

Organic Geochemical Data from the Prince Creek Formation, Alaska

Table S1. Total organic carbon $\delta^{13}\text{C}$ (TOC, ‰, VPDB) values and weight percent TOC (wt. % TOC).

Sample ID	Age	$\delta^{13}\text{C}_{\text{TOC}}$	1 σ	N	Wt. % TOC	1 σ	N
19DH-006	PE	-27.4		1	62.9		1
08DH-005	PE	-27.4		1	59.9		1
19DH-004	PE	-27.6		1	63.7		1
19DH-002	PE	-27.8		1	60.4		1
19DH-003	PE	-26.9		1	42.4		1
12DH-020	PE	-26.3		1	54.9		1
10DH-037	PE	-25.9		1	62.3		1
NKT-31	K	-29.9		1	2.3		1
NKT-32	K	-28.7	0.0	3	4.0	0.1	3
NKT-51	K	-28.2		1	3.9		1
06SH-2.5	K	-28.8		1	9.2		1
NKT-7	K	-28.7		1	3.7		1
LBB-07	K	-27.3		1	12.4		1
LBB-24	K	-28.5		1	5.0		1
LBB-20	K	-27.5		1	13.5		1
06SH-16	K	-27.3	0.0	3	5.7	0.1	3
06SH-9.4	K	-27.4		1	4.4		1
06SH-16.6	K	-26.6		1	44.1		1
06SH-14.6	K	-27.0		1	8.6		1
06SH-16.1	K	-27.0	0.2	3	19.0	1.7	3

Note: PE = Paleocene samples; K = Cretaceous samples

Table S2. *n*-Alkane concentrations ($\mu\text{g/g}$) from *n*-C₁₆ to *n*-C₃₇ alkane

Sample ID	Age	C ₁₆	C ₁₇	C ₁₈	C ₁₉	C ₂₀	C ₂₁	C ₂₂	C ₂₃	C ₂₄	C ₂₅	C ₂₆	C ₂₇	C ₂₈	C ₂₉	C ₃₀	C ₃₁	C ₃₂	C ₃₃	C ₃₄	C ₃₅	C ₃₆	C ₃₇
19DH-006	PE	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.1	0.4	0.1	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
08DH-005	PE	0.7	0.5	0.6	1.2	3.5	4.4	2.4	4.0	2.8	3.8	1.3	3.8	0.9	4.3	0.5	2.6	0.0	2.8	1.3	0.1	0.0	0.0
19DH-004	PE	0.0	0.0	0.1	0.2	0.2	0.6	0.4	2.7	0.5	1.8	0.2	0.9	0.1	0.4	0.1	0.2	0.0	0.3	0.0	0.1	0.0	0.0
19DH-002	PE	0.1	0.3	0.5	1.8	1.5	1.6	1.4	8.5	2.7	13.7	1.7	7.5	1.3	6.7	1.1	4.1	0.2	3.3	0.2	2.8	0.0	0.0
