Table S1: concentrations of isoGDGTs and brGDGTs, All samples and corresponding depths, method used, isoprenoid and branched GDGT integrated values, TEX86 (Schouten et al., 2002) and BIT index values (Hopmans et al., 2004), Methane Index (MI) values (Zhang et al., 2011), GDGT-2/Crenarchaeol ratios (Weijers et al., 2011), GDGT-0/Crenarchaeol ratios (Blaga et al., 2009) and GDGT-2/GDGT-3 ratios (Taylor et al., 2013), and #rings-tetra values (Sinninghe Damsté, 2016). Discarded samples based on BIT and #rings-tetra are indicated with an asterisk. Discarded samples with GDGT-0/Crenarchaeol ratio above 2.0 are indicated with a dagger, those with MI values above 0.3 are indicated with a 'double dagger', and those with GDGT-2/crenarchaeol ratios above 0.4 with quotation marks. Discarded samples taken from mass waste deposits are underlined.

Core	Section	Core interval (cm)		Cum. top depth (mbsf)	Cum. bottom depth (mbsf)	Used method	GDGT-0	GDGT-1	GDGT-2	GDGT-3	Cren	Cren'	GDGT-III	GDGT-II	GDGT-I	TEX86	BIT	Methane Index (MI)	GDGT-2 /Cren	GDGT-0 /Cren	GDGT-2 /GDGT-3	#rings-tetra
45R	1W	10-14		421.3	421.34	HPLC/MS	1.67E+08	7.89E+06	3.98E+06	1.04E+06	1.42E+08	1.58E+06	2.13E+06	1.93E+06	4.89E+06	0.455	0.06	0.082	0.028	1.176	3.827	
45R	1W	18-20		421.38	421.4	HPLC/MS	1.25E+08	6.03E+06	2.49E+06	7.85E+05	1.18E+08	1.23E+06	7.45E+06	4.62E+06	4.69E+06	0.428	0.12	0.072	0.021	1.059	3.172	
45R	1W	40-44		421.6	421.64	HPLC/MS	1.33E+08	6.16E+06	2.51E+06	7.80E+05	1.15E+08	1.57E+06	1.78E+06	2.02E+06	4.15E+06	0.441	0.06	0.075	0.022	1.157	3.218	
45R	1W	70-74		421.9	421.94	HPLC/MS	1.60E+08	7.28E+06	3.05E+06	1.00E+06	1.41E+08	2.22E+06	3.77E+06	8.17E+06	6.58E+06	0.463	0.12	0.073	0.022	1.135	3.050	
46R	1W	20-22		431	431.02	HPLC/MS	9.62E+06	9.80E+05	6.17E+05	6.97E+04	6.62E+06	3.47E+05	5.23E+05	4.66E+05	7.08E+05	0.513	0.20	0.193	0.093	1.453	8.852	
46R	1W	68-72		431.48	431.52	HPLC/MS	6.06E+07	8.02E+06	5.52E+06	5.14E+05	5.04E+07	2.35E+06	2.62E+06	1.70E+06	1.95E+06	0.511	0.11	0.210	0.110	1.202	10.739	
46R	2W	16-20	*†‡O	432.4	432.44	HPLC/MS	1.20E+08	4.23E+06	2.27E+06	2.04E+05	6.49E+06	3.92E+06	6.39E+06	5.63E+06	6.14E+06	0.404	0.74	0.493	0.350	18.490	11.127	
46R	2W	120-124	*†‡O	433.44	433.48	HPLC/MS	1.57E+07	1.59E+06	1.05E+06	1.35E+05	6.02E+06	4.41E+05	9.78E+05	6.64E+05	1.56E+06	0.506	0.35	0.300	0.174	2.608	7.778	
46R	3W	72-76		434.44	434.48	HPLC/MS	1.50E+08	7.28E+06	3.39E+06	1.02E+06	1.40E+08	2.24E+06	2.88E+06	5.48E+06	5.20E+06	0.477	0.09	0.076	0.024	1.071	3.324	
47R	1W	21-25	†O	440.61	440.65	HPLC/MS	2.49E+08	1.36E+07	9.17E+06	1.04E+06	9.03E+07	4.97E+06	5.34E+05	2.59E+06	3.75E+06	0.527	0.07	0.200	0.102	2.757	8.817	
47R	1W	89-93	*†‡O	441.29	441.33	UHPLC/MS	8.89E+05	4.75E+04	2.97E+04	3.80E+03	1.43E+05	6.74E+04	4.26E+04	2.02E+04	1.04E+05	0.458	0.84	0.352	0.208	6.232	7.809	0.405
