	-5.40	D1-7C2	1021	10224.9	-4.49	D1-2B10	1096	10751.7	-4.57
D1-9B6	947	9422.4	-5.28	D1-7B2	1022	10233.8	-4.76	D1-2A10	1097	10757.1	-4.55
D1-9A6	948	9435.8	-5.10	D1-7A2	1023	10242.7	-4.88	D1-2C9	1098	10762.8	-4.36
D1-9C5	949	9449.2	-5.17	D1-7C1	1024	10251.6	-4.71	D1-2A9	1099	10768.5	-4.42
D1-9B5	950	9463.1	-5.20	D1-7B1	1025	10260.6	-4.78	D1-2C8	1100	10774.2	-4.51
D1-9A5	951	9477.2	-5.22	D1-7A1	1026	10269.4	-4.89	D1-2B8	1101	10780.2	-4.33

D1-2A8	1102	10786.8	-4.74
D1-2C7	1103	10793.5	-4.50
D1-2B7	1104	10800.2	-4.48
D1-2A7	1105	10808.0	-4.38
D1-2C6	1106	10816.3	-4.29
D1-2B6	1107	10825.9	-4.27
D1-2A6	1108	10843.2	-4.38
D1-2C5	1109	10865.2	-4.22
D1-2B5	1110	10892.5	-4.69
D1-2A5	1111	10919.6	-4.11
D1-2C4	1112	10945.0	-4.33
D1-2B4	1113	10969.3	-4.50
D1-2A4	1114	10992.6	-4.50
D1-2C3	1115	11015.2	-4.58
D1-2B3	1116	11037.8	-4.44
D1-2A3	1117	11060.4	-4.19
D1-2C2	1118	11082.9	-4.31
D1-2B2	1119	11105.1	-4.26
D1-2A2	1120	11127.3	-4.34
D1-2C1	1121	11149.6	-4.34
D1-2B1	1122	11172.3	-4.31
D1-2A1	1123	11195.3	-4.31
D1-1C10	1124	11218.8	-4.31
D1-1B10	1125	11243.6	-4.20
D1-1A10	1126	11269.0	-4.16
D1-1C9	1127	11298.1	-4.29
D1-1B9	1128	11326.1	-4.22
D1-1A9	1129	11349.9	-4.24
D1-1C8	1130	11366.5	-4.40
D1-1B8	1131	11377.0	-4.13
D1-1A8	1132	11385.2	-4.40
D1-1C7	1133	11392.7	-4.17
D1-1B7	1134	11398.8	-4.20
D1-1A7	1135	11404.9	-4.24
D1-1C6	1136	11411.1	-4.27
D1-1B6	1137	11416.9	-4.13
D1-1A6	1138	11422.6	-4.43
D1-1C5	1139	11428.2	-4.42
D1-1B5	1140	11433.7	-4.42
D1-1A5	1141	11438.7	-4.19
D1-1C4	1142	11443.9	-4.28
D1-1B4	1143	11449.1	-4.36
D1-1A4	1144	11454.3	-4.16
D1-1C3	1145	11459.6	-4.34
D1-1B3	1146	11464.6	-4.56
D1-1A3	1147	11469.6	-4.57
D1-1C2	1148	11474.6	-4.44
D1-1B2	1149	11479.7	-4.65
D1-1A2	1150	11485.0	-4.34
D1-1C1	1151	11490.5	-4.59
D1-1B1	1152	11496.1	-4.57
D1-1A1	1153	11501.8	-4.69
E1-4C11	1154	11507.4	-4.63
E1-4B11	1155	11513.1	-4.28
E1-4A11	1156	11519.9	-4.56
E1-4C10	1157	11527.2	-4.20
E1-4B10	1158	11535.7	-4.34
E1-4A10	1159	11545.6	-4.23
E1-4C9	1160	11556.1	-4.44
E1-4B9	1161	11568.4	-4.53
E1-4A9	1162	11581.0	-4.76
E1-4C8	1163	11594.9	-4.89
E1-4B8	1164	11608.1	-4.46
E1-4A8	1165	11620.9	-4.55
E1-4C7	1166	11633.4	-4.43
E1-4B7	1167	11645.8	-4.15
E1-4A7	1168	11657.8	-4.52
E1-4C6	1169	11669.4	-4.67
E1-4B6	1170	11680.4	-4.51
E1-4A6	1171	11691.6	-4.48
E1-4C5	1172	11702.7	-4.48
E1-4B5	1173	11713.8	-4.64
E1-4A5	1174	11724.5	-4.67
E1-4C4	1175	11735.0	-4.32
E1-4B4	1176	11745.7	-4.77

E1-4A4	1177	11756.4	-4.83
E1-4C3	1178	11766.9	-4.58
E1-4B3	1179	11777.4	-4.81
E1-4A3	1180	11787.9	-4.84
E1-4C2	1181	11798.1	-4.77
E1-4B2	1182	11808.2	-4.92
E1-4A2	1183	11818.8	-4.77
E1-4C1	1184	11829.1	-4.86
E1-4B1	1185	11839.3	-4.84
E1-4A1	1186	11849.5	-4.65
E1-3C4	1187	11859.9	-4.89
E1-3B4	1188	11870.8	-4.76
E1-3A4	1189	11881.6	-4.86
E1-3C3	1190	11892.3	-4.59
E1-3B3	1191	11902.9	-4.74
E1-3A3	1192	11913.9	-4.83
E1-2C10	1193	11925.0	-4.83
E1-2B10	1194	11936.3	-4.77
E1-2A10	1195	11947.5	-4.61
E1-2C9	1196	11958.8	-4.96
E1-2B9	1197	11970.3	-4.74
E1-2A9	1198	11982.7	-4.69
E1-2C8	1199	11995.9	-4.63
E1-2B8	1200	12009.3	-4.97
E1-2A8	1201	12023.2	-4.93
E1-2C7	1202	12038.7	-4.92
E1-2B7	1203	12054.6	-5.05
E1-2A7	1204	12070.9	-5.11
E1-2C6	1205	12087.1	-4.71
E1-2B6	1206	12102.9	-4.58
E1-2A6	1207	12116.9	-4.45
E1-2C5	1208	12130.5	-4.90
E1-2B5	1209	12143.7	-4.85
E1-2A5	1210	12156.3	-5.03
E1-2C4	1211	12168.9	-4.63
E1-2B4	1212	12180.9	-5.09
E1-2A4	1213	12193.0	-5.06
E1-2C3	1214	12204.7	-4.96
E1-2B3	1215	12216.5	-4.95
E1-2A3	1216	12228.2	-4.84
E1-2C2	1217	12240.1	-5.05
E1-2B2	1218	12251.8	-5.02
E1-2A2	1219	12263.9	-4.88
E1-1C10	1220	12276.0	-4.54
E1-1B10	1221	12288.3	-4.77
E1-1A10	1222	12300.6	-4.54
E1-1C9	1223	12313.0	-4.98
E1-1B9	1224	12325.5	-4.89
E1-1A9	1225	12338.4	-4.69
E1-1C8	1226	12351.7	-4.82
E1-1B8	1227	12365.8	-4.49
E1-1A8	1228	12380.2	-4.80
E1-1C7	1229	12396.0	-4.68
E1-1B7	1230	12412.1	-4.41
E1-1A7	1231	12428.8	-4.56
E1-1C6	1232	12445.0	-4.55
E1-1B6	1233	12460.7	-4.65
E1-1A6	1234	12473.9	-4.69
E1-1C5	1235	12486.3	-4.31
E1-1B5	1236	12497.3	-4.50
E1-1A5	1237	12507.7	-4.42
E1-1C4	1238	12517.8	-4.60
E1-1B4	1239	12527.8	-4.37
E1-1A4	1240	12537.9	-4.65
E1-1C3	1241	12547.6	-4.55
E1-1B3	1242	12557.5	-4.28
E1-1A3	1243	12567.8	-4.35
E1-1C2	1244	12578.5	-4.70
E1-1B2	1245	12589.7	-4.06
E1-1A2	1246	12602.9	-4.53
E1-1C1	1247	12617.4	-4.82
E1-1B1	1248	12633.9	-4.24
E1-1A1	1249	12649.8	-4.49

Table S5: Same as Table S4 but for stalagmite LR06-B3

Sample i.d.	Depth (mm)	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)	Sample i.d.	Depth (mm)	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)	Sample i.d.	Depth (mm)	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)
LR06-B3				D-AB-a1	615.8	5033.7	-6.24	F-AB-a11	1259.5	8648.9	-5.75
A-AB-a0	1.25	-39.3	-6.06	D-AB-a2	625.9	5084.4	-6.22	F-AB-a12	1269.5	8712.5	-5.92