19DH-003	PE	0.9	1.1	1.4	3.3	1.5	5.1	4.8	33.7	9.7	36.6	9.3	28.8	7.9	24.4	2.2	8.5	0.0	6.9	0.0	3.8	0.0	0.0
12DH-020	PE	0.4	0.3	0.5	1.1	0.9	2.2	1.3	8.0	1.9	12.6	1.6	13.5	1.5	11.1	1.8	11.8	1.0	12.2	0.6	3.1	0.0	0.2
10DH-037	PE	2.1	3.0	3.6	5.2	4.0	3.6	4.6	6.0	3.7	5.4	3.2	3.6	1.8	2.5	0.8	1.3	0.4	0.7	0.0	0.1	0.0	0.0
NKT-31	K	0.2	0.3	0.5	1.1	1.0	4.3	3.3	15.3	3.8	8.8	3.3	9.0	2.5	5.6	0.9	2.5	0.4	2.8	0.2	0.5	0.0	0.1
NKT-32	K	0.4	0.5	0.6	0.9	1.7	3.4	2.6	13.3	2.4	10.1	2.0	8.1	1.3	5.8	0.4	1.4	0.3	0.5	0.1	0.1	0.1	0.2
NKT-51	K	0.3	0.4	0.6	0.7	0.8	2.3	2.2	11.4	3.0	9.2	2.4	7.2	1.4	4.8	0.7	1.8	0.2	1.3	0.1	0.3	0.0	0.0
06SH-2.5	K	0.5	0.6	0.7	0.8	1.0	3.9	2.6	19.6	3.3	16.5	2.4	16.4	1.8	8.1	0.9	2.5	0.3	0.8	0.1	0.1	0.0	0.0
NKT-7	K	0.5	0.6	0.8	0.5	0.6	0.4	0.5	1.0	0.4	0.8	0.5	1.5	0.7	3.1	0.7	1.3	0.0	1.1	0.0	0.2	0.0	0.0
LBB-07	K	0.8	1.2	1.6	1.8	1.5	3.3	2.4	10.6	3.2	7.2	3.1	16.4	3.7	21.1	2.5	15.9	1.9	10.1	0.5	0.8	0.0	0.0
LBB-24	K	0.2	0.7	0.6	1.3	0.8	5.2	2.8	18.8	3.4	11.7	3.3	20.2	3.6	17.6	2.2	7.2	1.0	3.0	0.1	0.3	0.0	0.0
LBB-20	K	0.5	0.8	0.9	1.4	1.9	8.8	4.5	56.5	6.9	66.6	4.2	24.7	2.8	10.9	1.4	2.9	0.6	1.5	0.1	0.1	0.0	0.0
06SH-16	K	0.4	0.5	0.8	0.5	0.8	1.0	1.1	4.1	0.9	3.7	0.5	2.6	0.4	2.0	0.4	0.7	0.1	0.2	0.0	0.0	0.0	0.0
06SH-9.4	K	0.1	0.4	0.4	1.2	0.7	3.9	2.6	14.6	2.5	8.9	2.3	14.1	2.2	12.8	1.6	4.3	0.5	2.3	0.1	0.3	0.0	0.0
06SH-16.6	K	0.0	0.1	0.1	0.2	0.2	1.0	0.9	6.6	1.3	6.7	1.0	8.1	0.8	5.0	0.5	2.5	0.0	1.0	0.0	0.2	0.0	0.0
06SH-14.6	K	0.1	0.2	0.3	0.5	0.5	2.0	1.8	19.4	3.6	23.3	2.6	13.6	2.3	7.9	0.9	2.2	0.0	1.6	0.0	0.3	0.0	0.0
06SH-16.1	K	0.2	0.5	0.5	1.3	1.2	5.7	5.1	30.4	6.7	19.9	4.5	19.0	3.8	17.6	2.0	4.2	0.5	1.5	0.1	0.3	0.0	0.0