47R	1W	117-121	*†O	441.57	441.61	HPLC/MS	7.45E+07	3.93E+06	2.15E+06	3.31E+05	2.79E+07	1.63E+06	4.54E+06	2.35E+06	5.78E+06	0.511	0.31	0.178	0.077	2.670	6.495	
47R	2W	5-9		441.91	441.95	HPLC/MS	6.26E+06	3.29E+05	1.65E+05	3.37E+04	5.34E+06	7.92E+04	2.70E+05	2.19E+05	3.00E+05	0.458	0.13	0.089	0.031	1.173	4.895	0.180
47R	2W	69-73	*†O	442.55	442.59	HPLC/MS	4.52E+07	2.11E+06	1.22E+06	2.23E+05	2.01E+07	8.01E+05	8.85E+06	1.62E+06	6.14E+06	0.515	0.45	0.145	0.061	2.249	5.471	
47R	3W	9-13		443.41	443.45	HPLC/MS	7.35E+06	3.29E+05	1.37E+05	3.81E+04	6.29E+06	8.80E+04	2.12E+05	2.35E+05	2.08E+05	0.444	0.09	0.073	0.022	1.168	3.588	0.540
47R	3W	17-21		443.47	443.51	HPLC/MS	1.21E+07	5.47E+05	2.17E+05	6.87E+04	1.14E+07	1.61E+05	1.94E+05	2.23E+05	3.13E+05	0.450	0.06	0.067	0.019	1.067	3.157	
47R	3W	20-24		443.52	443.56	HPLC/MS	6.16E+07	2.98E+06	1.17E+06	4.09E+05	4.64E+07	6.76E+05	7.41E+05	9.26E+05	1.42E+06	0.431	0.06	0.088	0.025	1.328	2.861	
47R	3W	72-76	*†‡O	444.04	444.08	HPLC/MS	1.34E+06	1.26E+05	1.41E+05	5.17E+03	5.95E+05	2.28E+04	7.75E+04	1.01E+05	8.56E+04	0.573	0.31	0.306	0.237	2.247	27.279	0.292
47R	3W	85-89		444.17	444.21	HPLC/MS	9.93E+05	8.77E+04	5.66E+04	8.00E+03	9.77E+05	2.51E+04	8.94E+04	3.76E+04	6.43E+04	0.506	0.16	0.132	0.058	1.016	7.074	
47R	3W	118-122	*†O	444.46	444.5	HPLC/MS	1.72E+07	7.21E+05	3.71E+05	1.85E+05	4.19E+06	2.38E+05	2.77E+06	2.97E+06	3.66E+06	0.524	0.69	0.224	0.089	4.105	2.005	
48R	1W	5-9		449.95	449.99	HPLC/MS	2.53E+06	2.41E+05	1.76E+05	2.44E+04	2.25E+06	1.01E+05	4.93E+04	6.70E+04	1.00E+05	0.556	0.09	0.158	0.078	1.126	7.213	
48R	2W	19-21		451.59	451.61	HPLC/MS	5.39E+06	5.20E+05	3.23E+05	5.33E+04	5.52E+06	1.88E+05	1.37E+05	2.01E+05	2.38E+05	0.520	0.09	0.136	0.059	0.977	6.059	
48R	2W	128-132		452.68	452.72	HPLC/MS	2.75E+06	2.61E+05	1.55E+05	2.84E+04	2.93E+06	1.20E+05	8.02E+04	7.53E+04	1.26E+05	0.537	0.09	0.127	0.053	0.938	5.459	
48R	3W	76-80		453.66	453.7	HPLC/MS	3.89E+06	2.48E+05	1.25E+05	2.81E+04	3.43E+06	9.61E+04	1.05E+05	1.50E+05	8.61E+04	0.501	0.09	0.102	0.036	1.136	4.434	
50R	1W	24-30		469.24	469.3	HPLC/MS	2.87E+06	1.79E+05	8.79E+04	2.15E+04	2.95E+06	5.98E+04	9.11E+04	1.15E+05	1.68E+05	0.487	0.11	0.087	0.030	0.976	4.091	
50R	CCW	0-4		469.645	469.685	HPLC/MS	2.71E+06	1.65E+05	8.06E+04	2.18E+04	2.67E+06	6.30E+04	8.31E+04	1.34E+05	1.55E+05	0.501	0.12	0.089	0.030	1.016	3.700	
51R	1W	82-86		479.42	479.46	HPLC/MS	2.46E+06	1.36E+05	7.58E+04	1.73E+04	2.44E+06	7.46E+04	8.28E+04	1.17E+05	1.40E+05	0.552	0.12	0.084	0.031	1.007	4.394	
51R	1W	140-144		480	480.04	HPLC/MS	4.61E+06	4.23E+05	2.51E+05	3.81E+04	3.13E+06	1.51E+05	8.08E+04	9.71E+04	2.79E+05	0.510	0.13	0.178	0.080	1.473	6.588	0.485
51R	1W	145-149		480.05	480.09	UHPLC/MS	2.54E+06	2.28E+05	1.36E+05	1.26E+04	1.66E+06	6.33E+04	1.10E+05	6.03E+04	4.79E+04	0.482	0.12	0.180	0.082	1.533	10.796	0.184