A-AB-a1	7.75	48.1	-6.35	D-AB-a3	636.1	5138.7	-6.18	F-AB-b1	1279.7	8793.6	-5.76
A-AB-a2	18.25	102.7	-6.25	D-AB-a4	646.3	5208.5	-6.14	F-AB-b2	1290.1	8848.7	-5.75
A-AB-a3	28.75	143.4	-6.17	D-AB-a5	656.4	5269.1	-6.25	F-AB-b3	1300.6	8902.3	-5.49
A-AB-b1	38.9	181.8	-6.08	D-AB-a6	666.6	5321.9	-6.36	F-AB-b4	1311.1	8979.8	-5.57
A-AB-b2	48.67	219.0	-6.02	D-AB-a7	676.8	5374.7	-6.25	F-AB-b5	1321.5	9040.7	-5.70
A-AB-b3	58.45	257.1	-6.04	D-AB-a8	686.9	5448.5	-6.18	F-AB-b6	1332.0	9101.7	-5.49
A-AB-b4	68.23	302.9	-6.24	D-AB-a9	697.1	5531.7	-6.22	F-AB-b7	1342.4	9167.9	-5.40
A-AB-b5	78.01	366.2	-6.61	D-AB-a10	707.3	5602.1	-6.22	F-AB-b8	1352.9	9229.7	-5.45
A-AB-b6	87.79	439.8	-6.39	D-AB-a11	717.5	5671.2	-6.29	F-AB-c1	1363.6	9250.3	-5.47
A-AB-b7	97.57	535.5	-6.23	D-AB-a12	727.6	5739.0	-6.44	F-AB-c2	1374.4	9273.9	-5.24
A-AB-b8	107.35	624.0	-5.98	D-AB-a13	737.8	5808.8	-6.39	F-AB-c3	1385.3	9344.4	-5.40
A-AB-b9	117.13	710.2	-6.06	D-AB-a14	748.0	5881.7	-6.16	G-AB-a0	1391.2	9378.0	-5.19
A-AB-b10	126.91	797.1	-5.98	D-AB-b1	758.2	5972.2	-6.14	G-AB-a1	1398.7	9421.0	-5.17
A-AB-b11	136.69	889.9	-5.82	D-AB-b2	768.5	6054.9	-6.31	G-AB-a2	1408.9	9510.7	-5.10
A-AB-b12	146.47	988.8	-6.04	D-AB-b3	778.9	6168.6	-6.09	G-AB-b1	1419.0	9615.7	-5.25
A-AB-b13	156.25	1066.9	-6.14	D-AB-b4	789.2	6258.5	-6.34	G-AB-b2	1429.1	9704.9	-5.06
A-AB-b14	166.03	1139.8	-6.04	D-AB-b5	799.5	6338.8	-6.17	G-AB-b3	1439.2	9792.5	-5.14
A-AB-b15	175.81	1211.0	-6.11	D-AB-b6	809.8	6415.7	-6.27	G-AB-b4	1449.3	9880.7	-5.04
A-AB-b16	185.59	1282.9	-6.08	E-AB-a1	819.5	6486.7	-6.41	G-AB-b5	1459.4	9967.7	-4.94
A-AB-b17	195.37	1357.2	-6.10	E-AB-a2	829.5	6569.7	-6.35	G-AB-b6	1469.5	10061.4	-4.90
A-AB-b18	205.15	1436.2	-5.96	E-AB-a3	839.5	6645.6	-6.34	H-AB-a0	1475.1	10124.3	-4.78
A-AB-c1	214.985	1526.6	-6.10	E-AB-a4	849.5	6693.7	-6.13	H-AB-a1	1482.4	10203.0	-4.90
A-AB-c2	224.875	1607.0	-6.29	E-AB-a5	859.6	6736.3	-6.23	H-AB-b0	1491.8	10278.6	-4.95
A-AB-c3	234.765	1682.7	-6.40	E-AB-a6	869.6	6776.6	-6.31	H-AB-b1	1499.3	10331.1	-4.85
A-AB-c4	244.655	1756.3	-6.37	E-AB-a7	879.6	6816.6	-6.32	H-AB-b2	1509.5	10399.4	-4.86
A-AB-c5	254.545	1829.7	-6.27	E-AB-a8	889.6	6855.9	-5.93	H-AB-b3	1519.6	10465.6	-4.74
A-AB-c6	264.435	1906.5	-6.32	E-AB-a9	899.6	6896.2	-6.26	H-AB-b4	1529.8	10535.1	-4.85
A-AB-d1	274.34	1990.5	-6.23	E-AB-a10	909.7	6937.2	-6.05	H-AB-b5	1539.9	10607.6	-4.81
A-AB-d2	284.26	2066.4	-6.31	E-AB-a11	919.7	6979.1	-6.14	H-AB-c1	1550.2	10699.9	-4.63
A-AB-d3	294.18	2120.1	-6.37	E-AB-a12	929.7	7027.5	-6.37				
A-AB-d4	304.1	2173.1	-6.23	E-AB-a13	939.7	7091.8	-6.32				
A-AB-d5	314.02	2235.5	-5.97	E-AB-a14	949.7	7151.8	-6.09				
A-AB-d6	323.94	2329.4	-6.32	E-AB-a15	959.8	7204.0	-6.12				
A-AB-d7	333.86	2412.1	-6.35	E-AB-a16	969.8	7254.6	-6.11				
A-AB-d8	343.78	2490.3	-6.04	E-AB-a17	979.8	7304.1	-6.21				
A-AB-d9	353.7	2568.1	-6.16	E-AB-a18	989.8	7353.3	-6.26				
A-AB-d10	363.62	2647.1	-6.14	E-AB-a19	999.8	7402.7	-6.22				
B-AB-a0	366.1	2666.6	-5.99	E-AB-a20	1009.9	7451.2	-6.17				
B-AB-a1	372.7	2719.0	-6.13	E-AB-a21	1019.9	7500.0	-6.23				
B-AB-a2	382.9	2806.3	-6.05	E-AB-b1	1029.8	7550.3	-6.25				
B-AB-a3	393.1	2928.8	-6.04	E-AB-b2	1039.7	7605.4	-6.12				
B-AB-a4	403.3	3056.9	-6.11	E-AB-b3	1049.5	7668.5	-6.09				
B-AB-a5	413.5	3168.8	-6.23	E-AB-b4	1059.3	7724.6	-6.13				
B-AB-a6	423.7	3279.1	-6.02	E-AB-b5	1069.2	7761.3	-6.20				
B-AB-a7	433.9	3398.6	-6.03	E-AB-b6	1079.0	7794.1	-6.23				
B-AB-a8	444.1	3538.9	-6.02	E-AB-b7	1088.9	7825.5	-6.22				
B-AB-a9	454.3	3637.0	-6.07	E-AB-b8	1098.7	7857.5	-5.80				
B-AB-a10	464.5	3725.7	-6.23	E-AB-b9	1108.5	7908.7	-5.86				
B-AB-a11	474.7	3814.5	-6.25	E-AB-b10	1118.4	7991.9	-6.09				
B-AB-a12	484.9	3917.3	-6.32	E-AB-b11	1128.2	8063.4	-5.96				
C-AB-a0	490.5	3956.7		E-AB-b12	1138.1	8147.0	-5.83				
C-AB-a1	498.2	3997.2	-6.36	E-AB-b13	1147.9	8178.6	-5.76				
C-AB-a2	508.8	4086.3	-6.40	F-AB-a0	1152.3	8188.2	-5.97				
C-AB-a3	519.3	4205.3	-6.26	F-AB-a1	1159.8	8203.6	-5.82				
C-AB-a4	529.8	4312.9	-6.14	F-AB-a2	1169.8	8224.2	-5.77				
C-AB-a5	540.4	4417.6	-6.23	F-AB-a3	1179.7	8244.9	-5.73				
C-AB-b1	550.8	4520.2	-6.17	F-AB-a4	1189.7	8267.6	-5.83				
C-AB-b2	561.1	4623.2	-6.11	F-AB-a5	1199.7	8292.9	-5.43				
C-AB-b3	571.5	4732.9	-6.00	F-AB-a6	1209.6	8330.9	-5.37				
C-AB-b4	581.8	4849.2	-5.99	F-AB-a7	1219.6	8409.1	-5.63				
C-AB-b5	592.2	4912.4	-6.25	F-AB-a8	1229.6	8472.3	-5.73				
C-AB-b6	602.5	4966.3	-6.16	F-AB-a9	1239.6	8532.8	-5.72				
D-AB-a0	608.2	4995.2	-6.15	F-AB-a10	1249.5	8589.8	-5.80				

Table S6: Summary of the spliced $\delta^{18}\text{O}$ record from stalagmites LR06-B1 (blue shading) and LR06-B3 (orange shading). Results were normalized to the Vienna Pee Dee Belemnite (VPDB) scale using internal and international (NBS18 and NBS19) working standards. Ages are reported as before present (B.P.) where “present” is 1950 A.D.

