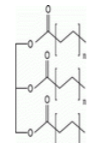


Carbon number of fatty acid	Carbon number of alcohol	Fatty acid ester formula, CAS #, purity, amount, type of packaging, price in US \$	Structure	$\delta^2\text{H}$ (or δD) (mean value in ‰ vs. VSMOW, $\pm 1\sigma$) (range) (# of measurements)	$\delta^{13}\text{C}$ (mean value in ‰ vs. VPDB, $\pm 1\sigma$) (range) (# of measurements)	Composition of fatty acid mixture F8-2 0.5 mL solution US \$150 (mg in 0.5 mL cyclohexane)	Composition of fatty acid mixture F8-4 0.5 mL solution US \$250 (mg in 0.5 mL hexane)
						see chromatogram	see chromatogram
10	1	Decanoic acid methyl ester (C10:0), methyl decanoate , C ₁₁ H ₂₂ O ₂ , CAS # 110-42-9, ~1 mg in 0.5 mL hexane, sealed in glass ampoule under argon, US \$250	CH ₃ (CH ₂) ₈ COOCH ₃	-215 ± 4 ‰ from -210.2 to -218.2 ‰ n = 3	-29.67 ± 0.02 ‰ from -29.65 to -29.69 ‰ n = 3		
14	1	Tetradecanoic acid methyl ester (C14:0) #1 , methyl myristate #1 , C ₁₅ H ₃₀ O ₂ , ≥99 %, CAS # 124-10-7, ≥5 mg in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₂ COOCH ₃	-223.9 ± 1.7 ‰ from -221.9 to -226.0 ‰ n = 4	-26.69 ± 0.01 ‰ from -26.68 to -26.70 ‰ n = 3		
14	1	Tetradecanoic acid methyl ester (C14:0) #14M , methyl myristate #14M , C ₁₅ H ₃₀ O ₂ , ≥99 %, CAS # 124-10-7, ≥5 mg in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₂ COOCH ₃	-231.2 ± 1.4 ‰ from -229.3 to -232.3 ‰ n = 4	-29.98 ± 0.02 ‰ from -29.96 to -29.99 ‰ n = 3	0.05	0.75
14	2	Tetradecanoic acid ethyl ester (C14:0) #n14E , ethyl myristate #n14E , C ₁₆ H ₃₂ O ₂ , 99 %, CAS # 124-06-1, at least 5 mg in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₂ COOC ₂ H ₅	-231.2 ± 2.7 ‰ from -228.1 to -234.6 ‰ n = 7	-29.13 ± 0.03 ‰ from -29.10 to -29.16 ‰ n = 3	0.05	0.75
16	1	Hexadecanoic acid methyl ester (C16:0) #1 , methyl palmitate #1 , C ₁₇ H ₃₄ O ₂ , ≥99 %, CAS # 112-39-0, ≥5 mg in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₄ COOCH ₃	-227.9 ± 1.6 ‰ from -225.7 to -229.9 ‰ n = 5	-30.74 ± 0.01 ‰ from -30.73 to -30.75 ‰ n = 3		
16	1	Hexadecanoic acid methyl ester (C16:0) #16M , methyl palmitate #16M , C ₁₇ H ₃₄ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂); ≥99 %, CAS # 112-39-0; ≥5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₄ COOCH ₃	+88.0 ± 1.3 ‰ from +86.4 to +89.8 ‰ n = 6	-30.48 ± 0.01 ‰ from -30.47 to -30.48 ‰ n = 4		
16	1	Hexadecanoic acid methyl ester (C16:0) #n16M , methyl palmitate #n16M , C ₁₇ H ₃₄ O ₂ , ≥99 %, CAS # 112-39-0, ≥10 mg in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₄ COOCH ₃	-166.8 ± 1.7 ‰ from -164.8 to -168.6 ‰ n = 4	-29.90 ± 0.03 ‰ from -29.87 to -29.94 ‰ n = 3	0.05	0.75
16	2	Hexadecanoic acid ethyl ester (C16:0) #IU 16E , ethyl palmitate #IU 16E , C ₁₈ H ₃₆ O ₂ , ≥99 %, CAS # 628-97-7, at least 5 mg in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₄ COOC ₂ H ₅	-211.0 ± 1.7 ‰ from -209.5 to -213.5 ‰ n = 4	-30.92 ± 0.02 ‰ from -30.09 to -30.95 ‰ n = 3	0.05	0.75
16	2	Hexadecanoic acid ethyl ester (C16:0) #16E , ethyl palmitate #16E , C ₁₈ H ₃₆ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂), ≥99 %, CAS # 628-97-7; ≥5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₄ COOC ₂ H ₅	+275.6 ± 2.1 ‰ from +273.3 to +278.1 ‰ n = 4	-27.66 ± 0.03 ‰ from -27.63 to -27.69 ‰ n = 3		