Table S3. Pristane and phytane concentrations (µg/g)

Sample ID	Age	Pristane	Phytane
19DH-006	PE	0.0	0.0
08DH-005	PE	1.0	0.3
19DH-004	PE	0.0	0.0
19DH-002	PE	0.2	0.0
19DH-003	PE	0.2	0.0
12DH-020	PE	0.0	0.0
10DH-037	PE	5.4	0.0
NKT-31	K	0.1	0.0
NKT-32	K	0.1	0.0
NKT-51	K	0.2	0.0
06SH-2.5	K	0.4	0.0
NKT-7	K	0.4	0.0
LBB-07	K	0.0	0.0
LBB-24	K	0.0	0.0
LBB-20	K	0.2	0.2
06SH-16	K	0.1	0.2
06SH-9.4	K	0.1	0.0
06SH-16.6	K	0.0	0.0
06SH-14.6	K	0.1	0.0
06SH-16.1	K	0.1	0.0

Table S4. Hopane concentrations (µg/g)

Sample ID	Age	17a(H)-22,29,30-Trisnorhopane	17b(H)-22,29,30-Trisnorhopane	17a(H),21b-30-Norhopane	17b(H)-30-Normoretane	17a(H),21b(H)-Hopane	A'-Neogammacer-22(29)-ene	17b(H),21b(H)-30-Norhopane AND 17b(H),21a(H)-moretane	17a(H),21b(H)-Homohopane, [22R]	17b(H),21b(H)-hopane AND 17b(H),21a(H)-homomoretane	17a(H),21b(H)-Bishomohopane	17b(H),21a(H)-bishomomoretane	17b(H),21b(H)-Homohopane	17b(H),21b(H)-Bishomohopane
19DH-006	PE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
08DH-005	PE	0.0	0.4	0.0	0.0	0.4	3.0	0.8	0.0	0.5	0.0	0.1	1.4	0.0
19DH-004	PE	0.0	0.1	0.0	0.0	0.0	0.9	0.1	0.3	0.0	0.0	0.0	0.0	0.0
19DH-002	PE	0.0	1.7	0.0	0.7	0.0	11.2	1.7	1.4	0.9	0.0	0.0	1.8	0.0
19DH-003	PE	0.0	6.0	0.0	2.8	1.0	9.7	7.3	15.2	5.2	0.3	0.5	16.1	0.0
12DH-020	PE	0.0	1.4	0.0	0.0	0.0	3.3	1.7	3.9	1.1	0.0	0.1	2.8	0.0
10DH-037	PE	0.7	0.7	0.6	0.5	0.8	0.0	0.5	1.2	0.5	0.3	0.1	0.0	0.0
NKT-31	K	0.1	1.4	0.2	0.4	0.2	1.6	0.8	0.5	0.5	0.1	0.0	1.1	0.0
NKT-32	K	0.0	0.5	0.1	0.1	0.1	0.4	0.3	0.0	0.1	0.0	0.0	0.6	0.0
NKT-51	K	0.0	0.7	0.2	0.1	0.2	0.8	0.5	0.3	0.3	0.0	0.0	1.0	0.0
06SH-2.5	K	0.0	0.6	0.0	0.1	0.0	0.8	0.4	0.0	0.2	0.0	0.0	0.7	0.0
NKT-7	K	0.0	1.8	0.0	0.7	0.3	2.3	1.2	0.0	0.4	0.0	0.0	0.9	0.0
LBB-07	K	0.0	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0
LBB-24	K	0.0	0.3	0.0	0.0	0.1	0.1	0.3	0.0	0.1	0.0	0.0	0.3	0.0
LBB-20	K	0.0	0.6	0.0	0.3	0.1	0.2	0.8	0.0	0.3	0.0	0.0	1.2	0.0
06SH-16	K	0.0	0.3	0.0	0.1	0.0	0.7	0.2	0.2	0.1	0.0	0.0	0.4	0.0
06SH-9.4	K	0.0	0.3	0.1	0.1	0.0	0.2	0.3	0.2	0.1	0.0	0.0	0.4	0.0
06SH-16.6	K	0.0	0.3	0.0	0.0	0.0	2.2	0.3	1.0	0.2	0.0	0.0	0.9	0.1
06SH-14.6	K	0.0	0.7	0.0	0.3	0.2	2.1	0.9	0.0	0.5	0.0	0.0	2.3	0.0

06SH-16.1	K	0.0	0.9	0.0	0.3	0.2	0.9	0.8	0.6	0.4	0.0	0.1	1.8	0.0
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Table S5. Conifer-derived diterpane and diterpene concentrations (µg/g)

Sample ID	Age	18-Norisopimarane	18-Norpimarane	18-Norabietane	19-Norabieta-3,8,11,13-tetraene	Pimarane	Abietane	Diterpenoid (Unidentified, MW=274)	Abieta-8,11,13-triene	2-Methyl-1-(40-methylpentyl)-6-isopropyl	Simonellite isomer A	Simonellite isomer B	Simonellite isomer C	Retenene
19DH-006	PE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
08DH-005	PE	3.2	77.9	0.0	0.0	54.7	4.6	0.4	0.5	0.0	0.0	0.0	2.6	0.0
19DH-004	PE	0.1	0.8	0.0	0.2	0.0	0.0	1.5	1.9	0.0	1.8	6.7	0.7	0.0
19DH-002	PE	0.0	0.8	0.0	6.3	0.0	0.0	0.2	0.9	0.0	0.2	0.0	0.3	0.0
19DH-003	PE	0.0	0.0	0.0	0.0	4.1	0.0	2.0	1.9	0.0	0.0	3.1	1.0	0.0
12DH-020	PE	0.0	2.1	0.8	0.0	28.0	0.4	0.2	1.2	0.1	0.1	0.0	8.6	5.0
10DH-037	PE	5.3	0.8	0.0	0.3	0.0	0.4	0.0	0.2	3.2	0.0	0.0	2.5	16.7
NKT-31	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NKT-32	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NKT-51	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
06SH-2.5	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NKT-7	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0
LBB-07	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LBB-24	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LBB-20	K	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
06SH-16	K	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
06SH-9.4	K	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0
06SH-16.6	K	0.1	3.5	0.2	0.0	0.2	0.0	0.4	0.3	0.5	0.1	0.1	0.2	0.1
06SH-14.6	K	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.3	0.0	0.0	0.3	0.2
06SH-16.1	K	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.6	0.0

Table S6. Biomarker indices and summary concentrations (µg/g)