Sample i.d.	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)	Sample i.d.	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)	Sample i.d.	Age (years B.P.)	$\delta^{18}\text{O}$ (VPDB, ‰)
E2-5C12	-52.0	-6.26	E2-4A4	588.4	-5.90	E2-1B5	1349.7	-6.20
E2-5B12	-45.7	-6.51	E2-4C3	598.3	-6.06	E2-1A5	1356.3	-6.34
E2-5A12	-38.9	-6.59	E2-4B3	608.2	-6.04	E2-1C4	1362.8	-6.37
E2-5C11	-31.0	-5.93	E2-4A3	618.5	-5.94	E2-1B4	1369.3	-6.18
E2-5B11	-20.8	-6.35	E2-4C2	628.6	-5.96	E2-1A4	1375.7	-6.18
E2-5A11	-10.4	-6.14	E2-4B2	638.7	-6.06	E2-1C3	1382.1	-6.10
E2-5C10	0.1	-6.10	E2-4A2	649.3	-6.14	E2-1B3	1388.6	-6.20
E2-5B10	10.6	-6.30	E2-4C1	659.9	-6.29	E2-1A3	1395.1	-6.33
E2-5A10	21.3	-6.33	E2-4B1	670.8	-5.89	E2-1C2	1401.6	-6.01
E2-5C9	31.9	-6.23	E2-4A1	681.8	-6.23	E2-1B2	1408.1	-5.90
E2-5B9	42.6	-6.24	E2-3B7	693.2	-6.51	E2-1A2	1415.1	-5.96
E2-5A9	52.6	-6.33	E2-3A7	704.5	-6.62	E2-1C1	1422.1	-5.74
E2-5C8	62.4	-6.39	E2-3C6	716.0	-6.20	E2-1B1	1429.0	-5.86
E2-5B8	72.0	-6.12	E2-3B6	727.7	-6.15	E2-1A1	1436.0	-6.11
E2-5A8	81.5	-6.15	E2-3A6	740.3	-6.30	A1-6C27	1443.0	-6.23
E2-5C7	90.7	-6.14	E2-3C5	752.8	-6.10	A1-6B27	1450.2	-6.15
E2-5B7	99.8	-6.07	E2-3B5	765.1	-6.35	A1-6A27	1457.4	-6.17
E2-5A7	108.7	-6.44	E2-3A5	777.4	-6.26	A1-6C26	1464.9	-6.26
E2-5C6	117.7	-6.61	E2-3C4	789.5	-6.30	A1-6B26	1472.6	-6.15
E2-5B6	126.6	-6.17	E2-3B4	804.5	-6.30	A1-6A26	1480.4	-6.18
E2-5A6	135.6	-6.31	E2-3A4	820.6	-5.92	A1-6C25	1488.2	-5.92
E2-5C5	144.7	-6.03	E2-3C3	839.0	-6.10	A1-6B25	1496.5	-5.97
E2-5B5	153.4	-6.17	E2-3B3	858.0	-6.26	A1-6A25	1504.5	-6.03
E2-5A5	162.1	-6.29	E2-3A3	876.6	-6.34	A1-6C24	1511.5	-6.39
E2-5C4	170.9	-6.19	E2-3C2	895.1	-6.27	A1-6B24	1517.9	-6.19
E2-5B4	179.7	-6.29	E2-3B2	912.8	-6.37	A1-6A24	1523.3	-5.99
E2-5A4	188.8	-6.01	E2-3A2	930.3	-6.41	A1-6C23	1528.3	-6.83
E2-5C3	197.9	-5.90	E2-3C1	947.0	-6.36	A1-6B23	1533.0	-6.21
E2-5B3	207.1	-5.90	E2-3B1	963.6	-6.18	A1-6A23	1537.3	-5.98
E2-5A3	216.3	-6.10	E2-3A1	980.2	-6.39	A1-6C22	1541.4	-6.30
E2-5C2	225.5	-5.95	E2-2B6	996.8	-6.29	A1-6B22	1545.5	-6.32
E2-5B2	234.8	-6.13	E2-2A6	1013.3	-6.28	A1-6A22	1549.5	-5.87
E2-5A2	244.4	-5.99	E2-2C5	1030.2	-6.29	A1-6C21	1553.1	-5.91
E2-5C1	254.2	-5.86	E2-2B5	1047.3	-6.34	A1-6B21	1556.6	-5.97
E2-5B1	264.2	-6.08	E2-2A5	1064.6	-6.31	A1-6A21	1560.1	-5.89
E2-5A1	274.3	-6.22	E2-2C4	1082.2	-6.52	A1-6C20	1563.6	-6.12
E2-4C13	284.3	-6.30	E2-2B4	1101.4	-6.46	A1-6B20	1567.1	-5.92
E2-4B13	294.9	-6.02	E2-2A4	1120.8	-6.30	A1-6A20	1570.6	-6.13
E2-4A13	305.3	-5.99	E2-2C3	1140.6	-6.42	A1-6C19	1574.0	-6.15
E2-4C12	315.8	-6.00	E2-2B3	1158.1	-6.34	A1-6B19	1577.4	-6.18
E2-4A12	326.5	-6.08	E2-2A3	1171.0	-6.41	A1-6A19	1580.8	-5.91
E2-4C11	337.8	-6.26	E2-2C2	1181.7	-6.23	A1-6C18	1584.0	-6.18
E2-4B11	349.4	-6.80	E2-2B2	1190.4	-6.28	A1-6B18	1587.2	-6.18
E2-4A11	361.1	-6.68	E2-2A2	1198.6	-6.39	A1-6A18	1590.5	-6.23
E2-4C10	373.0	-6.60	E2-2C1	1206.3	-6.20	A1-6C17	1594.0	-6.28
E2-4B10	385.0	-6.47	E2-2B1	1213.8	-6.37	A1-6B17	1597.3	-5.93
E2-4A10	397.2	-6.43	E2-2A1	1221.3	-6.56	A1-6A17	1600.6	-6.01
E2-4C9	409.4	-6.66	E2-1B11	1228.4	-6.40	A1-6C16	1603.9	-6.04
E2-4B9	421.2	-6.44	E2-1A11	1235.4	-6.45	A1-6B16	1607.3	-6.31
E2-4A9	432.9	-6.42	E2-1C10	1242.6	-6.40	A1-6A16	1610.7	-6.23
E2-4C8	444.0	-6.47	E2-1B10	1249.6	-6.42	A1-6C15	1614.0	-6.23
E2-4B8	454.9	-6.19	E2-1A10	1256.5	-6.32	A1-6B15	1617.1	-6.33
E2-4A8	465.6	-6.26	E2-1C9	1263.4	-6.23	A1-6A15	1620.3	-6.12
E2-4C7	476.1	-6.32	E2-1B9	1270.4	-6.38	A1-6C14	1623.4	-6.22
E2-4B7	486.6	-6.17	E2-1A9	1277.2	-6.35	A1-6B14	1626.6	-6.02
E2-4A7	497.1	-6.26	E2-1C8	1283.7	-6.04	A1-6A14	1629.8	-6.51
E2-4C6	507.5	-6.10	E2-1B8	1290.2	-5.97	A1-6C13	1633.1	-6.33
E2-4B6	517.9	-6.20	E2-1A8	1296.8	-6.04	A1-6B13	1636.3	-6.27
E2-4A6	528.1	-6.17	E2-1C7	1303.2	-6.15	A1-6A13	1639.6	-6.45
E2-4C5	538.4	-6.20	E2-1B7	1309.6	-5.90	A1-6C12	1642.9	-6.32
E2-4B5	548.9	-6.19	E2-1A7	1316.3	-6.15	A1-6B12	1646.1	-6.35
E2-4A5	558.9	-6.11	E2-1C6	1323.0	-6.05	A1-6A12	1649.3	-6.36
E2-4C4	569.0	-6.07	E2-1B6	1329.7	-5.99	A1-6C11	1652.6	-6.22
E2-4B4	578.7	-6.02	E2-1A6	1336.3	-5.98	A1-6B11	1655.8	-6.22
			E2-1C5	1343.0	-6.02	A1-6A11	1659.0	-6.38

A1-6C10	1662.0	-6.36	A1-4C10	2072.3	-6.64	A1-1C10	2480.9	-6.30
A1-6B10	1665.0	-6.33	A1-4B10	2078.2	-6.57	A1-1B10	2484.6	-6.60
A1-6A10	1668.2	-6.54	A1-4A10	2083.9	-6.82	A1-1A10	2488.1	-6.52
A1-6C9	1671.6	-6.37	A1-4C9	2089.5	-6.88	A1-1C9	2491.6	-6.52
A1-6B9	1674.8	-6.34	A1-4B9	2095.1	-6.61	A1-1B9	2495.3	-6.66
A1-6A9	1678.1	-6.38	A1-4A9	2101.0	-6.38	A1-1A9	2499.1	-6.40
A1-6C8	1681.4	-6.44	A1-4C8	2106.9	-6.35	A1-1C8	2502.7	-6.15
