

SUPPLEMENTARY MATERIAL TO
**GC–MS vs. GC–MS-MS analysis of pentacyclic terpanes
in crude oils from Libya and Serbia –
A comparison of two methods**

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TABLE S-I. Values of terpane parameters in investigated oils; techniques: A – GC–MS, B – GC–MS-MS; $Ts/(Ts+Tm) = C_{27}18\alpha(H)-22,29,30$ -trisorneohopane/ $(C_{27}18\alpha(H)-22,29,30$ -trisorneohopane + $C_{27}17\alpha(H)-22,29,30$ -trisorhopane); $C_{29}Ts/C_{29}H = C_{29}18\alpha(H)-30$ -norneohopane/ $C_{29}17\alpha(H)21\beta(H)-30$ -norhopane; $C_{29}H/C_{30}H = C_{29}17\alpha(H)21\beta(H)-30$ -norhopane/ $C_{30}17\alpha(H)21\beta(H)$ -hopane; $C_{30}M/C_{30}H = C_{30}17\beta(H)21\alpha(H)$ -moretane/ $C_{30}17\alpha(H)21\beta(H)$ -hopane; *GI*, gammacerane index, $GI = 100G/C_{30}H$; *OI*, oleanane index, $OI = 100O/C_{30}H$; N.D. – Not determined due to the absence of oleanane in Libyan oils

No.	Sample	$Ts/(Ts+Tm)$		$C_{29}Ts/C_{29}H$		$C_{29}H/C_{30}H$		$C_{30}M/C_{30}H$		<i>GI</i>		<i>OI</i>	
		A	B	A	B	A	B	A	B	A	B	A	B
Libyan oils													
1	Oil 7 Amal	0.56	0.65	0.53	0.50	0.54	0.61	0.14	0.07	7.46	5.30	N.D.	N.D.
2	Oil 5 En Naga	0.63	0.68	0.73	0.60	0.50	0.60	0.13	0.07	8.24	5.05	N.D.	N.D.
3	Oil 3 Intisar AQLB3C	0.56	0.87	0.83	1.58	0.77	0.65	0.14	0.06	6.42	4.43	N.D.	N.D.
4	Oil 6 Intisar E25	0.49	0.54	0.44	0.37	0.67	0.74	0.07	0.04	10.78	3.71	N.D.	N.D.
5	Oil 10 Intisar A52	0.61	0.63	0.51	0.38	0.72	0.73	0.10	0.03	10.88	2.93	N.D.	N.D.
6	Oil 12 Intisar A21	0.65	0.74	0.74	0.63	0.45	0.58	0.07	0.04	9.91	3.04	N.D.	N.D.
7	Oil 14 Intisar D21	0.60	0.64	0.65	0.54	0.53	0.58	0.08	0.04	9.12	3.11	N.D.	N.D.
8	Oil 9 Messla	0.68	0.75	0.75	0.65	0.51	0.52	0.13	0.05	17.12	4.29	N.D.	N.D.
9	Oil 13 Nafoora	0.53	0.59	0.58	1.00	0.53	0.61	0.10	0.05	9.74	5.09	N.D.	N.D.
10	Oil 8 Samah 1	0.67	0.72	0.56	0.46	0.52	0.54	0.10	0.05	9.38	4.29	N.D.	N.D.
11	Oil 11 Samah 2	0.65	0.71	0.64	0.54	0.52	0.47	0.07	0.05	9.91	3.43	N.D.	N.D.
12	Oil 2 Sarir	0.58	0.65	0.64	0.59	0.56	0.62	0.14	0.07	10.06	6.03	N.D.	N.D.