16	3	Hexadecanoic acid propyl ester (C16:0) #16P , propyl palmitate #16P , C ₁₉ H ₃₈ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂), ≥99 %, CAS # 2239-78-3; ≥5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₄ COOC ₃ H ₇	+449.3 ± 2.2 ‰ from +447.6 to +452.2 ‰ n = 4	-30.03 ± 0.01 ‰ from -30.02 to -30.05 ‰ n = 4		
16	4	Hexadecanoic acid n-butyl ester (C16:0) #16B , n-butyl palmitate #16B , C ₂₀ H ₄₀ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂), ≥99 %, CAS # 111-06-8; ≥5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₄ COOC ₄ H ₉	+502.3 ± 2.9 ‰ from +498.9 to +506.5 ‰ n = 5	-27.16 ± 0.01 ‰ from -27.15 to -27.17 ‰ n = 4		
16	3 (glycerol)	Glyceryl tripalmitate , C ₅₁ H ₉₈ O ₆ , ≥99.0 %, CAS # 555-44-2, at least 5 mg in crimp-sealed glass vial, US \$250		-215.1 ± 0.9 ‰ from -214.1 to -216.1 ‰ n = 4	-30.12 ± 0.01 ‰ from -30.10 to -30.12 ‰ n = 3		
17	1	Heptadecanoic acid methyl ester (C17:0), methyl heptadecanoate , USGS76 , C ₁₈ H ₃₆ O ₂ , ≥99 %, CAS # 1731-92-6, 50 µL in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₅ COOCH ₃	-210.8 ± 0.9 ‰ n = 131 (Anal. Chem., 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)	-31.36 ± 0.04 ‰ n = 93 (Anal. Chem., 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)		
18	1	Octadecanoic acid methyl ester (C18:0) #n18M , methyl stearate #n18M , C ₁₉ H ₃₈ O ₂ , ~99 %, CAS # 112-61-8, ≥5 mg in crimp-sealed glass vial, US \$250	CH ₃ (CH ₂) ₁₆ COOCH ₃	-206.2 ± 1.7 ‰ from -204.0 to -208.2 ‰ n = 5	-23.24 ± 0.01 ‰ from -223.23 to -23.35 ‰ n = 4	0.05	0.75
18	2	Octadecanoic acid ethyl ester (C18:0) #18E , ethyl stearate #18E , C ₂₀ H ₄₀ O ₂ , ~99 %, CAS # 111-61-5, ≥5 mg in crimp-sealed glass vial, US \$250	CH ₃ (CH ₂) ₁₆ COOC ₂ H ₅	-214.2 ± 0.7 ‰ from -213.3 to -214.9 ‰ n = 4	-28.22 ± 0.01 ‰ from -28.22 to -28.24 ‰ n = 3	0.05	0.75

Carbon number of fatty acid	Carbon number of alcohol	Fatty acid ester formula, CAS #, purity, amount, type of packaging, price in US \$	Structure	$\delta^2\text{H}$ (or δD) (mean value in ‰ vs. VSMOW, $\pm 1\sigma$) (range) (# of measurements)	$\delta^{13}\text{C}$ (mean value in ‰ vs. VPDB, $\pm 1\sigma$) (range) (# of measurements)	Composition of fatty acid mixture F8-2 0.5 mL solution US \$150 (mg in 0.5 mL cyclohexane)	Composition of fatty acid mixture F8-4 0.5 mL solution US \$250 (mg in 0.5 mL hexane)
						see chromatogram	see chromatogram
20	1	Icosanoic acid methyl ester (C20:0) #2 , methyl icosanoate #2 , C ₂₁ H ₄₂ O ₂ , $\geq 99\%$, CAS # 1120-28-1, at least 5 mg in sealed glass vial, US \$250	CH ₃ (CH ₂) ₁₈ COOCH ₃	-166.7 \pm 0.3 ‰ from -166.4 to -167.1 ‰ n = 3	-30.68 \pm 0.02 ‰ from -30.66 to -30.71 ‰ n = 3	0.05	0.75
20	1	Icosanoic acid methyl ester (C20:0) #Y , methyl icosanoate #Y , C ₂₁ H ₄₂ O ₂ , ² H and ¹³ C spikes in fatty acid: 1,1-(² H ₂), 1-(¹³ C), $\geq 99\%$, CAS # 1120-28-1, 50 mg in sealed glass vial, US \$250	CH ₃ (CH ₂) ₁₈ COOCH ₃	+3.7 \pm 0.8 ‰ from +2.4 to +4.1 ‰ n = 4	-0.73 \pm 0.02 ‰ from -0.70 to -0.75 ‰ n = 4		
20	1	Icosanoic acid methyl ester (C20:0) #Z1 , methyl icosanoate #Z1 , USGS70 , C ₂₁ H ₄₂ O ₂ , $\geq 99.5\%$, CAS # 1120-28-1, 100 mg in glass vial, US \$250	CH ₃ (CH ₂) ₁₈ COOCH ₃	-183.9 \pm 1.4 ‰ n = 116 (<i>Anal. Chem.</i> , 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)	-30.53 \pm 0.04 ‰ n = 77 (<i>Anal. Chem.</i> , 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)		
