

Table S1 Fatty Acids Profiles (%) and ratio omega-6/omega-3 ($\omega 6/\omega 3$)

	¹ ref	a_S/L green solvents	b_1 MAE lit	b_2 MAE opt	c_1 EAE	c_2 EAE	c_3 aq
C14:0 Myristic acid	2.4± 0.06 ^b	2.8±0.09 ^a	2.5±0.01 ^{ab}	2.6±0.01 ^{ab}	2.6±0.07 ^{ab}	2.5±0.09 ^{ab}	2.4±0.14 ^b
C14:1 Myristoleic acid	n.d.	0.11±0.00	n.d.	n.d.	n.d.	n.d.	n.d.
C15:0 Pentadecanoic acid	0.25±0.00 ^b	0.30±0.01 ^a	0.27±0.00 ^{ab}	0.27±0.00 ^{ab}	0.26±0.0 ^b	0.26±0.01 ^b	0.25±0.00 ^b
C15:1 Pentadecenoic acid	n.d.	0.17±0.01	n.d.	n.d.	n.d.	n.d.	n.d.
C16:0 Palmitic acid	14.8±0.06 ^c	17.5±0.05 ^a	16.4±0.14 ^b	16.4±0.02 ^b	16±0.08 ^c	15.6±0.12 ^d	14.7±0.07 ^e
C16:1 Palmitoleic acid	3.8±0.09 ^b	4.2±0.02 ^a	3.8±0.13 ^b	4.0±0.03 ^{ab}	4.0±0.11 ^{ab}	4.0±0.03 ^{ab}	3.8±0.04 ^b
C17:0 Heptadecanoic acid	0.23±0.00 ^c	0.32±0.01 ^a	0.27±0.01 ^b	0.25±0.01 ^{bc}	0.24±0.00 ^{bc}	0.24±0.01 ^{bc}	0.2±0.01 ^c
C17:1 Heptadecenoic acid	0.17±0.01 ^a	0.14±0.01 ^a	0.16±0.00 ^a	0.15±0.01 ^a	0.15±0.01 ^a	0.17±0.01 ^a	0.17±0.01 ^a
C18:0 Stearic acid	3.1±0.01 ^b	3.6±0.11 ^a	3.5±0.09 ^{ab}	3.4±0.08 ^{ab}	3.2±0.11 ^b	3.1±0.12 ^b	3.0±0.03 ^b
C18:1 Oleic acid	39±0.09 ^e	43.2±0.05 ^a	40.7±0.13 ^d	42±0.01 ^b	41.2±0.09 ^c	40.6±0.11 ^d	39.1±0.13 ^e
C18:2 cis-9,trans-12 Octadecadienoic acid	0.15± 0.01	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
C18:2 Linoleic acid (omega-6)	18.7± 0.12 ^a	15.9± 0.01 ^d	17.9± 0.03 ^b	17.1± 0.02 ^c	17.3± 0.08 ^c	18.5± 0.03 ^a	18.4±0.14 ^a
C18:2 Rumenic acid	0.14±0.00 ^b	0.17±0.00 ^a	0.14±0.01 ^b	0.16±0.00 ^{ab}	0.15±0.00 ^b	n.d.	0.15±0.00 ^b
C18:3 trans-9,trans-12,trans-15 Octadecatrienoic acid	n.d.	n.d.	n.d.	n.d.	n.d.	0.18±0.00	n.d.
C18:3 trans-9,trans-12,cis-15 Octadecatrienoic acid	n.d.	0.29±0.00 ^a	n.d.	n.d.	0.29±0.01 ^a	n.d.	n.d.
C18:3 Gamma-linolenic acid (omega-6)	0.29±0.00 ^a	n.d.	0.31±0.00 ^a	0.3±0.01 ^a	n.d.	0.29±0.01 ^a	0.28±0.00 ^a
C18:3 cis-9,trans-12,cis-15 Octadecatrienoic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
C18:3 trans-9,cis-12,cis-15 Octadecatrienoic acid	n.d	n.d	n.d	n.d	n.d	0.18±0.04	n.d