A1-6B8	1684.8	-6.51	A1-4B8	2112.8	-6.37	A1-1B8	2506.2	-6.40
A1-6A8	1688.1	-6.54	A1-4A8	2118.7	-6.31	A1-1A8	2510.0	-6.43
A1-6C7	1691.5	-6.49	A1-4C7	2124.6	-6.28	A1-1C7	2513.6	-6.41
A1-6B7	1695.2	-6.26	A1-4B7	2130.5	-6.62	A1-1B7	2517.0	-6.31
A1-6A7	1698.7	-6.13	A1-4A7	2136.4	-6.06	A1-1A7	2520.6	-6.37
A1-6C6	1702.3	-6.40	A1-4C6	2142.2	-6.41	A1-1C6	2524.4	-6.37
A1-6B6	1705.9	-6.49	A1-4B6	2148.1	-6.53	A1-1B6	2527.9	-6.25
A1-6A6	1709.6	-6.22	A1-4A6	2153.8	-6.43	A1-1A6	2531.3	-6.41
A1-6C5	1713.3	-6.02	A1-4C5	2159.5	-6.31	A1-1C5	2534.8	-6.43
A1-6B5	1717.0	-6.41	A1-4B5	2165.5	-6.22	A1-1B5	2538.3	-6.35
A1-6A5	1721.0	-6.45	A1-4A5	2171.5	-6.47	A1-1A5	2541.9	-6.22
A1-6C4	1724.8	-6.75	A1-4C4	2177.6	-6.84	A1-1C4	2545.4	-6.46
A1-6B4	1728.8	-6.76	A1-4B4	2183.7	-6.53	A1-1B4	2549.0	-6.35
A1-6A4	1732.9	-6.56	A1-4A4	2189.8	-6.27	A1-1A4	2552.6	-6.33
A1-6C3	1737.7	-6.85	A1-4C3	2196.0	-6.64	A1-1C3	2556.2	-6.17
A1-6B3	1742.8	-6.59	A1-4B3	2202.3	-6.61	A1-1B3	2559.7	-6.49
A1-6A3	1748.6	-6.85	A1-4A3	2208.7	-6.49	A1-1A3	2563.2	-6.19
A1-6C2	1755.2	-6.92	A1-4C2	2215.0	-6.44	A1-1C2	2566.8	-6.32
A1-6B2	1762.6	-6.55	A1-4B2	2221.5	-6.48	A1-1B2	2570.6	-6.14
A1-6A2	1769.9	-6.85	A1-4A2	2227.9	-6.27	A1-1A2	2574.2	-6.15
A1-6C1	1777.0	-6.59	A1-4C1	2234.6	-6.40	A1-1C1	2577.6	-6.36
A1-6B1	1783.9	-6.46	A1-4B1	2241.4	-6.56	A1-1B1	2581.1	-6.50
A1-6A1	1790.7	-6.53	A1-4A1	2248.1	-6.71	A1-1A1	2584.7	-6.45
A1-5C15	1797.6	-6.77	A1-3C4	2254.7	-6.23	B1-6B12	2588.3	-6.50
A1-5B15	1804.4	-6.73	A1-3B4	2261.1	-6.50	B1-6A12	2591.8	-6.19
A1-5A15	1811.3	-6.82	A1-3A4	2267.5	-6.40	B1-6C11	2595.2	-6.06
A1-5C14	1818.1	-6.40	A1-3C3	2274.1	-6.55	B1-6B11	2598.7	-6.32
A1-5B14	1825.0	-6.63	A1-3B3	2280.6	-6.51	B1-6A11	2602.2	-6.53
A1-5A14	1831.7	-6.67	A1-3A3	2287.1	-6.47	B1-6C10	2605.7	-6.22
A1-5C13	1838.4	-6.40	A1-3C2	2293.8	-6.41	B1-6B10	2609.3	-6.19
A1-5B13	1845.2	-6.27	A1-3B2	2300.6	-6.27	B1-6A10	2612.8	-6.27
A1-5A13	1851.8	-6.37	A1-3A2	2307.4	-6.55	B1-6C9	2616.4	-6.28
A1-5C12	1858.5	-6.39	A1-3C1	2314.2	-6.28	B1-6B9	2619.9	-6.16
A1-5B12	1865.1	-6.56	A1-3B1	2321.4	-6.57	B1-6A9	2623.5	-6.50
A1-5A12	1871.5	-6.11	A1-3A1	2328.8	-6.60	B1-6C8	2627.0	-6.15
A1-5C11	1877.9	-6.31	A1-2C11	2336.3	-6.65	B1-6B8	2630.5	-6.26
A1-5B11	1884.1	-6.39	A1-2B11	2343.8	-6.18	B1-6A8	2634.0	-5.88
A1-5A11	1890.2	-6.52	A1-2A11	2351.3	-6.34	B1-6C7	2637.5	-6.55
A1-5C10	1896.5	-6.62	A1-2C10	2358.1	-6.41	B1-6B7	2641.0	-6.24
A1-5B10	1902.7	-6.60	A1-2B10	2363.7	-6.20	B1-6A7	2644.5	-6.47
A1-5A10	1908.8	-6.35	A1-2A10	2369.0	-6.34	B1-6C6	2648.2	-6.37
A1-5C9	1914.8	-6.29	A1-2C9	2373.9	-6.58	B1-6B6	2651.9	-6.65
A1-5B9	1920.9	-6.47	A1-2B9	2378.5	-6.11	B1-6A6	2655.6	-6.57
A1-5A9	1926.9	-6.69	A1-2A9	2382.9	-6.17	B1-6C5	2659.3	-6.40
A1-5C8	1933.1	-6.76	A1-2C8	2387.2	-6.09	B1-6B5	2662.8	-6.71
A1-5B8	1938.8	-6.61	A1-2B8	2391.5	-6.27	B1-6A5	2666.5	-6.48
A1-5A8	1944.5	-6.74	A1-2A8	2395.7	-6.30	B1-6C4	2670.1	-6.43
A1-5C7	1950.5	-6.56	A1-2C7	2399.9	-6.09	B1-6B4	2674.0	-6.28
A1-5B7	1956.3	-6.47	A1-2B7	2404.0	-6.23	B1-6A4	2677.9	-6.36
A1-5A7	1962.2	-6.50	A1-2A7	2408.0	-6.32	B1-6C3	2681.7	-6.56
A1-5C6	1967.9	-6.32	A1-2C6	2411.9	-6.28	B1-6B3	2685.5	-6.40
A1-5B6	1973.4	-6.72	A1-2B6	2415.9	-6.51	B1-6A3	2689.4	-6.07
A1-5A6	1979.1	-6.57	A1-2A6	2419.9	-6.70	B1-6C2	2693.3	-6.38
A1-5C5	1985.1	-6.34	A1-2C5	2423.9	-6.56	B1-6B2	2697.2	-6.11
A1-5B5	1990.9	-6.78	A1-2B5	2427.9	-6.63	B1-6A2	2701.2	-6.19
A1-5A5	1996.6	-6.44	A1-2A5	2431.8	-6.40	B1-6C1	2705.1	-6.44
A1-5C4	2002.3	-6.66	A1-2C4	2435.6	-6.41	B1-6B1	2709.1	-6.28
A1-5B4	2007.9	-6.54	A1-2B4	2439.4	-6.21	B1-6A1	2713.0	-6.33
A1-5A4	2013.7	-6.58	A1-2A4	2443.1	-6.24	B1-5C18	2717.0	-6.50
A1-5C3	2019.5	-6.70	A1-2C3	2447.1	-6.06	B1-5B18	2721.0	-6.40
A1-5B3	2025.5	-6.37	A1-2B3	2451.2	-6.23	B1-5A18	2725.4	-6.25
A1-5A3	2031.3	-6.32	A1-2A3	2454.9	-6.20	B1-5C17	2729.6	-6.29
A1-5C2	2037.0	-6.52	A1-2C2	2458.7	-6.08	B1-5B17	2733.7	-6.27
A1-5B2	2042.7	-6.71	A1-2B2	2462.5	-6.31	B1-5A17	2737.8	-6.41
A1-5A2	2048.7	-6.41	A1-2A2	2466.2	-6.43	B1-5C16	2742.0	-6.36
A1-5C1	2054.5	-6.66	A1-2C1	2469.8	-6.51	B1-5B16	2746.2	-6.22
A1-5B1	2060.4	-6.51	A1-2B1	2473.5	-6.39	B1-5A16	2750.6	-6.45
A1-5A1	2066.3	-6.67	A1-2A1	2477.2	-6.20	B1-5C15	2755.1	-6.36

B1-5B15	2759.7	-6.27	B1-3B11	3772.0	-5.76	C2-13B4	4219.7	-5.83
B1-5A15	2764.4	-6.10	B1-3A11	3779.5	-5.82	C2-13A4	4226.1	-5.93
B1-5C14	2769.2	-6.08	B1-3C10	3787.1	-5.93	C2-13C3	4233.4	-5.87
B1-5B14	2773.6	-6.14	B1-3B10	3794.9	-6.00	C2-13B3	4241.4	-5.71
B1-5A14	2777.7	-6.27	B1-3A10	3802.4	-5.91	C2-13A3	4249.9	-5.70