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TABLE S-I. Continued

No.	Sample	$Ts/(Ts+Tm)$		$C_{29}Ts/C_{29}H$		$C_{29}H/C_{30}H$		$C_{30}M/C_{30}H$		GI		OI	
		A	B	A	B	A	B	A	B	A	B	A	B
Libyan oils													
13	Oil 1 Waha	0.58	0.65	0.56	0.43	0.45	0.48	0.10	0.05	6.05	4.97	N.D.	N.D.
14	Oil 4 Zelten	0.51	0.58	0.47	0.37	0.49	0.53	0.11	0.05	6.67	3.74	N.D.	N.D.
Elemir oils													
15	Elemir-2	0.38	0.46	0.22	0.22	0.51	0.61	0.11	0.07	3.54	2.64	10.73	14.35
16	Elemir-6	0.37	0.44	0.23	0.19	0.51	0.60	0.11	0.07	4.48	2.73	14.47	16.85
17	Elemir-10	0.40	0.44	0.15	0.21	0.69	0.63	0.11	0.06	4.35	2.79	11.41	15.33
18	Elemir-15	0.36	0.41	0.19	0.19	0.53	0.61	0.11	0.06	3.66	2.75	12.80	17.69
19	Elemir-18	0.35	0.40	0.20	0.19	0.52	0.62	0.10	0.06	3.28	2.41	13.00	18.38
20	Elemir-19	0.41	0.48	0.21	0.22	0.52	0.63	0.10	0.06	2.88	2.98	9.32	13.69
21	Elemir-33	0.37	0.44	0.20	0.21	0.51	0.63	0.11	0.06	4.56	2.96	13.40	14.38
22	Elemir-40	0.39	0.40	0.17	0.18	0.69	0.62	0.10	0.06	4.87	2.80	14.06	17.86
23	Elemir-43	0.41	0.46	0.15	0.22	0.63	0.64	0.16	0.06	3.71	2.81	9.89	13.40
24	Elemir-45	0.40	0.41	0.20	0.20	0.69	0.62	0.11	0.06	4.89	2.77	13.23	16.48
25	Elemir-48	0.36	0.43	0.20	0.20	0.51	0.61	0.12	0.06	3.08	2.44	11.75	14.76
26	Elemir-49	0.38	0.43	0.21	0.19	0.56	0.62	0.11	0.06	3.48	2.84	11.41	15.49
27	Elemir-51	0.37	0.43	0.17	0.21	0.54	0.62	0.14	0.06	3.25	2.80	10.31	16.03
28	Elemir-52	0.35	0.41	0.21	0.20	0.53	0.61	0.11	0.06	3.21	2.81	12.13	16.16
29	Elemir-54	0.37	0.43	0.19	0.21	0.53	0.62	0.11	0.06	3.11	2.82	11.62	16.15
30	Elemir-59	0.37	0.41	0.20	0.19	0.53	0.62	0.11	0.06	2.86	2.44	12.81	17.25
Rusanda oils													
31	Rusanda-1	0.44	0.53	0.28	0.28	0.49	0.60	0.13	0.05	11.75	2.80	15.69	16.50
32	Rusanda-2	0.54	0.61	0.33	0.34	0.45	0.57	0.11	0.06	12.61	3.48	13.93	15.27
33	Rusanda-5	0.44	0.58	0.27	0.32	0.51	0.59	0.11	0.06	9.68	3.13	12.59	16.17
34	Rusanda-8	0.48	0.56	0.30	0.28	0.45	0.60	0.13	0.05	6.16	2.41	14.43	12.35
35	Rusanda-12	0.45	0.58	0.34	0.33	0.47	0.57	0.11	0.05	11.07	2.82	11.96	11.50
36	Rusanda-14	0.44	0.56	0.31	0.28	0.50	0.61	0.11	0.05	5.82	2.45	12.93	12.95
37	Rusanda-16	0.46	0.55	0.29	0.31	0.50	0.59	0.12	0.05	9.94	2.67	13.56	13.36
38	Rusanda-17	0.42	0.55	0.31	0.30	0.50	0.62	0.11	0.05	10.43	2.42	12.13	12.75
39	Rusanda istok-1	0.39	0.47	0.17	0.24	0.69	0.66	0.12	0.07	2.18	2.07	7.34	9.81
Zrenjanin oils													
40	Zrenjanin-4	0.26	0.25	0.27	0.20	0.61	0.66	0.18	0.11	4.26	4.27	20.85	28.72
41	Zrenjanin-6	0.24	0.26	0.24	0.19	0.53	0.67	0.15	0.10	3.52	3.72	20.42	28.60
42	Zrenjanin sever-2	0.25	0.28	0.20	0.16	0.56	0.69	0.16	0.09	3.20	3.44	15.11	20.12
43	Zrenjanin sever-3	0.25	0.27	0.18	0.16	0.59	0.70	0.14	0.09	2.81	2.97	14.41	19.75
44	Zrenjanin sever-5	0.25	0.25	0.17	0.17	0.61	0.69	0.16	0.09	2.99	3.04	15.61	21.35
45	Zrenjanin sever-7	0.24	0.27	0.18	0.16	0.60	0.69	0.15	0.08	2.91	3.28	15.99	21.78
Veletbit oils													
46	Veletbit-1	0.51	0.63	0.20	0.46	0.55	0.49	0.11	0.06	12.92	6.78	13.95	23.12
47	Veletbit-2	0.53	0.62	0.19	0.46	0.53	0.49	0.11	0.06	13.46	5.88	14.65	22.84
49	Veletbit-3	0.56	0.63	0.21	0.42	0.52	0.50	0.11	0.06	12.2	5.92	14.24	23.66
49	Veletbit-4	0.49	0.62	0.18	0.47	0.58	0.49	0.11	0.06	11.64	5.90	14.33	23.44
50	Veletbit-5	0.53	0.63	0.20	0.41	0.60	0.51	0.10	0.06	10.71	6.40	15.65	22.84
51	Veletbit-6	0.54	0.62	0.24	0.45	0.51	0.49	0.11	0.06	11.51	6.84	15.57	23.32

