

Supplementary Table S1. The stable isotope results of *C. aciphyllum* cellulose from core LIT-4.

Adjusted ¹ Depth from Surface (cm)	Mean Date ² (cal yr BP)	$\delta^{18}\text{O}_{\text{cellulose}}$ (‰)	$\delta^{13}\text{C}_{\text{cellulose}}$ (‰)	$\Delta^{13}\text{C}^3$ (‰)
0.0	-64	24.2	-23.4	15.7
2.2	-49	25.0	-23.5	15.8
3.6	-38	25.5	-22.7	15.3
5.2	-26	26.4	-21.7	14.5
6.6	-12	21.3	-22.4	15.7
8.1	9	23.9	-22.9	16.2
9.5	29	25.6	-22.0	15.5
10.8	47	26.9	-20.9	14.4
12.0	64	27.4	-20.7	14.2
13.4	85	27.0	-20.1	13.6
14.6	103	27.0	-21.9	15.6
17.3	145	26.9	-20.2	14.0
18.6	168	27.4	-20.7	14.5
19.8	189	26.7	-20.5	14.4
21.2	213	24.1	-19.8	13.6
22.6	237	26.1	-19.8	13.6
23.9	260	26.8	-21.1	15.0
25.1	279	26.3	-19.6	13.5
26.4	301	27.9	-19.2	13.0
27.7	324	25.7	-19.9	13.7
28.8	343	26.0	-20.9	14.7
30.1	366	27.1	-19.1	12.9
31.5	393	27.3	-19.8	13.6
32.8	417	26.3	-20.5	14.2
33.9	437	28.2	-20.5	14.3
35.1	481	26.1	-19.7	13.5
36.0	514	25.0	-20.3	14.1
36.9	551	24.3	-20.8	14.6
37.9	591	23.8	-22.6	16.5
38.7	624	25.1	-19.4	13.1
39.7	664	25.4	-20.0	13.7
40.6	699	25.7	-20.2	14.0
41.5	734	26.3	-22.3	16.2
42.5	780	27.1	-20.1	13.8
43.5	833	25.1	-20.4	14.1
44.4	884	26.7	-20.2	13.9
45.4	947	25.6	-23.0	16.8
46.3	1001	24.9	-20.0	13.7
47.0	1041	26.8	-21.1	14.8
47.9	1094	27.9	-20.0	13.7
49.1	1150	28.1	-19.2	12.9
50.0	1192	28.2	-20.0	13.7
51.1	1221	27.7	-21.3	15.0
52.0	1245	27.7	-20.5	14.2
53.1	1274	27.1	-20.6	14.4

54.0	1298	26.0	-20.9	14.7
55.1	1326	25.8	-22.9	16.7
56.3	1354	24.0	-21.8	15.5
57.3	1368	26.2	-21.9	15.6
58.3	1381	26.6	-22.1	15.9
61.6	1415	27.1	nd	
62.9	1431	27.6	-19.8	13.6
64.0	1446	25.6	-21.0	14.8
65.2	1461	25.9	-19.6	13.3
66.3	1474	26.6	-21.3	15.1
69.5	1517	23.6	-20.7	14.4
70.4	1530	25.6	nd	
71.4	1545	25.7	-22.0	15.7
72.6	1570	26.9	-20.7	14.4
73.9	1603	26.1	-22.3	16.1
77.0	1693	24.3	nd	
78.2	1760	26.4	nd	

¹ Adjustments made for proportional expansion/shrinkage of core material see [42] for details.

² Mean date based on BACON model, for more information see [42].

³ Calculated using eqn. 1 in text.



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