51R	2W	20-22		480.3	480.32	HPLC/MS	1.53E+06	1.52E+05	9.91E+04	1.07E+04	1.03E+06	4.99E+04	1.43E+05	6.52E+04	5.83E+04	0.512	0.21	0.196	0.097	1.489	9.231	
51R	2W	46-50	†O	480.56	480.6	HPLC/MS	6.29E+05	4.17E+04	2.98E+04	3.36E+03	2.63E+05	1.48E+04	2.70E+04	3.27E+04	2.43E+04	0.535	0.24	0.213	0.114	2.393	8.878	0.218
51R	CCW	10-14		480.98	481.02	UHPLC/MS	1.33E+06	1.43E+05	1.12E+05	1.04E+04	1.00E+06	5.64E+04	0.00E+00	0.00E+00	0.00E+00	0.555	0.00	0.201	0.112	1.331	10.707	
52R	CCW	9-13		488.29	488.33	HPLC/MS	3.58E+06	3.29E+05	1.98E+05	2.87E+04	4.23E+06	1.13E+05	1.45E+05	2.03E+05	1.66E+05	0.508	0.11	0.113	0.047	0.845	6.893	
53R	1W	20-22		498	498.02	HPLC/MS	9.64E+06	4.31E+05	2.14E+05	6.25E+04	9.29E+06	1.03E+05	3.15E+05	5.40E+05	5.14E+05	0.468	0.13	0.070	0.023	1.038	3.419	
53R	1W	85-89		498.65	498.69	HPLC/MS	1.05E+07	5.08E+05	2.36E+05	6.76E+04	1.01E+07	1.64E+05	2.51E+05	8.27E+05	4.73E+05	0.479	0.13	0.073	0.023	1.035	3.490	
53R	2W	84-88		500.09	500.13	HPLC/MS	2.98E+06	1.85E+05	8.65E+04	2.13E+04	3.02E+06	4.85E+04	1.04E+05	1.15E+05	1.29E+05	0.458	0.10	0.087	0.029	0.985	4.067	
54R	1W	87-91		508.27	508.31	HPLC/MS	2.19E+06	1.56E+05	1.03E+05	1.67E+04	2.14E+06	5.00E+04	7.54E+04	1.18E+05	1.09E+05	0.522	0.12	0.112	0.048	1.021	6.156	
54R	3W	0-4		510.09	510.13	HPLC/MS	4.42E+06	3.06E+05	1.47E+05	3.06E+04	4.25E+06	8.77E+04	1.36E+05	1.44E+05	2.00E+05	0.465	0.10	0.100	0.035	1.038	4.814	
55R	1W	15-19	O	517.15	517.19	UHPLC/MS	1.25E+06	1.02E+05	7.95E+04	7.23E+03	6.42E+05	4.61E+04	1.29E+05	1.12E+05	1.45E+05	0.566	0.38	0.215	0.124	1.950	10.988	0.199
57R	1W	4-8		535.84	535.88	UHPLC/MS	2.50E+07	1.13E+06	3.85E+05	1.57E+05	2.08E+07	3.96E+05	8.24E+05	1.12E+06	9.58E+05	0.454	0.12	0.073	0.019	1.203	2.447	
57R	1W	80-84	O	536.6	536.64	UHPLC/MS	9.68E+05	7.60E+04	6.37E+04	1.32E+04	5.73E+05	2.88E+04	2.56E+04	1.42E+04	1.39E+04	0.582	0.09	0.203	0.111	1.689	4.816	0.310
57R	2W	45-49		537.56	537.6	HPLC/MS	5.74E+06	5.75E+05	3.29E+05	3.51E+04	4.53E+06	2.05E+05	1.37E+05	1.37E+05	1.16E+05	0.497	0.08	0.165	0.073	1.266	9.365	0.170
57R	2W	75-79		537.86	537.9	HPLC/MS	7.16E+06	5.00E+05	2.66E+05	3.97E+04	5.62E+06	1.21E+05	2.85E+05	1.91E+05	1.58E+05	0.461	0.10	0.123	0.047	1.274	6.699	0.363
58R	1W	14-18		545.54	545.58	HPLC/MS	3.01E+06	3.50E+05	2.53E+05	1.91E+04	2.72E+06	1.55E+05	1.03E+05	6.14E+04	3.89E+04	0.549	0.07	0.178	0.093	1.110	13.294	
59R	1W	17-19		555.17	555.19	HPLC/MS	6.89E+05	3.29E+04	1.57E+04	5.44E+03	7.45E+05	7.59E+03	2.05E+04	1.18E+04	2.92E+04	0.466	0.08	0.067	0.021	0.924	2.898	
59R	CCW	16-20		556.56	556.6	HPLC/MS	1.02E+06	1.02E+05	7.95E+04	9.24E+03	7.10E+05	4.97E+04	9.85E+04	6.02E+04	6.12E+04	0.575	0.24	0.201	0.112	1.441	8.602	0.125
60R	2W	19-21		565.8	565.82	HPLC/MS	3.78E+06	1.65E+05	6.59E+04	2.46E+04	4.03E+06	3.83E+04	1.02E+05	1.58E+05	1.51E+05	0.439	0.09	0.059	0.016	0.937	2.677	
