Supplement of Clim. Past, 16, 833–845, 2020
https://doi.org/10.5194/cp-16-833-2020-supplement

Climate of the Past
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EGU

Supplement of

Archaeal lipid-inferred paleohydrology and paleotemperature of Lake Chenghai during the Pleistocene–Holocene transition

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Table S1. Distributions of isoGDGTs in Lake Chenghai surface sediments. N.A. means the data is not available.

	GDGT-0 (%)	GDGT-1 (%)	GDGT-2 (%)	GDGT-3 (%)	Cren (%)	Cren'
S1	89.8	0.6	0.4	0.2	9.0	N.A.
S2	94.4	0.7	0.5	0.4	4.0	N.A.
S3	93.3	0.8	0.5	0.8	4.6	N.A.
S4	91.9	1.0	0.7	0.6	5.8	N.A.
S5	90.3	0.7	0.5	0.3	8.1	N.A.
S6	92.9	1.1	0.8	1.4	3.8	N.A.
S7	72.6	3.6	4.5	0.9	18.4	N.A.

Table S2. Distributions of isoGDGTs in CH2016 sediments and the reconstructed lake surface temperature. N.A. means the data is not available.

Age	GDGT-0 (%)	GDGT-1 (%)	GDGT-2 (%)	GDGT-3 (%)	Cren (%)	Cren' (%)	LST (℃)
6.96	18.6	8.7	10.6	1.4	58.8	1.9	19.2
7.04	18.7	8.4	10.5	1.5	59.5	1.5	19.1
7.12	22.1	8.5	10.2	1.5	56.5	1.2	18.5
7.20	25.4	10.5	11.0	1.6	49.5	2.1	N.A.
7.28	27.5	7.2	9.7	1.4	52.9	1.3	20.0
7.36	18.8	8.2	10.8	1.5	58.7	2.0	20.1
7.44	18.6	8.5	10.8	1.4	58.9	1.7	19.5
7.53	18.8	8.3	10.7	1.4	59.6	1.2	19.2
7.61	18.3	8.5	11.1	1.5	59.2	1.3	19.5
7.68	17.8	9.0	11.1	1.5	59.3	1.2	18.7
7.76	17.6	8.9	11.1	1.5	59.8	1.1	18.8
7.84	16.9	8.4	11.5	1.6	60.2	1.4	20.1
7.93	18.5	8.9	10.8	1.5	58.4	2.0	19.2
8.02	19.1	8.8	10.8	1.4	58.2	1.7	19.1
8.12	18.9	8.8	10.8	1.5	58.8	1.2	18.8
8.21	19.0	8.8	10.6	1.5	59.1	1.1	18.3
8.31	17.8	8.7	11.3	1.5	58.7	1.9	19.8
8.40	18.5	8.9	10.7	1.4	59.0	1.6	18.8
8.49	18.4	9.2	10.5	1.5	59.4	1.1	17.8
8.59	17.8	8.8	10.7	1.5	59.5	1.7	19.1
8.67	20.3	8.4	10.3	1.5	57.7	1.8	19.2
8.71	18.4	8.6	10.3	1.6	59.2	2.0	19.3
8.74	17.9	8.8	10.6	1.5	59.2	2.0	19.3
8.78	18.0	8.6	10.4	1.5	60.0	1.6	18.8
8.81	18.1	8.5	9.9	1.4	60.6	1.4	18.3
8.85	18.4	8.3	9.3	1.3	60.9	1.7	18.4
8.88	19.6	8.5	9.5	1.3	59.8	1.2	17.6
8.91	20.0	8.2	9.6	1.4	59.4	1.4	18.5
8.95	19.9	8.4	9.3	1.3	59.4	1.6	18.1
8.98	19.7	8.6	9.2	1.4	59.1	2.1	18.3