Sample ID	Age	Σ <i>n</i> -alkanes (odd C ₂₇ to C ₃₃)	ACL	CPI	TAR	Pr/Ph	Homohopane 22S/(22S+22R)	Σ hopanes	Sum diterpenoids
19DH-006	PE	0.6	27.7	4.2	4.1	0.0	0.00	0.3	0.2
08DH-005	PE	13.7	28.7	3.3	4.0	4.0		6.5	143.9
19DH-004	PE	1.9	27.1	5.1	2.3			1.4	13.5
19DH-002	PE	24.5	28.2	5.4	5.4			19.5	8.8
19DH-003	PE	72.5	27.7	4.1	7.4		0.03	64.2	12.1
12DH-020	PE	51.7	29.2	7.5	16.4		0.02	14.2	46.4
10DH-037	PE	8.2	27.3	1.6	0.5			5.9	29.5
NKT-31	K	20.4	27.9	3.2	5.7		0.09	7.0	0.1
NKT-32	K	15.8	27.0	5.1	5.1		0.09	2.2	0.0
NKT-51	K	15.4	27.3	3.8	5.9			4.1	0.1
06SH-2.5	K	27.9	27.0	6.2	7.9			2.7	0.0
NKT-7	K	7.2	29.2	3.3	4.2			7.6	0.3
LBB-07	K	64.3	29.2	4.9	12.4			0.9	0.0
LBB-24	K	48.4	28.0	5.0	12.5			1.1	0.0
LBB-20	K	40.0	26.2	8.4	6.3	0.7		3.5	0.2
06SH-16	K	5.5	27.1	4.9	2.9	0.5		1.9	0.2
06SH-9.4	K	33.9	28.0	5.3	11.0		0.07	1.7	0.3
06SH-16.6	K	16.8	27.6	7.3	23.9			5.1	5.5
06SH-14.6	K	25.6	26.8	6.1	14.2			7.1	1.2
06SH-16.1	K	42.6	27.4	4.4	12.4			6.0	1.5

Table S7. *n*-Alkane $\delta^{13}\text{C}$ values (‰, VPDB), calculated leaf $\delta^{13}\text{C}$ values by *n*-alkane (‰, VPDB), and calculated leaf fractionation ($\Delta^{13}\text{C}_{\text{leaf}}$) values for *n*-C₂₉ alkane (‰, VPDB)

Sample ID	Age	$\delta^{13}\text{C}$ <i>n</i> -C ₂₃	$\delta^{13}\text{C}$ <i>n</i> -C ₂₅	$\delta^{13}\text{C}$ <i>n</i> -C ₂₇	$\delta^{13}\text{C}$ <i>n</i> -C ₂₉	$\delta^{13}\text{C}$ <i>n</i> -C ₃₁	$\delta^{13}\text{C}$ <i>n</i> -C ₃₃	$\delta^{13}\text{C}_{\text{leaf}}(n\text{-C}_{27})$	$\delta^{13}\text{C}_{\text{leaf}}(n\text{-C}_{29})$	$\delta^{13}\text{C}_{\text{leaf}}(n\text{-C}_{31})$	$\delta^{13}\text{C}_{\text{leaf}}(n\text{-C}_{33})$	$\Delta^{13}\text{C}_{\text{leaf}} (n\text{-C}_{29})$
19DH-006	PE	-31.5	-31.8	-33.5	-33.2	-32.9		-29.4	-28.6	-27.9		23.5
08DH-005	PE	-31.7	-32.0	-32.3	-31.7	-31.6	-30.3	-28.2	-27.2	-26.7	-25.8	22.0
19DH-004	PE	-31.6	-32.2	-32.9	-32.5	-32.3		-28.8	-27.9	-27.4		22.8
19DH-002	PE	-31.3	-31.0	-33.2	-32.8	-33.0	-31.9	-29.1	-28.2	-28.1	-27.4	23.1
19DH-003	PE	-32.1	-32.5	-31.5	-31.8	-31.3	-31.7	-27.4	-27.2	-26.3	-27.2	22.0
12DH-020	PE	-31.6	-31.5	-33.3	-33.0	-32.9	-33.4	-29.2	-28.4	-27.9	-28.9	23.3
10DH-037	PE	-32.0	-33.3	-32.9	-32.1	-32.6	-31.5	-28.8	-27.5	-27.7	-27.1	22.3
NKT-31	K	-27.9	-29.2	-31.2	-31.9	-31.7	-30.2	-27.2	-27.3	-26.7	-25.7	22.1
NKT-32	K	-30.6	-30.3	-30.8	-31.0	-30.1	-29.0	-26.7	-26.4	-25.1	-24.5	21.1
NKT-51	K	-32.6	-33.4	-34.5	-34.2	-35.1	-35.2	-30.4	-29.6	-30.1	-30.7	24.6
06SH-2.5	K	-30.2	-31.2	-33.2	-31.8	-31.0	-31.8	-29.2	-27.2	-26.1	-27.3	22.0
NKT-7	K	-30.5	-31.4	-32.7	-32.3	-32.9	-32.1	-28.6	-27.7	-27.9	-27.6	22.5
LBB-07	K	-30.5	-31.1	-31.9	-31.5	-32.4	-33.5	-27.9	-26.9	-27.4	-29.0	21.7
LBB-24	K	-31.6	-31.7	-32.0	-31.3	-31.3	-31.3	-27.9	-26.7	-26.4	-26.8	21.5
LBB-20	K	-31.2	-34.9	-32.2	-32.7	-33.9	-33.2	-28.1	-28.1	-29.0	-28.8	23.0