62R	CCW	27-31		584.07	584.11	UHPLC/MS	6.66E+05	4.50E+04	2.50E+04	4.26E+03	5.74E+05	1.75E+04	3.08E+04	2.00E+04	2.09E+04	0.510	0.11	0.112	0.044	1.161	5.862	0.268
63R	2W	17-19		594.95	594.97	HPLC/MS	1.32E+06	1.09E+05	6.96E+04	1.16E+04	1.59E+06	4.50E+04	4.98E+04	5.83E+04	8.41E+04	0.537	0.11	0.104	0.044	0.830	5.981	
63R	4W	19-21		597.54	597.56	HPLC/MS	6.34E+06	4.62E+05	2.38E+05	4.75E+04	6.85E+06	1.66E+05	1.32E+05	1.13E+05	1.67E+05	0.494	0.06	0.096	0.035	0.925	5.010	
64R	2W	18-21		604.68	604.72	HPLC/MS	1.19E+06	1.31E+05	8.28E+04	1.66E+04	1.65E+06	5.68E+04	1.97E+04	1.71E+04	3.77E+04	0.544	0.04	0.119	0.050	0.722	4.977	
66R	1W	26-28		622.56	622.58	HPLC/MS	4.35E+06	2.72E+05	1.46E+05	3.34E+04	4.07E+06	8.17E+04	3.44E+05	4.41E+05	3.91E+05	0.490	0.22	0.098	0.036	1.068	4.372	
67R	2W	18-20		633.38	633.4	HPLC/MS	4.72E+06	8.15E+05	7.26E+05	1.66E+05	6.86E+06	5.18E+05	2.36E+05	2.26E+05	3.03E+05	0.634	0.10	0.188	0.106	0.689	4.367	0.270
69R	6W	9-11		658.16	658.18	HPLC/MS	6.13E+06	6.35E+05	6.92E+05	4.23E+04	5.93E+06	5.91E+05	3.49E+04	3.52E+04	5.88E+04	0.545	0.17	0.158	0.072	1.037	7.127	
70R	3W	21-23		663.66	663.68	HPLC/MS	5.57E+06	3.95E+05	2.13E+05	4.25E+04	6.40E+06	1.40E+05	1.57E+05	2.07E+05	3.20E+05	0.500	0.10	0.090	0.033	0.870	5.004	
70R	3W	63-68	*†	664	664.13	UHPLC/MS	1.13E+06	1.28E+05	5.92E+04	5.97E+03	5.04E+05	3.40E+04	1.38E+05	1.20E+05	1.29E+05	0.437	0.43	0.264	0.118	2.239	9.917	0.192
71R	5W	18-20		675.69	675.71	UHPLC/MS	1.80E+06	2.52E+05	2.10E+05	4.56E+04	2.23E+06	1.43E+05	1.44E+05	9.24E+04	1.34E+05	0.613	0.14	0.177	0.094	0.807	4.615	0.234
72R	5W	18-20		685.42	685.44	UHPLC/MS	4.65E+06	3.03E+05	1.65E+05	3.12E+04	4.40E+06	1.26E+05	9.53E+04	1.58E+05	1.42E+05	0.515	0.08	0.099	0.038	1.057	5.288	0.409
73R	1W	18-20		689.58	689.6	UHPLC/MS	3.00E+07	1.80E+06	6.83E+05	2.65E+05	3.22E+07	7.94E+05	7.81E+05	9.18E+05	1.15E+06	0.492	0.08	0.077	0.021	0.934	2.573	0.476
73R	2W	18-20		690.95	690.97	HPLC/MS	1.02E+06	1.09E+05	8.63E+04	1.94E+04	8.68E+05	5.26E+04	7.35E+04	4.02E+04	4.65E+04	0.592	0.16	0.189	0.099	1.181	4.446	0.312
73R	3W	92-97		693.83	693.88	HPLC/MS	2.73E+06	2.67E+05	1.65E+05	2.04E+04	1.91E+06	1.00E+05	3.78E+05	1.37E+05	1.41E+05	0.518	0.26	0.184	0.087	1.435	8.132	0.265
73R	4W	18-20		694.82	694.84	UHPLC/MS	4.18E+06	4.42E+05	2.79E+05	3.31E+04	3.79E+06	2.09E+05	4.85E+04	7.49E+04	4.05E+04	0.541	0.04	0.159	0.074	1.103	8.429	0.193
75R	1W	18-20		708.78	708.8	UHPLC/MS	3.42E+06	4.05E+05	2.70E+05	3.06E+04	3.27E+06	1.73E+05	1.07E+05	9.35E+04	2.08E+05	0.539	0.11	0.170	0.083	1.046	8.851	0.134
75R	1W	46-51		709.06	709.11	UHPLC/MS	3.87E+06	2.37E+05	1.07E+05	2.67E+04	3.39E+06	1.12E+05	1.49E+05	1.13E+05	1.67E+05	0.509	0.11	0.096	0.032	1.142	4.010	0.545
75R	1W	92-97	†O	709.52	709.57	UHPLC/MS	8.84E+05	3.54E+04	2.74E+04	3.61E+03	2.43E+05	1.50E+04	1.29E+04	2.09E+04	2.62E+04	0.566	0.20	0.205	0.113	3.635	7.591	0.370
