

Table 1
Geochemical analysis of selected samples

Sample	SiO ₂ (%)	Al ₂ O ₃ (%)	Fe ₂ O ₃ (%)	TOC (%)	Total N (%)	Total S (%)	C/N	C/S	C _{inorg.} (%)	CPI _{AK}	C ₂₉ steranes 20S/(20S+20R)	H/L _{AK}	Steranes		
													C ₂₇ (%)	C ₂₈ (%)	C ₂₉ (%)
ILP-97	64.8	13.6	5.8	0.53	0.07	0.72	7.9	0.7	0.05	1.95	0.05	1.63	39.6	25.9	34.5
ILP-96	63.9	13.9	5.9	0.50	0.07	0.64	7.3	0.8	0.09	2.23	0.08	1.66	33.7	22.7	43.5
ILP-95	64.8	13.2	5.8	0.66	0.08	0.64	7.9	1.0	0.02	1.74	0.02	0.49	36.7	26.4	36.9
ILP-94	63.6	14.9	6.2	0.82	0.09	0.42	9.3	1.9	0.01	1.79	0.02	1.09	40.5	24.7	34.9
ILP-93	67.2	13.3	6.1	0.81	0.08	0.90	9.7	0.9	0.03	1.81	0.03	1.31	34.2	28.1	37.7
ILP-92	65.5	14.4	6.3	0.75	0.10	0.82	7.9	0.9	0.03	1.35	0.02	1.35	34.5	29.7	35.7
ILP-91	63.3	14.5	6.7	0.85	0.09	0.75	9.2	1.1	0.03	1.44	0.03	0.58	36.4	32.3	31.3
ILP-90	62.7	15.4	6.7	0.76	0.09	0.54	8.5	1.4	0.03	1.91	0.03	1.71	33.2	31.6	35.2
ILP-89	67.4	14.2	6.0	0.74	0.09	0.71	8.2	1.1	0.03	1.24	0.04	1.82	38.0	28.9	33.0
ILP-88	63.3	13.6	6.5	0.71	0.08	0.67	8.6	1.0	0.06	1.43	0.03	1.62	30.3	35.2	34.5
ILP-87	64.0	14.4	6.1	0.65	0.09	0.88	7.4	0.7	0.05	1.21	0.05	1.94	29.8	38.7	31.5
ILP-86	69.9	15.5	6.2	0.73	0.09	0.23	8.2	3.2	0.04	1.46	0.03	0.93	31.7	33.3	35.0
ILP-85	66.7	16.2	7.2	0.79	0.09	0.32	9.1	2.5	0.03	1.27	0.04	0.60	25.2	30.4	44.4
ILP-84	67.9	15.8	6.5	0.76	0.09	0.24	8.3	3.2	0.03	1.20	0.04	0.97	30.3	31.9	37.8
ILP-83	67.9	15.8	6.5	0.67	0.08	0.23	8.8	2.9	0.03	1.51	0.04	1.09	31.3	31.5	37.2
ILP-81	68.1	16.1	6.6	0.69	0.09	0.34	8.0	2.0	0.04	1.90	0.04	1.34	30.0	33.8	36.1
ILP-80	65.5	16.4	6.8	0.86	0.10	0.43	8.9	2.0	0.03	2.13	0.04	1.85	23.5	42.3	34.3
ILP-79	66.1	16.4	7.1	0.78	0.09	0.10	8.7	7.9	0.02	1.62	0.05	1.76	32.2	24.5	43.3
ILP-78	65.7	16.3	6.6	0.80	0.08	0.19	9.6	4.2	0.01	1.65	0.05	0.64	30.4	33.6	36.1
ILP-76b	62.7	14.0	8.2	0.79	0.08	0.08	9.4	9.4	0.01	2.55	0.02	2.96	17.2	24.4	58.4
ILP-75.5d	64.7	15.8	7.2	0.62	0.07	0.14	8.8	4.5	0.01	2.21	0.02	1.34	28.0	29.3	42.7
ILP-75.5b	63.3	16.4	7.3	0.62	0.06	0.29	10.2	2.2	0.02	2.27	0.03	1.78	30.9	25.0	44.1
ILP-75	65.8	14.6	6.8	0.59	0.06	0.43	10.4	1.4	0.05	1.35	0.04	0.29	34.4	27.2	38.4
ILP-74	69.4	13.7	6.4	0.66	0.05	0.63	13.0	1.1	0.03	1.42	0.06	1.53	31.1	28.9	40.0
ILP-73	68.1	12.7	5.5	0.81	0.05	0.81	15.3	1.0	0.04	1.44	0.04	1.53	31.9	32.3	35.8
ILP-72	68.1	12.1	5.9	0.87	0.05	0.68	17.3	1.3	0.82	1.79	0.05	0.83	31.0	34.6	34.4
ILP-71	71.4	14.2	6.3	0.83	0.05	0.49	16.5	1.7	0.17	2.58	0.07	0.96	34.5	24.5	41.0
ILP-70	69.6	13.9	5.9	0.83	0.05	0.59	15.7	1.4	0.04	1.74	0.07	0.97	31.4	30.0	38.6
ILP-69	70.0	13.9	6.2	0.77	0.04	0.54	19.2	1.4	0.11	1.95	0.05	1.71	34.3	27.4	38.3
ILP-68	69.4	13.7	6.5	0.81	0.04	0.49	20.9	1.7	0.03	1.96	0.07	2.54	35.6	21.2	43.2
ILP-67	69.0	14.0	7.0	0.68	0.04	0.54	16.2	1.3	0.16	2.00	0.07	1.39	38.3	18.5	43.2
ILP-66a	63.0	11.8	9.7	0.30	0.02	1.46	15.9	0.2	0.08	1.18	0.09	0.99	39.7	34.1	26.3
ILP-65	65.3	15.2	6.8	0.64	0.04	0.91	15.2	0.7	0.03	1.39	0.04	1.66	37.4	31.0	31.7
ILP-64	66.4	13.6	6.3	0.32	0.13	2.01	2.4	0.2	0.72	1.80	0.07	1.79	39.3	22.9	37.8
ILP-63	65.3	14.8	6.4	0.51	0.09	1.01	5.8	0.5	0.08	1.79	0.06	1.70	35.4	27.6	37.0
ILP-62	62.5	15.2	6.5	0.54	0.06	0.89	8.4	0.6	0.46	1.99	0.09	2.21	41.5	23.6	34.9
ILP-60	65.8	13.3	6.3	0.76	0.08	0.72	9.8	1.1	0.30	1.49	0.08	0.88	38.3	23.7	38.0

