

Supplementary material

Supplementary Table S1. Abbreviations of the plasma lipids calculated

Plasma lipid Name	Abbreviation	Category
C12:0 $\mu\text{mol/L}$	FA 12:0	Fatty acids
C14:0 $\mu\text{mol/L}$	FA 14:0	Fatty acids
C15:0 $\mu\text{mol/L}$	FA 15:0	Fatty acids
C16:0 $\mu\text{mol/L}$	FA 16:0	Fatty acids
C17:0 $\mu\text{mol/L}$	FA 17:0	Fatty acids
C18:0 $\mu\text{mol/L}$	FA 18:0	Fatty acids
C20:0 $\mu\text{mol/L}$	FA 20:0	Fatty acids
C22:0 $\mu\text{mol/L}$	FA 22:0	Fatty acids
C24:0 $\mu\text{mol/L}$	FA 24:0	Fatty acids
C16:1 $\mu\text{mol/L}$	FA 16:1	Fatty acids
C18:1 $\mu\text{mol/L}$	FA 18:1	Fatty acids
C20:1 $\mu\text{mol/L}$	FA 20:1	Fatty acids
C24:1 $\mu\text{mol/L}$	FA 24:1	Fatty acids
C18:2 (Linoleic acid=LA) $\mu\text{mol/L}$	FA 18:2	Fatty acids
C18:3 n3 (alfa linoleic acid, ALA) $\mu\text{mol/L}$	FA 18:3 n3	Fatty acids
C18:3 n6 (Gamma linoleic acid, GLA) $\mu\text{mol/L}$	FA 18:3 n6	Fatty acids
C20:3 n6 (Dihomo- γ -linolenic acid, DGLA) $\mu\text{mol/L}$	FA 20:3 n6	Fatty acids
C20:4 n6 (Arachidonic acid, AA) $\mu\text{mol/L}$	FA 20:4 n6	Fatty acids
C20:5 n3 (Eicosapentaenoic acid, EPA) $\mu\text{mol/L}$	FA 20:5 n3	Fatty acids
C22:6 n3 (Docosahexaenoic acid, DHA) $\mu\text{mol/L}$	FA 22:6 n3	Fatty acids
Total saturated fatty acids mmol/L	SFA	Sum of fatty acids

Total monounsaturated fatty acids mmol/L	MUFA	Sum of fatty acids
Total polyunsaturated fatty acids mmol/L	PUFA	Sum of fatty acids
Total n3 fatty acids mmol/L	Total n3 FA	Sum of fatty acids
Total n6 fatty acids mmol/L	Total n6 FA	Sum of fatty acids
Total fatty acids mmol/L	TFA	Sum of fatty acids
LA/GLA	LA/GLA	Fatty acids ratio
EPA/DGLA	EPA/DGLA	Fatty acids ratio
AA/EPA	AA/EPA	Fatty acids ratio
D5-desaturase index (C18:2/C20:4)	Δ 5-desaturase index	Fatty acids ratio
D6-desaturase index (C18:2/C18:3)	Δ 6-desaturase index	Fatty acids ratio
D9-desaturase index (C16:1/C16:0)	Δ 9-desaturase index	Fatty acids ratio
DNL index (C16:0/C18:2)	DNL index	Fatty acids ratio
Elongation index (C18:0/C16:0)	Elongation index	Fatty acids ratio
Essential fatty acids (C18:2+C18:3) μ mol/L	EFA	Sum of fatty acids
Non-essential fatty acids (C16:0+C16:1+C18:0+C18:1) μ mol/L	NEFA	Sum of fatty acids
Cer(d18:1/16:0) μ mol/L	Cer(d18:1/16:0)	Ceramides
Cer(d18:1/18:0) μ mol/L	Cer(d18:1/18:0)	Ceramides
Cer(d18:1/24:0) μ mol/L	Cer(d18:1/24:0)	Ceramides
Cer(d18:1/24:1) μ mol/L	Cer(d18:1/24:1)	Ceramides
Ratio Cer(d18:1/16:0)/ Cer(d18:1/24:0)	Ratio Cer(16:0/24:0)	Ceramides ratio
Ratio Cer(d18:1/18:0)/ Cer(d18:1/24:0)	Ratio Cer(18:0/24:0)	Ceramides ratio
Ratio Cer(d18:1/24:1)/ Cer(d18:1/24:0)	Ratio Cer(18:1/24:0)	Ceramides ratio
Acetylcarnitine C2 μ mol/L	CAR 2:0	Acylcarnitines
Propionylcarnitine C3 μ mol/L	CAR 3:0	Acylcarnitines
Butyrylcarnitine C4 μ mol/L	CAR 4:0	Acylcarnitines
Valerylcarnitine C5 μ mol/L	CAR 5:0	Acylcarnitines
Hexanoylcarnitine C6 μ mol/L	CAR 6:0	Acylcarnitines