B1-5C13	2780.2	-6.37	B1-3C9	3810.1	-6.30	C2-13C2	4258.5	-5.82
B1-5B13	2782.4	-6.39	B1-3B9	3817.7	-6.14	C2-13B2	4266.7	-5.66
B1-5A13	2783.6	-6.37	B1-3A9	3825.1	-5.99	C2-13A2	4274.9	-5.98
B1-5C12	2784.7	-6.19	B1-3C8	3833.0	-5.80	C2-13C1	4283.2	-5.69
B1-5B12	2785.5	-6.10	B1-3B8	3840.9	-5.99	C2-13B1	4291.1	-5.90
B1-5A12	2786.4	-6.28	B1-3A8	3848.8	-5.91	C2-13A1	4298.8	-6.07
B1-5C11	2787.4	-6.39	B1-3C7	3857.2	-5.99	C2-12B4	4306.5	-5.65
B1-5B11	2788.3	-6.26	B1-3B7	3865.8	-5.54	C2-12A4	4314.5	-6.07
B1-5A11	2789.2	-6.07	B1-3A7	3874.9	-5.95	C2-12C3	4322.0	-5.80
B1-5C10	2790.1	-6.23	B1-3C6	3884.7	-5.49	C2-12B3	4329.3	-5.82
B1-5B10	2790.9	-6.10	B1-3B6	3894.5	-5.74	C2-12A3	4336.7	-5.81
B1-5A10	2791.8	-6.33	B1-3A6	3904.1	-5.96	C2-12C2	4343.9	-5.84
B1-5C9	2792.9	-6.19	B1-3C5	3912.6	-5.71	C2-12B2	4351.0	-5.84
B1-5B9	2794.6	-6.01	B1-3B5	3920.4	-5.94	C2-12A2	4358.1	-6.11
B1-5A9	2796.5	-5.92	B1-3A5	3927.7	-5.63	C2-12C1	4365.2	-6.25
B1-5C8	2799.1	-6.05	B1-3C4	3934.7	-6.16	C2-12B1	4372.3	-6.07
B1-5B8	2801.5	-6.33	B1-3B4	3940.9	-5.97	C2-12A1	4379.2	-5.57
B1-5A8	2804.0	-6.07	B1-3A4	3946.8	-6.00	C2-11C7	4386.2	-6.14
B1-5C7	2806.6	-6.05	B1-3C3	3952.4	-5.80	C2-11B7	4393.2	-5.99
B1-5B7	2809.3	-6.09	B1-3B3	3958.2	-5.92	C2-11A7	4400.3	-5.89
B1-5A7	2811.4	-6.28	B1-3A3	3963.7	-5.82	C2-11C6	4407.2	-6.27
B1-5C6	2813.3	-6.16	B1-3C2	3969.1	-6.08	C2-11B6	4414.0	-5.99
B1-5B6	2815.3	-6.46	B1-3B2	3974.6	-6.03	C2-11A6	4420.9	-6.18
B1-5A6	2817.3	-6.32	B1-3A2	3979.9	-6.11	C2-11C5	4428.0	-6.30
B1-5C5	2819.2	-6.39	B1-3C1	3985.1	-6.29	C2-11B5	4435.1	-6.39
B1-5B5	2821.0	-5.98	B1-3B1	3990.4	-6.12	C2-11A5	4442.2	-6.29
B1-5A5	2822.6	-6.04	B1-3A1	3995.6	-6.23	C2-11C4	4449.3	-6.26
B1-5C4	2824.4	-6.06	B1-2C8	4000.6	-6.45	C2-11B4	4456.4	-6.12
B1-5B4	2826.1	-6.20	B1-2B8	4005.7	-6.57	C2-11A4	4463.5	-6.25
B1-5A4	2827.9	-5.98	B1-2A8	4010.6	-6.67	C2-11C3	4470.8	-5.37
B1-5C3	2829.7	-5.87	B1-2C7	4015.5	-6.02	C2-11B3	4478.0	-5.71
B1-5B3	2832.0	-6.23	B1-2B7	4020.4	-6.39	C2-11A3	4485.5	-5.92
B1-5A3	2834.6	-6.09	B1-2A7	4025.5	-6.16	C2-11C2	4493.0	-5.89
B1-5C2	2836.8	-5.92	B1-2C6	4030.6	-5.91	C2-11B2	4500.4	-5.96
B1-5B2	2839.0	-6.07	B1-2B6	4035.6	-6.08	C2-11A2	4508.2	-5.91
B1-5A2	2841.3	-5.84	B1-2A6	4040.5	-6.07	C2-11C1	4516.1	-5.36
B1-5C1	2843.4	-6.17	B1-2C5	4045.4	-6.07	C2-11B1	4524.3	-5.87
B-AB-a3	2928.8	-6.04	B1-2B5	4050.2	-6.01	C2-11A1	4533.0	-5.75
B-AB-a4	3056.9	-6.11	B1-2A5	4055.0	-6.23	C2-10B3	4541.7	-5.62
B-AB-a5	3168.8	-6.23	B1-2C4	4059.7	-6.18	C2-10A3	4550.3	-5.96
B-AB-a6	3279.1	-6.02	B1-2B4	4064.4	-6.07	C2-10C2	4559.2	-5.77
B-AB-a7	3398.6	-6.03	B1-2A4	4069.2	-6.22	C2-10B2	4567.1	-6.00
B-AB-a8	3538.9	-6.02	B1-2C3	4073.9	-6.28	C2-10A2	4574.5	-6.07
B-AB-a9	3637.0	-6.07	B1-2B3	4078.8	-6.23	C2-10C1	4581.4	-5.90
B1-4B3	3640.6	-6.43	B1-2A3	4083.5	-6.27	C2-10B1	4587.7	-5.84
B1-4A3	3642.0	-6.37	B1-2C2	4088.2	-6.17	C2-10A1	4593.7	-5.99
B1-4C2	3643.5	-6.30	B1-2B2	4093.0	-6.20	C2-9C5	4599.8	-5.58
B1-4B2	3644.9	-6.44	B1-2A2	4097.8	-6.28	C2-9B5	4605.9	-5.83
B1-4A2	3646.2	-6.37	B1-2C1	4102.5	-6.43	C2-9A5	4611.6	-5.82
B1-4C1	3647.8	-6.54	B1-2B1	4107.5	-6.28	C2-9C4	4617.2	-5.66
B1-4B1	3649.6	-6.03	B1-2A1	4112.5	-6.37	C2-9B4	4622.7	-6.20
B1-4A1	3651.9	-6.02	B1-1C3	4117.4	-6.20	C2-9A4	4628.1	-5.74
B1-3B17	3654.8	-5.94	B1-1B3	4122.3	-6.25	C2-9C3	4633.6	-6.16
B1-3A17	3657.6	-6.13	B1-1A3	4127.3	-5.98	C2-9B3	4638.9	-6.33
B1-3C16	3659.8	-6.20	B1-1C2	4132.5	-6.10	C2-9A3	4644.1	-5.82
B1-3B16	3662.9	-6.03	B1-1B2	4137.5	-6.21	C2-9C2	4649.4	-5.96
B1-3A16	3666.0	-5.94	B1-1A2	4142.4	-6.00	C2-9B2	4654.6	-5.69
B1-3C15	3668.7	-6.20	B1-1C1	4147.4	-6.06	C2-9A2	4659.7	-6.01
B1-3B15	3673.0	-5.98	B1-1B1	4152.4	-6.04	C2-9C1	4664.7	-6.10
B1-3A15	3678.8	-6.07	B1-1A1	4157.7	-6.10	C2-9B1	4669.9	-6.00
B1-3C14	3686.1	-6.10	C2-13C7	4163.1	-5.91	C2-9A1	4675.0	-5.70
B1-3B14	3694.0	-6.01	C2-13B7	4168.6	-6.04	C2-8C2	4679.9	-6.28
B1-3A14	3703.6	-6.06	C2-13A7	4173.9	-6.01	C2-8B2	4684.8	-6.13
B1-3C13	3713.9	-6.18	C2-13C6	4179.2	-6.22	C2-8A2	4689.7	-5.88
B1-3B13	3723.4	-6.21	C2-13B6	4184.6	-6.11	C2-8C1	4694.6	-6.08
B1-3A13	3732.2	-6.11	C2-13A6	4190.2	-5.92	C2-8B1	4699.6	-5.99
B1-3C12	3740.6	-6.19	C2-13C5	4195.9	-5.89	C2-8A1	4704.6	-5.99
B1-3B12	3748.8	-5.91	C2-13B5	4201.6	-5.61	C2-7B4	4709.3	-5.95
B1-3A12	3756.8	-6.13	C2-13A5	4207.6	-5.87	C2-7A4	4713.9	-5.79
B1-3C11	3764.5	-5.98	C2-13C4	4213.6	-5.92	C2-7C3	4718.7	-6.02

C2-7B3	4723.7	-5.98	C2-5A7	5593.2	-5.64	C2-1A11	6092.7	-6.56
C2-7A3	4728.5	-5.82	C2-5C6	5601.3	-5.93	C2-1C10	6104.3	-6.44
C2-7C2	4733.4	-6.19	C2-5B6	5608.3	-5.84	C2-1B10	6115.3	-6.63