H/L_{AK}=(C₂₇+C₂₉+C₃₁)/(C₁₅+C₁₇+C₁₉), CPI_{AK}=[(C₂₅+C₂₇+C₂₉+C₃₁+C₃₃)/(C₂₆+C₂₈+C₃₀+C₃₂+C₃₄)+(C₂₅+C₂₇+C₂₉+C₃₁+C₃₃)/(C₂₄+C₂₆+C₂₈+C₃₀+C₃₂)]/2, Steranes (based on the relative intensity on the fragmentgram of m/z=217); C_n(%)=αααR-C_n/Σ(αααR-C₂₇-αααR-C₂₉)x100.

Table 2

Diatom biomarkers distribution in the Il'pinskii area

Sample	C ₂₅ HBI	C ₂₅ HBI	C ₂₅ HBI	HBI/Ph
	alkane ($\mu\text{g/g TOC}$)	thiophene I ($\mu\text{g/g TOC}$)	thiophene II ($\mu\text{g/g TOC}$)	
ILP-97	0.64	0.10	1.02	0.86
ILP-96	2.56	0.19	2.53	4.34
ILP-95	1.60	0.29	1.95	1.61
ILP-94	1.52	0.51	1.04	1.41
ILP-93	0.49	0.15	0.12	0.87
ILP-92	1.06	0.10	0.10	1.06
ILP-91	1.19	0.25	0.15	0.62
ILP-90	0.73	0.18	0.10	0.60
ILP-89	0.65	0.23	0.06	0.35
ILP-88	1.59	0.33	0.37	0.78
ILP-87	2.55	0.19	0.08	1.49
ILP-86	1.14	0.16	0.00	0.56
ILP-85	0.14	0.04	0.00	0.19
ILP-84	0.41	0.08	0.00	0.52
ILP-83	0.48	0.07	0.00	0.59
ILP-81	0.83	0.08	0.29	0.51
ILP-80	0.85	0.10	0.52	0.59
ILP-79	0.37	0.05	0.00	0.56
ILP-78	0.09	0.03	0.00	0.28
ILP-76b	0.34	0.04	0.30	0.58
ILP-75.5d	0.98	0.05	0.26	1.20
ILP-75.5b	0.67	0.07	0.14	1.09
ILP-75	0.06	0.04	0.00	0.12
ILP-74	0.06	0.04	0.00	0.10
ILP-73	0.07	0.11	0.10	0.05
ILP-72	0.11	0.10	0.10	0.06
ILP-71	0.07	0.07	0.14	0.05
ILP-70	0.08	0.07	0.13	0.11
ILP-69	0.09	0.14	0.13	0.10
ILP-68	0.09	0.04	0.28	0.16
ILP-67	0.07	0.04	0.17	0.08
ILP-66a	0.10	0.00	0.00	0.48
ILP-65	0.17	0.02	0.13	0.22
ILP-64	0.15	0.08	0.12	0.40
ILP-63	0.13	0.10	0.07	0.30
ILP-62	0.05	0.07	0.10	0.17
ILP-60	0.03	0.04	0.00	0.27

C₂₅ HBI alkane, 2,6,10,14-tetramethyl-7-(3-methylpentyl)-pentadecane;C₂₅ HBI thiophene I, 2-(2'-methylbutyl)-3,5-di-(2'-16'methylheptyl)thiophene; C₂₅ HBI thiophene II, Total of 2,3-dimethyl-5-

[7'-(2',6',10'14'-tetramethylpentadecyl)]thiophene isomers; Ph, phytane.