06SH-16	K	-31.9	-32.6	-33.2	-32.7	-33.0	-33.3	-29.1	-28.2	-28.1	-28.8	23.0
06SH-9.4	K	-32.1	-33.2	-33.3	-31.8	-32.7	-33.3	-29.2	-27.3	-27.8	-28.9	22.1
06SH-16.6	K	-31.3	-32.5	-32.7	-32.3	-32.4	-30.8	-28.6	-27.7	-27.5	-26.3	22.5
06SH-14.6	K	-31.9	-31.9	-33.7	-33.9	-33.3	-32.8	-29.7	-29.3	-28.3	-28.3	24.2
06SH-16.1	K	-31.6	-32.1	-33.5	-32.9	-32.6	-31.6	-29.5	-28.3	-27.7	-27.1	23.1

Table S8. Hopane $\delta^{13}\text{C}$ values (‰, VPDB)

Sample ID	Age	$\delta^{13}\text{C}$ 17a(H)-22,29,30-Trisnorhopane	$\delta^{13}\text{C}$ 17a(H),21b(H)-Homohopane (22R)	$\delta^{13}\text{C}$ 17a(H),21b(H)-Hopane	$\delta^{13}\text{C}$ 17a(H),21b(H)-30-Norhopane	$\delta^{13}\text{C}$ 17b(H)-22,29,30-Trisnorhopane	$\delta^{13}\text{C}$ 17b(H)-30-Normoretane	$\delta^{13}\text{C}$ 17b(H),21b(H)-30-Norhopane AND 17b(H),21a(H)-moretane	$\delta^{13}\text{C}$ 17b(H),21b(H)-Homohopane	$\delta^{13}\text{C}$ 17b(H),21b(H)-hopane AND 17b(H),21a(H)-homomoretane
19DH-006	PE							-47.2	-43.4	-44.9
08DH-005	PE		-39.1			-37.9		-43.2	-38.7	-38.0
19DH-004	PE					-32.8		-37.1	-33.7	
19DH-002	PE		-30.4			-35.6		-41.6	-34.5	-36.4
19DH-003	PE		-27.8			-32.3			-32.6	
12DH-020	PE		-57.1					-46.4	-40.3	
10DH-037	PE									
NKT-31	K	-30.7	-28.6	-31.5	-32.1	-30.8		-31.9		-29.9
NKT-32	K		-27.8			-33.0		-35.9	-31.9	-31.3
NKT-51	K		-28.5			-32.3		-34.5	-33.3	-34.8
06SH-2.5	K		-28.4			-29.7	-31.2	-32.0	-30.0	-31.3
NKT-7	K		-28.3					-34.9	-32.6	-31.6
LBB-07	K		-27.5		-34.8			-35.9	-31.7	-31.8
LBB-24	K									
LBB-20	K			-48.7		-46.6		-56.4	-41.7	-43.7
06SH-16	K					-42.5		-49.7	-42.8	
06SH-9.4	K					-31.3		-37.3	-33.4	-35.7
06SH-16.6	K	-31.1	-29.0		-33.5	-30.9		-34.9	-33.8	-33.7
06SH-14.6	K				-43.1	-39.3		-44.5	-39.9	-43.2
06SH-16.1	K		-33.2			-33.1		-37.5	-34.5	-35.3