75R	4W	21-23		712.76	712.78	UHPLC/MS	6.19E+06	3.85E+05	1.74E+05	4.71E+04	6.47E+06	2.39E+05	1.77E+05	1.68E+05	1.53E+05	0.544	0.07	0.083	0.027	0.957	3.694	0.504
76R	3W	31-33		723.88	723.9	UHPLC/MS	9.06E+06	9.09E+05	5.36E+05	8.29E+04	9.47E+06	5.43E+05	3.10E+04	4.22E+04	3.80E+04	0.561	0.11	0.132	0.057	1.151	6.466	0.201
76R	5W	68-73		724.25	724.3	UHPLC/MS	1.50E+07	1.02E+06	4.99E+05	1.29E+05	1.26E+07	3.77E+05	3.26E+05	3.78E+05	3.96E+05	0.497	0.08	0.112	0.040	1.191	3.871	0.526
76R	6W	19-22		724.9	724.92	UHPLC/MS	1.98E+06	2.15E+05	1.37E+05	2.71E+04	1.86E+06	1.02E+05	2.38E+05	1.41E+05	1.70E+05	0.554	0.23	0.162	0.074	1.063	5.053	0.215
77R	CCW	24-26		728.28	728.3	UHPLC/MS	8.95E+05	8.33E+04	5.58E+04	7.27E+03	6.81E+05	5.02E+04	5.52E+04	4.28E+04	2.79E+04	0.576	0.16	0.167	0.082	1.314	7.675	0.517
78R	2W	57-62	*	739.41	739.46	UHPLC/MS	7.30E+05	8.72E+04	6.48E+04	1.18E+04	6.70E+05	4.34E+04	3.66E+04	8.02E+04	1.08E+05	0.579	0.45	0.187	0.097	1.090	5.469	0.501
78R	3W	18-21		740.34	740.37	UHPLC/MS	4.39E+05	4.81E+04	3.25E+04	6.61E+03	3.68E+05	1.92E+04	4.72E+04	2.52E+04	3.92E+04	0.548	0.23	0.184	0.088	1.194	4.926	0.347
78R	3W	87-92		741.03	741.08	UHPLC/MS	4.92E+06	4.45E+05	2.60E+05	4.20E+04	4.52E+06	1.63E+05	1.39E+05	1.74E+05	2.06E+05	0.511	0.10	0.137	0.057	1.088	6.184	0.422
78R	5W	17-20	†O	742.67	742.7	UHPLC/MS	1.42E+08	2.62E+05	1.69E+05	2.59E+04	1.94E+06	1.33E+05	1.37E+04	8.79E+04	7.92E+04	0.556	0.09	0.181	0.087	73.196	6.525	0.164
79R	2W	135-140		749.81	749.86	UHPLC/MS	8.56E+05	9.33E+04	6.05E+04	7.81E+03	8.08E+05	4.50E+04	1.77E+04	2.11E+04	3.37E+04	0.548	0.08	0.159	0.075	1.059	7.741	0.332
79R	3W	112-117	†O	751.02	751.07	UHPLC/MS	2.99E+06	1.19E+05	9.09E+04	1.43E+04	7.89E+05	5.27E+04	8.36E+04	4.29E+04	1.01E+05	0.571	0.22	0.210	0.115	3.785	6.352	0.236
79R	6W	18-20		754.4	754.42	UHPLC/MS	7.65E+06	5.04E+05	2.72E+05	6.45E+04	7.82E+06	2.49E+05	2.46E+05	3.05E+05	3.07E+05	0.537	0.10	0.094	0.035	0.978	4.217	0.516
82R	1W	100-104		776.8	776.84	UHPLC/MS	8.02E+05	6.51E+04	4.15E+04	6.60E+03	5.54E+05	3.34E+04	5.07E+04	4.40E+04	8.06E+04	0.556	0.24	0.162	0.075	1.448	6.288	0.225
82R	3W	40-44		778.94	778.98	UHPLC/MS	2.51E+06	1.26E+05	5.24E+04	1.62E+04	2.34E+06	6.25E+04	7.28E+04	8.01E+04	8.92E+04	0.510	0.09	0.075	0.022	1.074	3.238	0.562
82R	5W	33-38		781.45	781.5	UHPLC/MS	1.14E+06	1.37E+05	8.74E+04	1.40E+04	1.22E+06	6.48E+04	2.31E+04	2.42E+04	4.56E+04	0.548	0.07	0.156	0.071	0.927	6.250	0.206
82R	6W	118-123		783.48	783.53	UHPLC/MS	5.77E+05	6.35E+04	4.78E+04	6.91E+03	4.44E+05	3.01E+04	4.46E+04	2.64E+04	5.83E+04	0.572	0.23	0.200	0.108	1.300	6.917	0.228
84R	5W	81-85		798.81	798.85	HPLC/MS	1.33E+06	1.02E+05	5.69E+04	1.28E+04	1.48E+06	3.40E+04	6.78E+04	7.50E+04	6.52E+04	0.503	0.12	0.102	0.038	0.896	4.435	