acid

C18:3 Alpha-linolenic acid (omega-3)	3.6±0.00 ^a	2.5±0.03 ^d	3.1±0.09 ^{bc}	2.8±0.09 ^c	3±0.01 ^c	3.3±0.04 ^b	3.5±0.04 ^{ab}
C20:0 Arachidic acid	n.d.	0.15±0.01 ^c	0.17±0.01 ^{bc}	0.16±0.00 ^{bc}	0.17±0.01 ^{bc}	0.26±0.01 ^a	0.20±0.00 ^b
C20:1 Eicosenoic acid	2.5±0.07 ^a	2.7±0.03 ^a	2.5±0.06 ^a	2.6±0.11 ^a	2.6±0.07 ^a	1.4±0.14 ^b	2.4±0.10 ^a
C20:2 Eicosadienoic acid (omega-6)	0.68±0.01 ^a	0.58±0.00 ^d	0.65±0.00 ^b	0.61±0.00 ^c	0.62±0.01 ^c	n.d.	0.67±0.01 ^{ab}
C20:3 Eicosatrienoic acid (omega-6)	0.15±0.01 ^b	0.18±0.00 ^b	0.18±0.01 ^b	0.17±0.00 ^b	0.16±0.01 ^b	0.66±0.01 ^a	0.15±0.01 ^b
C20:3 Eicosatrienoic acid (omega-3)	0.37±0.01 ^b	0.21±0.01 ^{cd}	0.26±0.01 ^c	0.24±0.00 ^{cd}	0.3±0.01 ^{bc}	0.16±0.00 ^d	1.2±0.05 ^a
C20:4 Arachidonic acid (omega-6)	0.19±0.00 ^a	0.12±0.00 ^c	0.15±0.00 ^{bc}	0.13±0.01 ^c	0.15±0.01 ^{bc}	0.16±0.01 ^b	0.17±0.00 ^{ab}
C20:5 Eicosapentaenoic acid (omega-3)	2.3±0.09 ^a	1.2±0.05 ^c	1.7±0.12 ^b	1.6±0.11 ^b	1.8±0.14 ^b	1.8±0.06 ^b	2.3±0.06 ^a
C21:0 Heneicosanoic acid	n.d.	n.d.	n.d.	n.d.	n.d.	0.31±0.01	n.d.
C22:0 Behenic acid	0.17±0.00 ^a	0.12±0.01 ^b	0.14±0.00 ^b	0.13±0.01 ^b	0.14±0.00 ^b	n.d.	0.16±0.00 ^{ab}
C22:1 Erucic acid	0.44±0.00 ^b	0.49±0.01 ^a	0.48±0.01 ^a	0.49±0.01 ^a	0.5±0.00 ^a	n.d.	0.44±0.01 ^b
C22:2 Docosadienoic acid	n.d.	n.d.	0.1±0.01	n.d.	n.d.	n.d.	n.d.
C22:5 Docosapentaenoic acid (omega-3)	1.1±0.06 ^a	0.59±0.00 ^c	0.85±0.00 ^b	0.77±0.01 ^{bc}	0.88±0.00 ^b	0.5±0.01 ^c	1.1±0.13 ^a
C22:6 Docosahexaenoic acid (omega-3)	4.6±0.01 ^a	2.1±0.01 ^d	3.2±0.02 ^c	3±0.03 ^c	3.5±0.13 ^b	1.9±0.08 ^d	4.7±0.10 ^a
C23:0 Tricosanoic acid	0.38±0.00 ^b	n.d.	n.d.	n.d.	0.29±0.01 ^c	0.42±0.01 ^a	n.d.
C24:0 Lignoceric acid	n.d.	n.d.	0.11±0.01 ^b	0.1±0.01 ^b	n.d.	0.96±0.01 ^a	n.d.
C24:1 Nervonic acid	0.49±0.01 ^a	0.44±0.00 ^b	0.45±0.01 ^b	0.44±0.01 ^b	0.46±0.01 ^{ab}	0.37±0.01 ^c	0.44±0.01 ^b
SFA	21.48±0.09	24.94±0.12	23.46±0.15	23.41±0.08	23±0.14	23.7±0.16	21.06±0.20
MUFA	46.5±0.15	51.45±0.11	48.19±0.14	49.78±0.11	49.01±0.15	45.43±0.18	46.45±0.17
PUFA	32.47±0.16	24.09±0.08	28.74±0.10	27.13±0.09	28.4±0.12	27.75±0.12	32.87±0.18
OMEGA_6	20.01±0.12	16.83±0.06	19.19±0.09	18.31±0.07	18.28±0.09	19.66±0.11	19.67±0.13
OMEGA_3	11.6±0.11	6.39±0.06	8.85±0.07	8.17±0.06	9.18±0.07	7.5±0.08	11.6±0.12

OMEGA_6/OMEGA_3	1.73	2.63	2.17	2.24	1.99	2.62	1.7
------------------------	------	------	------	------	------	------	-----

*Results are expressed as % (g/100 g) for the fatty acids profiles. ¹The Hara-Radin lipid extraction method was used as the reference method (*ref*)¹⁶.