Table S9. Conifer-derived diterpane $\delta^{13}\text{C}$ values (‰, VPDB), average diterpane $\delta^{13}\text{C}$ values (‰, VPDB), and calculated conifer leaf $\delta^{13}\text{C}$ values (‰, VPDB)

Sample ID	Age	$\delta^{13}\text{C}$ 18-Norisopimarane	$\delta^{13}\text{C}$ 18-Norpimarane	$\delta^{13}\text{C}$ Diterpenane (Unidentified, MW=274)	$\delta^{13}\text{C}$ Pimarane	$\delta^{13}\text{C}$ Diterpenoids	$\delta^{13}\text{C}_{\text{leaf}}$ (diterpenoids)
19DH-006	PE						
08DH-005	PE			-31.2		-31.2	-30.5
19DH-004	PE			-29.5		-29.5	-28.7
19DH-002	PE			-27.3		-27.3	-26.5
19DH-003	PE	-27.7	-27.2	-28.5	-27.5	-27.7	-27.0
12DH-020	PE			-29.8		-29.8	-29.1
10DH-037	PE		-25.4		-28.4	-26.9	-26.2
NKT-31	K	-22.2	-25.7		-22.3	-23.4	-22.7
NKT-32	K		-25.1		-28.9	-27.0	-26.3
NKT-51	K						
06SH-2.5	K			-27.9	-28.1	-28.0	-27.3
NKT-7	K		-29.7	-29.9		-29.8	-29.1
LBB-07	K						
LBB-24	K						
LBB-20	K						
06SH-16	K						
06SH-9.4	K						
06SH-16.6	K						
06SH-14.6	K						
06SH-16.1	K						

Table S10. *n*-Alkane $\delta^2\text{H}$ values (‰, VSMOW) and calculated water $\delta^2\text{H}$ values (‰, VSMOW) for *n*-C₂₉ alkane

Sample ID	Age	$\delta^2\text{H}$ <i>n</i> -C ₂₃	$\delta^2\text{H}$ <i>n</i> -C ₂₅	$\delta^2\text{H}$ <i>n</i> -C ₂₇	$\delta^2\text{H}$ <i>n</i> -C ₂₉	$\delta^2\text{H}$ <i>n</i> -C ₃₁	$\delta^2\text{H}$ <i>n</i> -C ₃₃	$\delta^2\text{H}_{\text{water-C}_{29}}$
19DH-006	PE							
08DH-005	PE	-306.4	-307.5	-284.3	-278.2	-261.0	-257.1	-189.0
19DH-004	PE	-273.9	-272.2	-264.0	-251.7	-240.2		-159.2
19DH-002	PE	-295.6	-297.3	-278.5	-255.8	-238.9	-237.5	-163.8
19DH-003	PE	-292.6	-291.0	-269.7	-249.2	-236.2	-247.7	-156.5
12DH-020	PE	-266.2	-259.8	-247.2	-239.7	-230.0	-223.5	-145.7
10DH-037	PE	-241.1	-233.1	-225.2	-217.3	-210.3	-217.8	-120.6
NKT-31	K	-257.8	-242.5	-240.3	-232.6	-215.9	-220.1	-137.8
NKT-32	K	-262.8	-251.0	-243.1	-235.2	-209.4		-140.7
NKT-51	K	-250.1	-241.8	-233.2	-228.3	-213.4	-206.8	-133.0
06SH-2.5	K	-265.7	-257.5	-252.9	-242.0	-212.9		-148.4
NKT-7	K	-238.1	-228.4	-228.6	-229.3	-216.9	-215.3	-134.0
LBB-07	K	-233.3	-221.1	-221.7	-185.2	-191.6	-219.2	-84.5
LBB-24	K	-253.4	-244.1	-245.5	-225.7	-217.3	-219.0	-130.0
LBB-20	K	-255.3	-245.7	-240.7	-233.6	-213.1	-204.3	-138.9
06SH-16	K	-236.2	-243.7	-238.3	-235.4	-219.7	-202.6	-140.9
06SH-9.4	K	-247.8	-249.0	-245.7	-248.4	-236.5	-222.9	-155.5
06SH-16.6	K	-266.5	-259.7	-237.5	-242.7	-226.6	-219.1	-149.1
06SH-14.6	K	-258.7	-254.1	-246.4	-240.5	-238.2	-182.6	-146.6

06SH-16.1	K	-263.7	-256.5	-240.4	-238.8	-226.3	-222.5	-144.7
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