9.02	18.1	8.7	9.6	1.3	60.9	1.4	17.6
9.06	17.7	9.2	9.4	1.3	60.8	1.6	17.1
9.09	17.5	9.0	9.3	1.3	61.0	1.8	17.4
9.12	17.6	8.6	9.9	1.4	60.8	1.7	18.5
9.16	16.7	9.0	9.8	1.4	61.2	1.9	18.1
9.19	16.8	9.0	9.7	1.3	60.9	2.2	18.2
9.23	16.7	9.0	9.7	1.4	60.6	2.7	N.A.
9.26	17.3	8.8	9.4	1.4	61.2	1.8	17.9
9.30	17.7	8.8	9.5	1.3	61.3	1.5	17.6
9.33	17.9	9.0	9.5	1.3	60.8	1.5	17.4
9.37	22.7	9.6	9.3	1.3	55.6	1.4	16.3
9.40	27.7	7.7	8.3	1.1	53.7	1.5	17.7
9.44	19.8	8.6	9.2	1.3	59.6	1.5	17.6
9.47	19.5	8.6	9.2	1.2	59.5	2.0	17.9
9.51	19.2	8.5	9.1	1.3	59.9	2.2	18.3
9.54	18.5	9.0	9.3	1.3	59.9	2.1	17.8
9.58	17.4	9.1	9.6	1.3	61.0	1.5	17.3
9.61	17.6	9.1	9.3	1.3	60.6	2.1	17.7
9.65	18.1	9.3	9.5	1.3	59.6	2.2	17.6
9.68	18.5	9.4	9.5	1.3	59.8	1.5	16.8
9.72	18.2	9.2	9.9	1.4	60.4	0.9	16.9
9.75	18.4	9.4	9.6	1.3	59.7	1.7	17.1
9.79	17.5	8.9	9.8	3.2	58.9	1.6	19.5
9.82	17.6	9.3	9.9	1.3	60.4	1.4	17.3
9.85	17.8	8.8	9.6	1.4	60.6	1.8	18.1
9.89	18.7	9.2	9.5	1.3	59.8	1.5	17.0
9.95	18.9	8.8	9.3	1.3	59.8	1.8	17.7
10.00	19.5	9.0	9.3	1.3	58.9	2.0	17.6
10.05	18.3	9.1	9.4	1.4	59.8	2.0	17.7
10.12	17.8	9.4	9.6	1.4	60.3	1.6	17.1
10.22	17.9	9.3	9.6	1.4	59.6	2.3	17.9
10.38	18.1	9.3	9.8	1.3	60.0	1.5	17.3
10.54	18.2	9.1	9.6	1.3	60.1	1.7	17.4
10.71	17.3	9.3	10.0	1.3	60.4	1.7	17.6
10.88	17.5	9.0	9.5	1.3	60.4	2.2	18.0
11.04	17.3	9.0	10.0	1.4	60.4	1.8	18.2
11.20	19.9	8.9	8.7	1.3	60.2	1.1	16.2
11.36	31.1	8.8	9.1	1.2	48.4	1.4	17.0
11.52	19.1	9.2	9.1	1.3	59.9	1.4	16.6
11.69	17.9	9.2	10.3	1.4	60.1	1.1	17.5
11.86	21.7	8.9	10.3	1.3	55.3	2.6	N.A.
12.02	19.8	9.5	8.7	1.2	58.5	2.2	16.5
12.26	19.4	10.0	8.7	1.2	57.7	3.0	N.A.
12.32	20.5	10.0	8.4	1.1	57.1	2.8	N.A.

12.39	20.2	10.5	8.6	1.1	56.4	3.1	N.A.
12.54	19.5	10.2	8.9	1.2	58.1	2.1	15.7
12.70	20.0	10.1	9.3	1.2	57.1	2.3	N.A.
12.85	19.5	10.2	8.9	1.2	57.9	2.3	15.9
13.01	19.7	9.9	8.9	1.2	58.3	2.0	16.1
13.16	20.2	9.8	8.6	1.3	57.5	2.6	N.A.
13.32	19.5	10.2	8.7	1.2	57.4	3.0	N.A.
13.47	19.9	10.2	9.1	1.2	57.3	2.3	N.A.
13.62	21.1	10.7	8.2	1.2	55.7	3.1	N.A.
13.77	21.1	10.9	8.3	1.1	56.3	2.2	14.3
13.92	20.5	10.9	8.0	1.1	56.5	3.0	N.A.
14.06	32.5	9.9	6.3	0.9	48.1	2.3	N.A.
14.17	28.9	10.4	8.8	1.2	47.2	3.5	N.A.
14.26	33.5	12.1	8.8	1.7	41.8	2.2	N.A.
14.34	18.4	13.4	11.8	1.8	51.7	2.8	N.A.
14.43	76.6	8.4	4.7	1.0	8.7	0.7	N.A.
14.53	77.4	9.3	4.0	0.9	8.1	0.4	N.A.
14.62	75.7	8.3	5.0	1.1	9.2	0.7	N.A.
14.71	87.9	4.3	5.5	0.3	1.8	0.2	N.A.
14.80	87.9	3.2	6.4	0.4	2.0	0.2	N.A.
14.90	62.7	10.8	5.1	2.0	18.4	1.0	N.A.
14.99	78.5	5.7	8.1	0.6	6.7	0.5	N.A.
15.08	73.6	5.6	8.4	0.6	11.1	0.6	N.A.
15.18	45.3	9.7	10.5	1.3	32.0	1.1	17.0
15.27	62.1	7.9	7.7	1.0	20.4	1.0	N.A.
15.36	50.3	11.6	7.3	2.8	26.5	1.5	N.A.
15.44	90.9	2.3	3.2	0.3	2.9	0.4	N.A.
15.53	92.4	2.0	2.7	0.3	2.4	0.2	N.A.

Fig. S1 The structures of isoprenoidal and their corresponding $[M+H]^+$ value.