TABLE S-I. Continued

No.	Sample	$T_s/(T_s+T_m)$		$C_{29}T_s/C_{29}H$		$C_{29}H/C_{30}H$		$C_{30}M/C_{30}H$		GI		OI	
		A	B	A	B	A	B	A	B	A	B	A	B
Libyan oils													
52	Velebit-7	0.54	0.64	0.24	0.52	0.56	0.49	0.12	0.06	15.116.7914.2622.86			
53	Velebit-8	0.50	0.63	0.22	0.43	0.51	0.50	0.11	0.06	12.395.9713.5824.35			
54	Velebit-9	0.55	0.62	0.19	0.42	0.54	0.51	0.10	0.06	10.146.5814.3623.52			
55	Velebit-10	0.50	0.60	0.19	0.40	0.51	0.51	0.10	0.06	11.495.7213.6823.59			
56	Velebit-11	0.50	0.61	0.24	0.46	0.54	0.49	0.13	0.07	14.096.6515.2722.77			
57	Velebit-12	0.59	0.67	0.27	0.52	0.54	0.49	0.12	0.07	13.657.6016.3825.83			
58	Velebit-13	0.58	0.66	0.24	0.46	0.60	0.51	0.11	0.06	11.707.0613.7722.52			
59	Velebit-14	0.55	0.65	0.21	0.49	0.58	0.48	0.10	0.06	9.73 6.6515.0222.62			
60	Velebit-15	0.60	0.67	0.21	0.47	0.65	0.49	0.13	0.05	13.726.6918.0123.76			
61	Velebit-16	0.56	0.64	0.21	0.48	0.56	0.48	0.11	0.06	11.546.8215.2823.85			
62	Velebit-17	0.60	0.67	0.26	0.50	0.54	0.49	0.10	0.06	12.586.8213.4423.00			
63	Velebit-18	0.52	0.61	0.20	0.45	0.55	0.48	0.11	0.07	13.346.0217.7427.34			
64	Velebit-19	0.54	0.59	0.19	0.42	0.54	0.48	0.12	0.06	10.706.0219.0228.30			
65	Velebit-20	0.56	0.66	0.21	0.49	0.61	0.48	0.12	0.06	11.116.9914.3622.99			
66	Velebit-21	0.52	0.64	0.28	0.48	0.55	0.48	0.11	0.06	11.746.8316.9525.32			
67	Velebit-22	0.55	0.66	0.28	0.53	0.52	0.49	0.10	0.06	12.016.7515.2723.72			
68	Velebit-23	0.59	0.66	0.25	0.54	0.60	0.49	0.14	0.06	13.857.4414.5323.81			
69	Velebit-24	0.58	0.62	0.22	0.48	0.62	0.47	0.17	0.06	15.166.6721.4625.21			
70	Velebit-25	0.54	0.67	0.35	0.50	0.65	0.50	0.19	0.05	31.687.4525.0022.92			