84R	5W	20-24		801.19	801.23	HPLC/MS	5.50E+05	8.11E+04	5.31E+04	2.11E+04	9.92E+05	4.19E+04	4.29E+03	5.50E+03	3.20E+04	0.589	0.04	0.131	0.054	0.555	2.522	
84R	5W	59-63		801.58	801.62	HPLC/MS	4.48E+05	6.40E+04	4.41E+04	8.61E+03	6.95E+05	3.63E+04	2.19E+04	1.47E+04	2.56E+04	0.582	0.08	0.138	0.063	0.645	5.119	
84R	5W	100-104		801.99	802.03	HPLC/MS	1.16E+06	1.57E+05	1.06E+05	2.05E+04	1.75E+06	6.83E+04	3.23E+04	2.54E+04	3.79E+04	0.554	0.05	0.135	0.061	0.662	5.182	
84R	5W	140-144		802.39	802.43	HPLC/MS	4.91E+05	7.14E+04	4.94E+04	8.72E+03	7.64E+05	3.13E+04	1.19E+04	1.11E+04	1.56E+04	0.556	0.05	0.140	0.065	0.643	5.668	
84R	6W	0-4		802.47	802.51	HPLC/MS	4.46E+05	6.67E+04	4.59E+04	8.05E+03	7.54E+05	3.08E+04	1.37E+04	1.12E+04	1.61E+04	0.560	0.05	0.133	0.061	0.592	5.702	
84R	6W	40-44		802.87	802.71	HPLC/MS	1.27E+06	1.84E+05	1.19E+05	2.44E+04	2.03E+06	8.73E+04	3.46E+04	3.55E+04	4.35E+04	0.556	0.05	0.134	0.059	0.626	4.876	
84R	6W	59-63		803.06	803.1	HPLC/MS	1.41E+06	1.99E+05	1.30E+05	2.49E+04	2.32E+06	9.27E+04	3.28E+04	3.83E+04	4.83E+04	0.555	0.05	0.128	0.056	0.606	5.224	
84R	6W	80-84		803.27	803.31	HPLC/MS	3.27E+06	4.62E+04	3.64E+04	6.55E+03	5.63E+06	2.74E+04	7.75E+03	6.79E+03	9.87E+03	0.603	0.04	0.131	0.065	0.580	5.554	
84R	7W	0-4		803.58	803.62	HPLC/MS	9.87E+05	1.54E+05	1.14E+05	2.24E+04	1.44E+06	7.45E+04	2.15E+04	8.99E+03	3.44E+04	0.577	0.04	0.161	0.079	0.688	5.093	
85R	2W	43-47		806.41	806.45	HPLC/MS	7.10E+05	6.63E+04	4.20E+04	8.12E+03	8.44E+05	2.93E+04	3.53E+04	4.51E+04	6.70E+04	0.545	0.15	0.118	0.050	0.841	5.174	
85R	3W	20-24		807.19	807.23	HPLC/MS	5.05E+06	4.72E+05	2.90E+05	5.83E+04	6.23E+06	1.88E+05	7.82E+04	5.11E+04	9.17E+04	0.532	0.03	0.113	0.047	0.811	4.969	
85R	3W	80-84		807.79	807.83	HPLC/MS	4.51E+06	4.23E+05	2.58E+05	4.93E+04	6.05E+06	1.81E+05	7.81E+04	5.73E+04	7.49E+04	0.536	0.03	0.105	0.043	0.745	5.233	
85R	3W	120-124		808.19	808.23	HPLC/MS	4.86E+06	4.90E+05	3.08E+05	6.18E+04	6.81E+06	2.16E+05	9.53E+04	5.72E+04	9.58E+04	0.544	0.04	0.109	0.045	0.713	4.984	
85R	3W	140-144		808.39	808.43	HPLC/MS	1.44E+06	1.33E+05	7.54E+04	1.67E+04	1.72E+06	4.82E+04	5.08E+04	5.85E+04	5.39E+04	0.514	0.09	0.113	0.044	0.836	4.527	
85R	4W	0-4		808.49	808.53	HPLC/MS	1.37E+06	1.49E+05	1.03E+05	1.92E+04	1.92E+06	7.68E+04	4.71E+04	4.03E+04	4.90E+04	0.573	0.07	0.120	0.054	0.713	5.381	
85R	4W	20-24		808.69	808.73	HPLC/MS	1.05E+06	1.25E+05	8.43E+04	1.61E+04	1.67E+06	6.49E+04	3.59E+04	2.83E+04	4.12E+04	0.561	0.06	0.117	0.051	0.662	5.239	
85R	4W	40-44		808.89	808.93	HPLC/MS	8.19E+05	9.27E+04	5.95E+04	1.15E+04	1.15E+06	4.20E+04	2.90E+04	2.94E+04	0.00E+00	0.549	0.05	0.120	0.052	0.709	5.196	
85R	4W	60-64		809.09	809.13	HPLC/MS	6.54E+05	1.05E+05	7.22E+04	1.34E+04	1.34E+06	4.68E+04	2.83E+04	3.06E+04	3.84E+04	0.558	0.07	0.121	0.054	0.722	5.402	