C2-7B2	4738.1	-6.00	C2-5A6	5614.8	-5.87	C2-1A10	6125.9	-6.08
C2-7A2	4742.8	-6.01	C2-5C5	5621.3	-6.03	C2-1C9	6136.4	-6.06
C2-7C1	4747.5	-6.25	C2-5B5	5627.3	-5.84	C2-1B9	6147.2	-6.34
C2-7B1	4752.3	-5.45	C2-5A5	5633.1	-6.21	C2-1A9	6158.0	-6.54
C2-7A1	4757.3	-6.05	C2-5C4	5638.9	-5.67	C2-1C8	6168.9	-6.28
C2-6C11	4762.0	-5.63	C2-5B4	5644.5	-5.86	C2-1B8	6179.8	-6.13
C2-6B11	4766.5	-5.83	C2-5A4	5650.0	-5.91	C2-1A8	6191.3	-6.34
C2-6A11	4771.4	-5.59	C2-5C3	5655.4	-5.94	C2-1C7	6202.5	-6.05
C2-6C10	4776.1	-5.73	C2-5B3	5660.9	-5.80	C2-1B7	6213.7	-6.00
C2-6B10	4780.8	-5.92	C2-5A3	5666.0	-6.07	C2-1A7	6224.9	-6.20
C2-6A10	4785.6	-5.47	C2-5C2	5671.0	-5.87	C2-1C6	6236.1	-6.50
C2-6C9	4790.5	-5.94	C2-5B2	5676.0	-6.19	C2-1B6	6247.3	-6.39
C2-6B9	4795.4	-6.04	C2-5A2	5681.0	-6.30	C2-1A6	6258.2	-6.13
C2-6A9	4800.1	-5.78	C2-5C2	5686.0	-5.81	C2-1C5	6269.6	-6.26
C2-6C8	4804.8	-6.17	C2-5B1	5690.9	-6.39	C2-1B5	6281.1	-6.25
C2-6B8	4809.7	-5.72	C2-5A1	5695.8	-6.14	C2-1A5	6293.0	-6.16
C2-6A8	4814.6	-6.11	C2-4C5	5700.5	-6.26	C2-1C4	6304.8	-6.21
C2-6C7	4819.4	-6.04	C2-4B5	5705.2	-6.15	C2-1B4	6316.6	-6.32
C2-6B7	4824.3	-6.29	C2-4A5	5710.1	-6.11	C2-1A4	6328.1	-6.06
C2-6A7	4829.3	-5.97	C2-4C4	5714.9	-6.02	C2-1C3	6340.5	-6.18
C2-6C6	4834.1	-6.21	C2-4B4	5719.6	-5.88	C2-1B3	6353.1	-6.21
C2-6B6	4839.1	-6.10	C2-4A4	5724.4	-6.32	C2-1A3	6366.2	-6.15
C2-6A6	4844.3	-5.96	C2-4C3	5729.2	-6.54	C2-1C2	6379.8	-6.08
C2-6C5	4849.6	-5.73	C2-4B3	5734.0	-6.21	C2-1B2	6393.8	-6.28
C2-6B5	4854.5	-6.16	C2-4A3	5738.9	-6.23	C2-1A2	6407.7	-6.21
C2-6A5	4859.6	-6.66	C2-4C2	5743.8	-6.19	D-AB-b6	6415.7	-6.27
C2-6C4	4864.7	-6.27	C2-4B2	5748.7	-5.86	E-AB-a1	6486.7	-6.41
C2-6B4	4869.9	-5.96	C2-4A2	5753.7	-6.14	E-AB-a2	6569.7	-6.35
C2-6A4	4875.3	-5.90	C2-4C2	5758.6	-6.32	E-AB-a3	6645.6	-6.34
C2-6C3	4880.7	-5.67	C2-4B1	5763.4	-6.38	E-AB-a4	6693.7	-6.13
C2-6B3	4886.2	-5.79	C2-4A1	5768.1	-6.29	E-AB-a5	6736.3	-6.23
C2-6C2	4891.7	-6.04	C2-3C6	5772.8	-6.02	E-AB-a6	6776.6	-6.31
C2-6B2	4897.2	-5.57	C2-3B6	5777.5	-5.96	E-AB-a7	6816.6	-6.32
C2-6A2	4902.7	-5.88	C2-3A6	5782.3	-6.14	E-AB-a8	6855.9	-5.93
C2-6C1	4908.7	-6.04	C2-3C5	5787.1	-5.95	E-AB-a9	6896.2	-6.26
C2-6B1	4914.5	-5.61	C2-3B5	5792.0	-5.90	E-AB-a10	6937.2	-6.05
C2-6A1	4920.3	-5.98	C2-3A5	5797.0	-6.27	E-AB-a11	6979.1	-6.14
C2-5C18	4926.7	-5.58	C2-3C4	5802.0	-6.39	E-AB-a12	7027.5	-6.37
C2-5B18	4933.6	-5.96	C2-3B4	5807.0	-5.87	E-AB-a13	7091.8	-6.32
C2-5A18	4941.0	-6.27	C2-3A4	5812.0	-6.01	E-AB-a14	7151.8	-6.09
C2-5C17	4951.6	-5.94	C2-3C3	5816.8	-6.19	E-AB-a15	7204.0	-6.12
C2-5B17	4964.6	-6.04	C2-3B3	5821.7	-5.95	E-AB-a16	7254.6	-6.11
C2-5A17	4979.2	-6.28	C2-3A3	5826.7	-6.29	E-AB-a17	7304.1	-6.21
C2-5C16	4994.7	-5.45	C2-3C2	5831.9	-6.03	E-AB-a18	7353.3	-6.26
C2-5B16	5009.5	-5.69	C2-3B2	5837.0	-6.32	E-AB-a19	7402.7	-6.22
C2-5A16	5023.8	-5.99	C2-3A2	5842.0	-6.02	E-AB-a20	7451.2	-6.17
C2-5C15	5037.9	-5.54	C2-3C1	5847.0	-6.35	E-AB-a21	7500.0	-6.23
C2-5B15	5051.7	-5.84	C2-3B1	5852.2	-6.16	E-AB-b1	7550.3	-6.25
C2-5A15	5065.3	-5.82	C2-3A1	5857.5	-5.78	E-AB-b2	7605.4	-6.12
C2-5C14	5078.6	-5.85	C2-2C5	5863.0	-6.13	E-AB-b3	7668.5	-6.09
C2-5B14	5092.1	-5.69	C2-2B5	5868.6	-6.13	E-AB-b4	7724.6	-6.13
C2-5A14	5105.1	-5.80	C2-2A5	5874.4	-6.28	E-AB-b5	7761.3	-6.20
C2-5C13	5118.2	-5.80	C2-2C4	5880.2	-6.02	E-AB-b6	7794.1	-6.23
C2-5B13	5131.8	-6.08	C2-2B4	5886.3	-5.67	E-AB-b7	7825.5	-6.22
C2-5A13	5146.0	-6.19	C2-2A4	5892.6	-6.44	E-AB-b8	7857.5	-5.80
C2-5C12	5160.5	-6.09	C2-2C3	5899.1	-6.40	E-AB-b9	7908.7	-5.86
C2-5B12	5175.3	-5.85	C2-2B3	5905.8	-6.02	E-AB-b10	7991.9	-6.09
C2-5A12	5191.2	-5.63	C2-2A3	5912.7	-6.34	E-AB-b11	8063.4	-5.96
C2-5C11	5208.7	-5.71	C2-2C2	5920.2	-5.97	E-AB-b12	8147.0	-5.83
C2-5B11	5228.0	-6.12	C2-2B2	5928.6	-6.14	E-AB-b13	8178.6	-5.76
C2-5A11	5257.4	-6.18	C2-2A2	5938.3	-6.22	F-AB-a0	8188.2	-5.97
C2-5C10	5288.8	-5.76	C2-2C1	5950.8	-6.34	F-AB-a1	8203.6	-5.82
C2-5B10	5321.4	-5.87	C2-2B1	5964.3	-6.30	F-AB-a2	8224.2	-5.77
C2-5A10	5352.5	-5.84	C2-2A1	5978.4	-6.19	F-AB-a3	8244.9	-5.73
C2-5C9	5383.2	-5.93	C2-1C13	5993.2	-6.03	F-AB-a4	8267.6	-5.83
C2-5B9	5413.9	-5.71	C2-1B13	6007.4	-6.37	F-AB-a5	8292.9	-5.43
C2-5A9	5444.9	-6.02	C2-1A13	6021.2	-6.23	F-AB-a6	8330.9	-5.37
C2-5C8	5476.6	-6.09	C2-1C12	6034.1	-6.12	F-AB-a7	8409.1	-5.63
C2-5B8	5508.4	-5.92	C2-1B12	6045.8	-6.29	F-AB-a8	8472.3	-5.73
C2-5A8	5540.2	-5.79	C2-1A12	6057.5	-6.31	F-AB-a9	8532.8	-5.72
C2-5C7	5563.3	-5.82	C2-1C11	6069.6	-6.43	C1-2C8	8537.3	-5.55
C2-5B7	5580.7	-5.79	C2-1B11	6081.0	-6.65	C1-2B8	8545.0	-5.51