20	1	Icosanoic acid methyl ester (C20:0) #Z2 , methyl icosanoate #Z2 , USGS71 , C ₂₁ H ₄₂ O ₂ , monoatomic ² H and ¹³ C spikes in methyl group, $\geq 99.5\%$, CAS # 1120-28-1, 100 mg in glass vial, US \$250	CH ₃ (CH ₂) ₁₈ COOCH ₃	-4.9 \pm 1.0 ‰ n = 118 (<i>Anal. Chem.</i> , 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)	-10.50 \pm 0.03 ‰ n = 65 (<i>Anal. Chem.</i> , 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)		
20	1	Icosanoic acid methyl ester (C20:0) #Z3 , methyl icosanoate #Z3 , USGS72 , C ₂₁ H ₄₂ O ₂ , monoatomic ² H and ¹³ C spikes in methyl group, $\geq 99.5\%$, CAS # 1120-28-1, 100 mg in glass vial, US \$250	CH ₃ (CH ₂) ₁₈ COOCH ₃	+348.3 \pm 1.5 ‰ n = 130 (<i>Anal. Chem.</i> , 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)	-1.54 \pm 0.03 ‰ n = 62 (<i>Anal. Chem.</i> , 2016, 88, 4294. http://dx.doi.org/10.1021/acs.analchem.5b04392)		
20	1	Icosanoic acid methyl ester (C20:0) #20M , methyl icosanoate #20M , C ₂₁ H ₄₂ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂), $\geq 99\%$, CAS # 1120-28-1; ≥ 5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₈ COOCH ₃	+505.5 \pm 1.7 ‰ from +503.5 to +506.6 ‰ n = 3	-28.43 \pm 0.02 ‰ from -28.41 to -28.44 ‰ n = 4		
20	2	Icosanoic acid ethyl ester (C20:0) #20E , ethyl icosanoate #20E , C ₂₂ H ₄₄ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂), $\geq 99\%$, CAS # not available; ≥ 5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₈ COOC ₂ H ₅	+340.8 \pm 1.9 ‰ from +338.7 to +342.7 ‰ n = 4	-24.80 \pm 0.01 ‰ from -24.79 ‰ to -24.82 ‰; n = 4		
20	2	Icosanoic acid ethyl ester (C20:0) #20E2 , ethyl icosanoate #20E2 , C ₂₂ H ₄₄ O ₂ , $\geq 99\%$, CAS # not available, ≥ 5 mg in sealed glass capillary, US \$250	CH ₃ (CH ₂) ₁₈ COOC ₂ H ₅	-195.5 \pm 1.2 ‰ from -193.8 to -196.6 ‰ n = 4	-26.10 \pm 0.03 ‰ from -26.08 to -26.13 ‰ n = 3	0.05	0.75
20	3	Icosanoic acid propyl ester (C20:0) #20P , propyl icosanoate #20P , C ₂₃ H ₄₆ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂), $\geq 99\%$, CAS # not available; ≥ 5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₈ COOC ₃ H ₇	+191.9 \pm 1.6 ‰ from +190.1 to +192.8 ‰ n = 3	-29.00 \pm 0.02 ‰ from -28.99 to -29.02 ‰ n = 3		
20	4	Icosanoic acid butyl ester (C20:0) #20B , butyl icosanoate #20B , C ₂₄ H ₄₈ O ₂ , ² H-spike in fatty acid: 1,1-(² H ₂), $\geq 99\%$, CAS # 26718-91-2; ≥ 5 mg in cyclohexane sealed under argon in glass ampoule, US \$250	CH ₃ (CH ₂) ₁₈ COOC ₄ H ₉	+1.5 \pm 1.4 ‰ from +0.1 to +3.3 ‰ n = 4	-28.64 \pm 0.03 ‰ from -28.62 to -28.68 ‰ n = 4		
24	1	Tetracosanoic acid methyl ester (C24:0), methyl lignocerate, C ₂₅ H ₅₀ O ₂ , $\geq 99\%$, CAS # 2442-49-1, ≥ 5 mg in crimp-sealed glass vial, US \$250	CH ₃ (CH ₂) ₂₂ COOCH ₃	-179.3 \pm 1.7 ‰ from -177.3 to -181.9 ‰ n = 5	-26.57 \pm 0.02 ‰ from -26.56 to -26.59 ‰ n = 3		
30	1	Triacotanoic acid methyl ester (C30:0), C ₃₁ H ₆₂ O ₂ , $\geq 99\%$, CAS # 629-83-4, at least 5 mg in crimp-sealed glass vial, US \$250	CH ₃ (CH ₂) ₂₈ COOCH ₃	-189.4 \pm 2.0 ‰ from -187.1 to -191.3 ‰ n = 5	-26.33 \pm 0.02 ‰ from -26.31 to -26.35 ‰ n = 5		