85R	4W	80-84		809.29	809.33	HPLC/MS	8.61E+05	9.77E+04	6.65E+04	1.27E+04	1.26E+06	5.61E+04	2.28E+04	2.59E+04	2.94E+04	0.580	0.07	0.118	0.053	0.683	5.250	
85R	4W	100-104		809.49	809.53	HPLC/MS	1.32E+06	1.48E+05	1.01E+05	1.86E+04	1.83E+06	7.55E+04	3.96E+04	3.92E+04	4.54E+04	0.569	0.06	0.123	0.055	0.720	5.406	
85R	4W	121-125		809.7	809.74	HPLC/MS	1.63E+06	1.32E+05	9.26E+04	1.64E+04	1.67E+06	6.70E+04	2.88E+04	3.41E+04	3.33E+04	0.561	0.05	0.122	0.055	0.676	5.662	
85R	4W	140-144		809.89	809.93	HPLC/MS	4.59E+05	6.04E+04	4.71E+04	8.17E+03	7.61E+05	3.79E+04	1.33E+04	1.73E+04	1.83E+04	0.607	0.06	0.126	0.062	0.603	5.765	
85R	5W	39-46		810.38	810.45	HPLC/MS	1.67E+06	1.83E+05	1.29E+05	2.27E+04	2.06E+06	8.25E+04	2.68E+04	3.00E+04	5.18E+04	0.561	0.06	0.135	0.063	0.809	5.675	
85R	5W	80-84		810.79	810.83	HPLC/MS	6.46E+05	7.76E+04	5.21E+04	1.01E+04	8.98E+05	3.46E+04	1.67E+04	1.94E+04	1.91E+04	0.555	0.06	0.130	0.058	0.720	5.179	
88R	2W	80-84		835.66	835.7	HPLC/MS	2.09E+06	1.81E+05	1.06E+05	2.40E+04	2.67E+06	7.64E+04	7.41E+04	5.99E+04	7.69E+04	0.532	0.07	0.102	0.040	0.785	4.413	
89R	1W	0-4		845.71	845.75	HPLC/MS	3.98E+06	4.09E+05	1.90E+05	5.25E+04	5.03E+06	1.82E+05	1.37E+05	8.02E+04	1.17E+05	0.509	0.06	0.111	0.038	0.791	3.616	
89R	4W	1-6		847.01	847.06	UHPLC/MS	1.17E+06	5.59E+04	2.17E+04	8.41E+03	1.18E+06	2.43E+04	5.13E+04	5.09E+04	7.00E+04	0.493	0.13	0.066	0.018	0.987	2.577	0.392
92R	3W	2-6		874.04	874.08	HPLC/MS	4.18E+06	2.76E+05	1.45E+05	3.37E+04	4.19E+06	1.06E+05	1.32E+05	1.48E+05	2.04E+05	0.507	0.10	0.096	0.035	0.998	4.293	
92R	3W	71-74.5		874.73	874.77	HPLC/MS	7.98E+06	8.81E+05	5.94E+05	1.20E+05	1.08E+07	4.72E+05	4.99E+05	5.19E+05	3.82E+05	0.574	0.11	0.124	0.055	0.737	4.940	
93R	1W	24-28		876.84	876.88	HPLC/MS	1.31E+06	1.19E+05	7.20E+04	1.56E+04	1.68E+06	4.76E+04	8.83E+04	8.43E+04	1.05E+05	0.532	0.14	0.106	0.043	0.775	4.614	
94R	3W	64-68		884.95	884.99	HPLC/MS	5.81E+05	7.20E+04	4.84E+04	9.91E+03	8.88E+05	3.54E+04	2.01E+04	1.84E+04	2.38E+04	0.566	0.07	0.124	0.054	0.654	4.883	

Table S2: Comparison between TEX86 and temperature values derived from samples analyzed with both HPLC/MS and UHPLC/MS.

Core	Section	Core interval (cm)	average cum. depth (mbsf)	TEX86 on HPLC/MS	TEX86 on UHPLC/MS	ΔTEX86	ΔSST (lin. cal. Kim et al., 2010)	ΔSST (TEX86H cal. Kim et al., 2010)
48R	2W	19-21	451.6	0.520	0.504	0.016	0.998	0.930
63R	4W	19-21	597.55	0.494	0.506	0.011	0.744	0.677
70R	3W	21-23	663.67	0.500	0.510	0.010	0.625	0.574
84R	6W	40-44	802.79	0.556	0.547	0.008	0.449	0.450
92R	3W	2-6	874.06	0.507	0.499	0.009	0.568	0.520
					Average	0.011	0.677	0.630
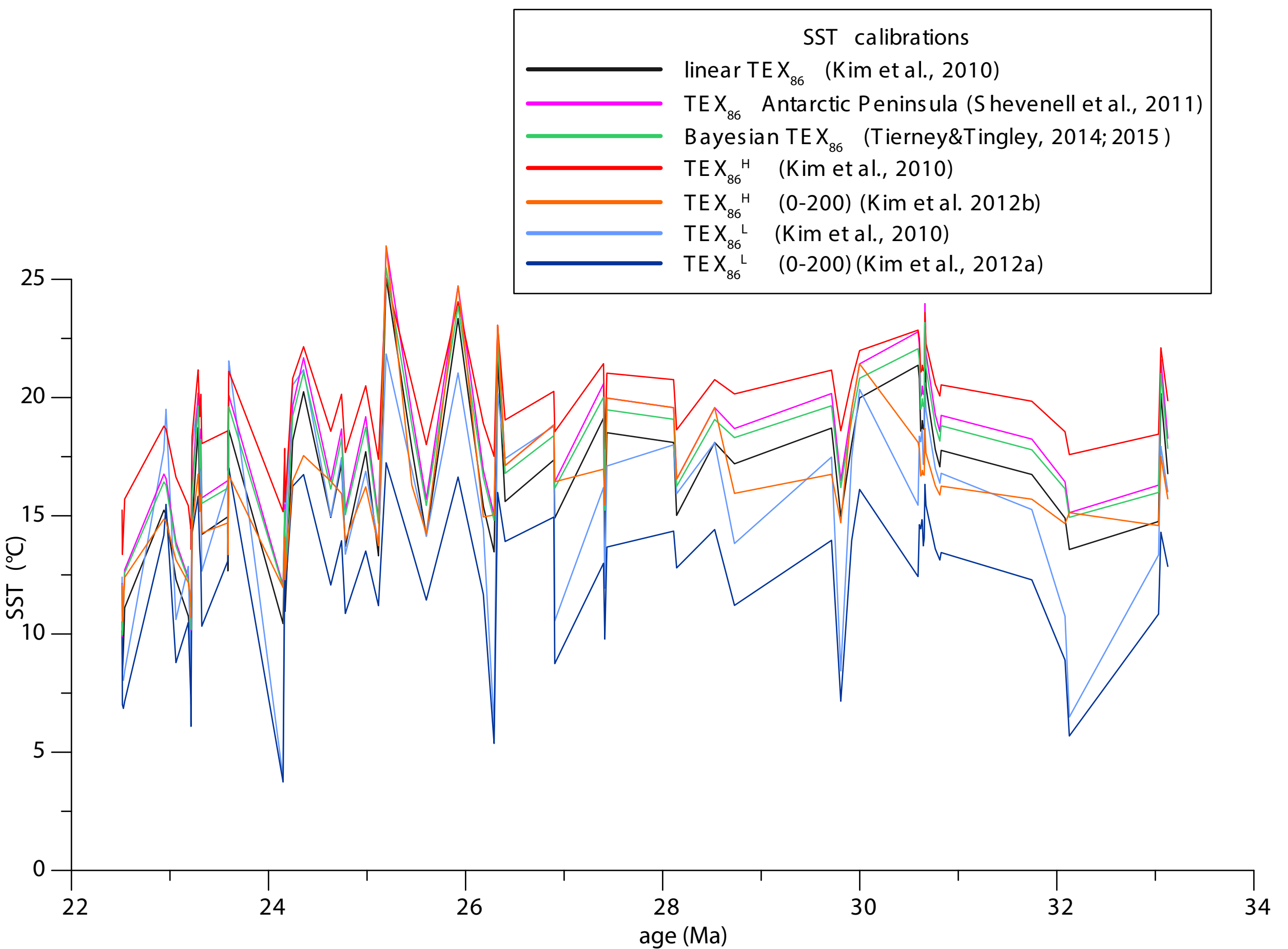
Figure S1: All surface water and 0-200 m depth-integrated temperature reconstructions using the TEX86, TEX_{86}^{L} and TEX_{86}^{H} seawater temperature proxies plotted against age.