C1-2A8	8553.0	-5.69	D1-11A3	9007.4	-5.60	D1-8B3	9903.0	-4.86
C1-2C7	8560.9	-5.92	D1-11C2	9013.1	-5.68	D1-8A3	9909.0	-5.18
C1-2B7	8568.8	-5.98	D1-11B2	9018.6	-5.49	D1-8C2	9914.9	-5.31
C1-2A7	8576.5	-6.03	D1-11A2	9024.5	-5.23	D1-8B2	9920.7	-5.19
C1-2C6	8583.9	-5.47	D1-11C1	9030.2	-5.60	D1-8A2	9926.5	-5.14
C1-2B6	8591.1	-5.38	D1-11B1	9036.0	-5.49	D1-8C1	9932.3	-5.39
C1-2A6	8598.2	-5.40	D1-11A1	9041.8	-5.63	D1-8B1	9937.9	-5.33
C1-2C5	8604.7	-5.82	D1-10A11	9047.7	-5.33	D1-8A1	9943.5	-4.83
C1-2B5	8611.1	-5.83	D1-10C10	9053.6	-5.45	D1-7C13	9949.2	-4.78
C1-2A5	8617.3	-5.13	D1-10B10	9059.4	-5.34	D1-7B13	9954.9	-4.99
C1-2C4	8623.4	-5.46	D1-10A10	9065.0	-5.39	D1-7A13	9960.5	-5.01
C1-2B4	8629.3	-5.58	D1-10C9	9070.7	-5.51	D1-7C12	9966.0	-4.88
C1-2A4	8635.2	-5.58	D1-10B9	9076.4	-5.49	D1-7B12	9971.6	-4.74
C1-2C3	8640.8	-5.49	D1-10A9	9082.5	-5.33	D1-7A12	9977.3	-4.99
C1-2B3	8646.2	-5.67	D1-10C8	9088.7	-5.52	D1-7C11	9983.0	-4.92
C1-2A3	8651.8	-5.69	D1-10B8	9094.9	-5.52	D1-7B11	9988.8	-5.20
C1-2C2	8657.2	-6.00	D1-10A8	9101.2	-5.61	D1-7A11	9994.5	-4.86
C1-2B2	8662.6	-5.97	D1-10C7	9107.7	-5.55	D1-7C10	10000.4	-4.94
C1-2A2	8668.0	-5.35	D1-10B7	9114.3	-5.58	D1-7B10	10006.5	-4.99
C1-2C1	8673.4	-5.63	D1-10A7	9121.2	-5.38	D1-7A10	10012.7	-4.62
C1-2B1	8678.5	-5.66	D1-10C6	9128.9	-5.18	D1-7C9	10019.3	-4.72
C1-2A1	8683.5	-5.73	D1-10B6	9136.9	-5.38	D1-7B9	10026.3	-4.78
C1-1C6	8688.7	-5.48	D1-10A6	9145.7	-5.45	D1-7A9	10033.9	-4.80
C1-1B6	8693.9	-5.21	D1-10C5	9157.6	-5.60	D1-7C8	10042.4	-4.96
C1-1A6	8699.3	-5.43	D1-10B5	9171.3	-5.30	D1-7B8	10051.4	-4.87
C1-1C5	8704.3	-5.24	D1-10A5	9187.7	-5.31	D1-7A8	10061.6	-4.84
C1-1B5	8709.3	-5.92	D1-10C4	9204.3	-5.56	D1-7C7	10072.9	-4.85
C1-1A5	8714.2	-5.40	D1-10B4	9220.2	-5.49	D1-7B7	10085.4	-4.91
C1-1C4	8719.1	-5.92	D1-10A4	9235.3	-5.64	D1-7A7	10097.5	-4.43
C1-1A4	8724.4	-5.87	D1-10C3	9249.5	-5.57	D1-7C6	10109.6	-4.50
C1-1C3	8729.6	-5.35	D1-10B3	9263.5	-5.76	D1-7B6	10120.5	-4.63
C1-1B3	8734.6	-5.50	D1-10A3	9277.4	-5.50	D1-7A6	10131.1	-4.60
C1-1A3	8739.7	-5.46	D1-10C2	9291.1	-5.40	D1-7C5	10141.1	-4.93
C1-1C2	8744.8	-5.36	D1-10B2	9304.7	-5.60	D1-7B5	10150.8	-4.74
C1-1B2	8750.1	-5.52	D1-10A2	9317.9	-5.57	D1-7A5	10160.5	-4.64
C1-1A2	8755.3	-5.90	D1-10C1	9331.1	-5.62	D1-7C4	10170.1	-4.81
C1-1C1	8760.6	-5.72	D1-10B1	9344.2	-5.73	D1-7B4	10179.6	-4.86
C1-1B1	8766.0	-5.64	D1-10A1	9357.5	-5.57	D1-7A4	10188.9	-4.99
C1-1A1	8771.4	-5.40	D1-9C7	9370.5	-5.67	D1-7C3	10198.1	-5.00
D1-13A6	8776.9	-5.63	D1-9B7	9383.4	-5.78	D1-7B3	10207.3	-5.00
D1-13C5	8782.3	-5.74	D1-9A7	9396.2	-5.53	D1-7A3	10216.2	-4.75
D1-13B5	8787.9	-5.93	D1-9C6	9409.1	-5.40	D1-7C2	10224.9	-4.49
D1-13A5	8793.5	-5.59	D1-9B6	9422.4	-5.28	D1-7B2	10233.8	-4.76
D1-13C4	8799.2	-5.71	D1-9A6	9435.8	-5.10	D1-7A2	10242.7	-4.88
D1-13B4	8805.1	-5.81	D1-9C5	9449.2	-5.17	D1-7C1	10251.6	-4.71
D1-13A4	8811.1	-5.87	D1-9B5	9463.1	-5.20	D1-7B1	10260.6	-4.78
D1-13C3	8817.6	-6.18	D1-9A5	9477.2	-5.22	D1-7A1	10269.4	-4.89
D1-13B3	8824.3	-5.63	D1-9C4	9491.8	-4.98	D1-6C4	10278.5	-4.69
D1-13A3	8831.0	-5.81	D1-9B4	9506.9	-5.18	D1-6B4	10287.4	-4.87
D1-13C2	8838.1	-5.83	D1-9A4	9523.6	-4.94	D1-6A4	10296.1	-4.91
D1-13B2	8845.5	-5.46	D1-9C3	9541.2	-4.98	D1-6C3	10305.0	-5.00
D1-13A2	8853.9	-5.73	D1-9B3	9559.9	-5.01	D1-6B3	10313.8	-4.89
D1-13C1	8862.3	-5.72	D1-9A3	9579.6	-4.83	D1-6A3	10322.6	-4.79
D1-13B1	8870.7	-5.84	D1-9C2	9599.3	-4.98	D1-6C2	10331.6	-4.97
D1-13A1	8878.6	-5.50	D1-9B2	9617.3	-5.16	D1-6B2	10340.7	-4.89
D1-12C3	8886.2	-5.83	D1-9A2	9634.5	-5.15	D1-6A2	10349.7	-5.00
D1-12B3	8893.4	-5.37	D1-9C1	9650.1	-4.98	D1-6C1	10358.7	-5.07
D1-12A3	8900.6	-5.61	D1-9B1	9665.2	-5.08	D1-6B1	10367.7	-4.78
D1-12C2	8907.5	-5.60	D1-9A1	9680.1	-5.22	D1-6A1	10376.8	-4.75
D1-12B2	8914.2	-5.77	D1-8C8	9694.6	-4.79	D1-5C6	10386.3	-5.06
D1-12A2	8920.6	-5.44	D1-8B8	9709.3	-4.78	D1-5B6	10396.0	-4.71
D1-12C1	8927.0	-5.57	D1-8A8	9724.0	-4.87	D1-5A6	10406.0	-5.02
D1-12B1	8933.1	-5.45	D1-8C7	9738.9	-4.94	D1-5C5	10416.5	-4.99
D1-12A1	8938.9	-5.63	D1-8B7	9753.6	-4.91	D1-5B5	10427.3	-4.67
D1-11C6	8944.7	-5.73	D1-8A7	9768.5	-4.73	D1-5A5	10438.5	-4.84
D1-11B6	8950.5	-5.81	D1-8C6	9783.7	-4.95	D1-5C4	10450.1	-4.89
D1-11A6	8956.3	-5.81	D1-8B6	9799.6	-5.25	D1-5B4	10462.4	-4.80
D1-11C5	8962.0	-5.69	D1-8A6	9816.5	-5.31	D1-5A4	10475.1	-5.04
D1-11B5	8967.4	-5.29	D1-8C5	9834.3	-5.10	D1-5C3	10488.0	-4.93
D1-11A5	8973.0	-5.67	D1-8B5	9850.3	-5.12	D1-5B3	10497.7	-4.80
D1-11C4	8978.9	-5.93	D1-8A5	9865.4	-5.13	D1-5A3	10506.6	-4.95
D1-11B4	8984.6	-5.72	D1-8C4	9874.3	-5.01	D1-5C2	10514.0	-4.93