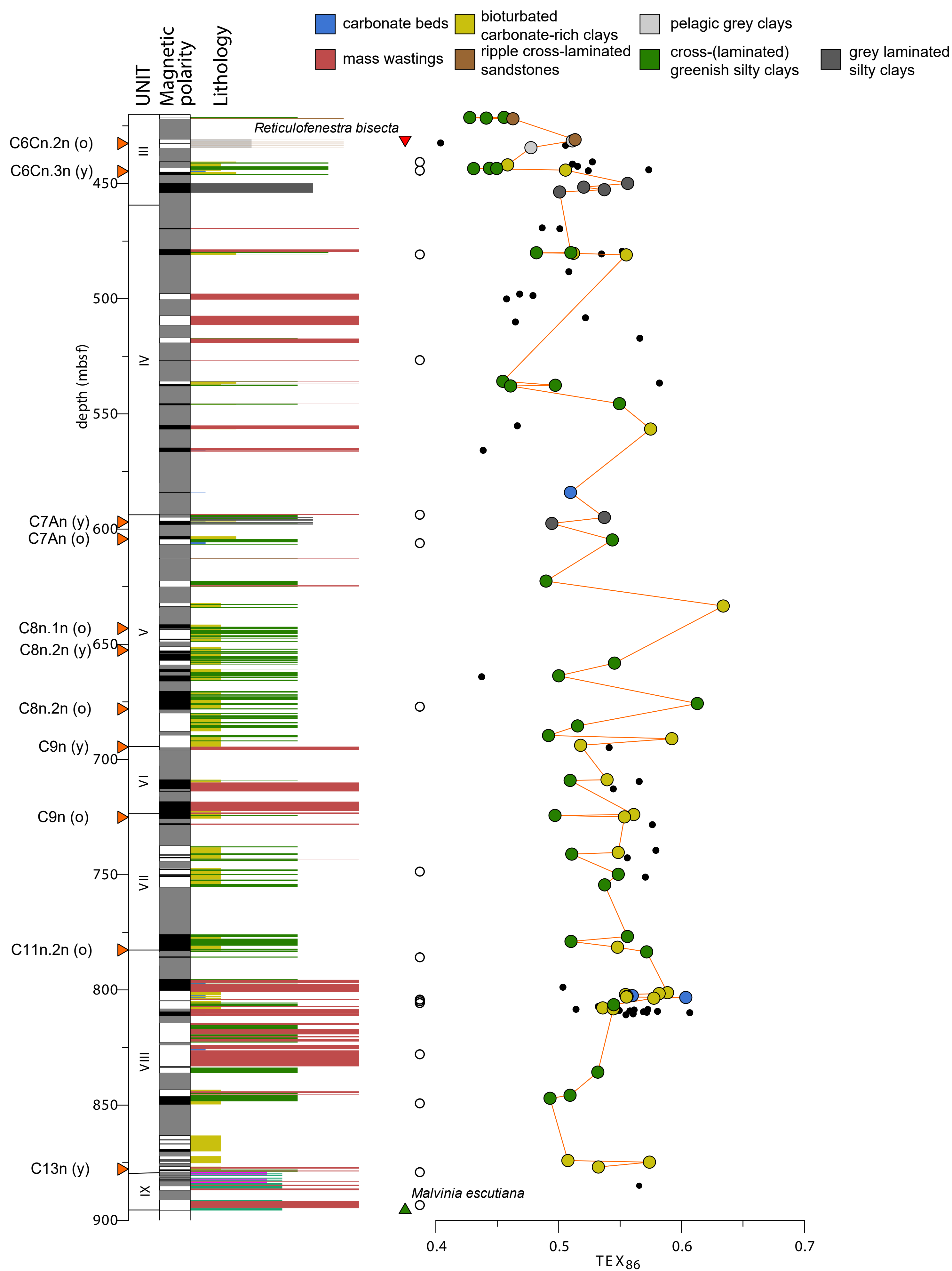
Figure S2: As Figure 2, but with black dots indicating TEX$_{86}$ values from samples that have been discarded for temperature reconstruction. Furthermore, open circles indicate the position of samples taken that did not provide sufficient amounts of GDGTs for reliable TEX$_{86}$ values.