D1-11A4	8990.3	-5.89	D1-8B4	9882.7	-4.88	D1-5B2	10520.9	-4.97
D1-11C3	8995.9	-5.97	D1-8A4	9889.8	-4.97	D1-5A2	10527.5	-4.81
D1-11B3	9001.7	-5.46	D1-8C3	9896.5	-4.65	D1-5C1	10533.9	-5.21

D1-5B1	10540.0	-4.76	D1-1C8	11366.5	-4.40	E1-2C6	12087.1	-4.71
D1-5A1	10545.9	-4.98	D1-1B8	11377.0	-4.13	E1-2B6	12102.9	-4.58
D1-4C6	10551.6	-4.94	D1-1A8	11385.2	-4.40	E1-2A6	12116.9	-4.45
D1-4B6	10557.3	-5.18	D1-1C7	11392.7	-4.17	E1-2C5	12130.5	-4.90
D1-4A6	10563.1	-5.18	D1-1B7	11398.8	-4.20	E1-2B5	12143.7	-4.85
D1-4C5	10568.8	-5.07	D1-1A7	11404.9	-4.24	E1-2A5	12156.3	-5.03
D1-4B5	10574.0	-4.86	D1-1C6	11411.1	-4.27	E1-2C4	12168.9	-4.63
D1-4A5	10579.3	-5.04	D1-1B6	11416.9	-4.13	E1-2B4	12180.9	-5.09
D1-4C4	10584.6	-4.87	D1-1A6	11422.6	-4.43	E1-2A4	12193.0	-5.06
D1-4B4	10589.7	-4.93	D1-1C5	11428.2	-4.42	E1-2C3	12204.7	-4.96
D1-4A4	10594.6	-5.00	D1-1B5	11433.7	-4.42	E1-2B3	12216.5	-4.95
D1-4C3	10599.5	-5.00	D1-1A5	11438.7	-4.19	E1-2A3	12228.2	-4.84
D1-4B3	10604.5	-4.93	D1-1C4	11443.9	-4.28	E1-2C2	12240.1	-5.05
D1-4A3	10609.8	-4.99	D1-1B4	11449.1	-4.36	E1-2B2	12251.8	-5.02
D1-4C2	10615.0	-5.00	D1-1A4	11454.3	-4.16	E1-2A2	12263.9	-4.88
D1-4B2	10620.1	-4.93	D1-1C3	11459.6	-4.34	E1-1C10	12276.0	-4.54
D1-4A2	10625.2	-5.18	D1-1B3	11464.6	-4.56	E1-1B10	12288.3	-4.77
D1-4C1	10630.3	-4.78	D1-1A3	11469.6	-4.57	E1-1A10	12300.6	-4.54
D1-4B1	10635.3	-4.94	D1-1C2	11474.6	-4.44	E1-1C9	12313.0	-4.98
D1-4A1	10640.2	-4.78	D1-1B2	11479.7	-4.65	E1-1B9	12325.5	-4.89
D1-3B4	10645.2	-4.88	D1-1A2	11485.0	-4.34	E1-1A9	12338.4	-4.69
D1-3A4	10650.1	-4.76	D1-1C1	11490.5	-4.59	E1-1C8	12351.7	-4.82
D1-3C3	10655.0	-5.04	D1-1B1	11496.1	-4.57	E1-1B8	12365.8	-4.49
D1-3B3	10659.9	-4.86	D1-1A1	11501.8	-4.69	E1-1A8	12380.2	-4.80
D1-3A3	10664.8	-4.85	E1-4C11	11507.4	-4.63	E1-1C7	12396.0	-4.68
D1-3C2	10669.5	-4.85	E1-4B11	11513.1	-4.28	E1-1B7	12412.1	-4.41
D1-3B2	10674.5	-4.74	E1-4A11	11519.9	-4.56	E1-1A7	12428.8	-4.56
D1-3A2	10679.6	-4.81	E1-4C10	11527.2	-4.20	E1-1C6	12445.0	-4.55
D1-3C1	10684.9	-4.83	E1-4B10	11535.7	-4.34	E1-1B6	12460.7	-4.65
D1-3B1	10690.1	-4.91	E1-4A10	11545.6	-4.23	E1-1A6	12473.9	-4.69
D1-3A1	10695.1	-4.65	E1-4C9	11556.1	-4.44	E1-1C5	12486.3	-4.31
D1-2C13	10700.1	-4.46	E1-4B9	11568.4	-4.53	E1-1B5	12497.3	-4.50
D1-2B13	10705.3	-4.37	E1-4A9	11581.0	-4.76	E1-1A5	12507.7	-4.42
D1-2A13	10710.4	-4.38	E1-4C8	11594.9	-4.89	E1-1C4	12517.8	-4.60
D1-2C12	10715.5	-4.51	E1-4B8	11608.1	-4.46	E1-1B4	12527.8	-4.37
D1-2B12	10720.6	-4.20	E1-4A8	11620.9	-4.55	E1-1A4	12537.9	-4.65
D1-2A12	10725.6	-4.26	E1-4C7	11633.4	-4.43	E1-1C3	12547.6	-4.55
D1-2C11	10730.7	-4.21	E1-4B7	11645.8	-4.15	E1-1B3	12557.5	-4.28
D1-2B11	10736.0	-4.31	E1-4A7	11657.8	-4.52	E1-1A3	12567.8	-4.35
D1-2A11	10741.3	-4.60	E1-4C6	11669.4	-4.67	E1-1C2	12578.5	-4.70
D1-2C10	10746.4	-4.38	E1-4B6	11680.4	-4.51	E1-1B2	12589.7	-4.06
D1-2B10	10751.7	-4.57	E1-4A6	11691.6	-4.48	E1-1A2	12602.9	-4.53
D1-2A10	10757.1	-4.55	E1-4C5	11702.7	-4.48	E1-1C1	12617.4	-4.82
D1-2C9	10762.8	-4.36	E1-4B5	11713.8	-4.64	E1-1B1	12633.9	-4.24
D1-2A9	10768.5	-4.42	E1-4A5	11724.5	-4.67	E1-1A1	12649.8	-4.49
D1-2C8	10774.2	-4.51	E1-4C4	11735.0	-4.32			
D1-2B8	10780.2	-4.33	E1-4B4	11745.7	-4.77			
D1-2A8	10786.8	-4.74	E1-4A4	11756.4	-4.83			
D1-2C7	10793.5	-4.50	E1-4C3	11766.9	-4.58			
D1-2B7	10800.2	-4.48	E1-4B3	11777.4	-4.81			
D1-2A7	10808.0	-4.38	E1-4A3	11787.9	-4.84			
D1-2C6	10816.3	-4.29	E1-4C2	11798.1	-4.77			
D1-2B6	10825.9	-4.27	E1-4B2	11808.2	-4.92			
D1-2A6	10843.2	-4.38	E1-4A2	11818.8	-4.77			
D1-2C5	10865.2	-4.22	E1-4C1	11829.1	-4.86			
D1-2B5	10892.5	-4.69	E1-4B1	11839.3	-4.84			
D1-2A5	10919.6	-4.11	E1-4A1	11849.5	-4.65			
D1-2C4	10945.0	-4.33	E1-3C4	11859.9	-4.89			
D1-2B4	10969.3	-4.50	E1-3B4	11870.8	-4.76			
D1-2A4	10992.6	-4.50	E1-3A4	11881.6	-4.86			
D1-2C3	11015.2	-4.58	E1-3C3	11892.3	-4.59			
D1-2B3	11037.8	-4.44	E1-3B3	11902.9	-4.74			
D1-2A3	11060.4	-4.19	E1-3A3	11913.9	-4.83			
D1-2C2	11082.9	-4.31	E1-2C10	11925.0	-4.83			
D1-2B2	11105.1	-4.26	E1-2B10	11936.3	-4.77			
D1-2A2	11127.3	-4.34	E1-2A10	11947.5	-4.61			
D1-2C1	11149.6	-4.34	E1-2C9	11958.8	-4.96			
D1-2B1	11172.3	-4.31	E1-2B9	11970.3	-4.74			
D1-2A1	11195.3	-4.31	E1-2A9	11982.7	-4.69			
D1-1C10	11218.8	-4.31	E1-2C8	11995.9	-4.63			
D1-1B10	11243.6	-4.20	E1-2B8	12009.3	-4.97			
D1-1A10	11269.0	-4.16	E1-2A8	12023.2	-4.93			
D1-1C9	11298.1	-4.29	E1-2C7	12038.7	-4.92			
D1-1B9	11326.1	-4.22	E1-2B7	12054.6	-5.05			
D1-1A9	11349.9	-4.24	E1-2A7	12070.9	-5.11			

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