Octanoylcarnitine C8 µmol/L	CAR 8:0	Acylcarnitines
Decanoylcarnitine C10 µmol/L	CAR 10:0	Acylcarnitines
Lauroylcarnitine C12 µmol/L	CAR 12:0	Acylcarnitines
Myristoylcarnitine C14 µmol/L	CAR 14:0	Acylcarnitines
Palmitoylcarnitine C16 µmol/L	CAR 16:0	Acylcarnitines
Linoleoylcarnitine C18:2 µmol/L	CAR 18:2	Acylcarnitines
Oleoylecarnitine C18:1 µmol/L	CAR 18:1	Acylcarnitines
Stearoylcarnitine C18 µmol/L	CAR 18:0	Acylcarnitines

Supplementary Table S2. Detailed plasma lipid composition and comparison between the 3 study groups

	Study groups						
	Total	Controls	NAFL	NASH	NAFL vs Control [§]	NASH vs Control [§]	NASH vs NAFL [§]
N	37	15	10	12			
Fatty acids and analogues							
FA 12:0	73.3 (71.4-75.2)	71.7 (71.1-72.5)	72.5 (70.6-74.9)	75.2 (73.8-85.9)	0.4540	0.0002**	0.0602
FA 14:0	156 (146-170)	148 (142-159)	149 (142-164)	176 (161-209)	0.8029	0.0014**	0.0134*
FA 15:0	23.9 (22.7-30.4)	23.5 (22.1-28.7)	23.1 (21.0-25.9)	26.9 (25.1-34.9)	0.6774	0.0429*	0.0272*
FA 16:0	1715 (1530-2240)	1536 (1492-1785)	1694 (1609-1836)	2280 (1687-2943)	0.3899	0.0137*	0.0927
FA 17:0	28.5 (25.4-35.8)	28.5 (25.1-34.1)	25.7 (24.6-32.3)	32.9 (28.0-41.5)	0.5603	0.0673	0.0134*
FA 18:0	650 (577-727)	650 (570-683)	600 (564-673)	753 (601-804)	0.7184	0.0429*	0.0229*
FA 20:0	56.5 (55.7-57.5)	56.7 (55.8-57.3)	56.3 (55.4-56.9)	56.6 (56.2-58.3)	0.56	0.51	0.1764
FA 22:0	84.0 (82.1-85.8)	84.6 (82.2-86.4)	84.2 (82.1-84.8)	83.6 (82.5-86.8)	0.4881	1	0.575

<i>FA 24:0</i>	50.4 (49.7-51.2)	50.5 (49.8-51.3)	50.3 (49.4-50.8)	50.2 (49.7-51.3)	0.4887	0.981	0.454
<i>FA 16:1</i>	144 (129-183)	133 (120-143)	143 (128-173)	227 (153-333)	0.4212	0.0058**	0.0518
<i>FA 18:1</i>	1332 (1134-1715)	1243 (1015-1393)	1315 (1149-1512)	1714 (1304-2750)	0.4212	0.0137*	0.1062
<i>FA 20:1</i>	9.42 (8.82-9.99)	9.06 (8.41-9.55)	9.03 (8.66-10.3)	9.91 (9.41-11.2)	0.5603	0.0058**	0.0806
<i>FA 24:1</i>	71.4 (69.8-75.9)	75.7 (70.3-78.7)	71.2 (69.9-73.5)	70.8 (69.1-72.9)	0.1416	0.102	0.8175
<i>FA 20:5 n3</i>	89.2 (84.9-93.8)	91.1 (84.6-96.7)	87.4 (84.6-89.9)	91.5 (86.3-98.7)	0.1572	0.643	0.1213
<i>FA 22:6 n3</i>	160 (148-172)	160 (148-172)	159 (145-163)	173 (154-189)	0.4212	0.2319	0.1062
<i>FA 18:2</i>	1521 (1374-1774)	1518 (1412-1671)	1326 (1276-1628)	1698 (1513-2379)	0.0907	0.1021	0.0161*
<i>FA 18:3 n3</i>	65.9 (64.9-69.9)	65.2 (63.7-67.1)	65.2 (64.9-65.5)	70.8 (66.9-81.4)	0.7603	0.0043**	0.0062**
<i>FA 18:3 n6</i>	79.8 (73.8-84.1)	77.6 (74.1-81.9)	78.2 (74.4-82.2)	86.3 (73.8-92.3)	0.9337	0.1796	0.1765
<i>FA 20:3 n6</i>	205 (196-217)	199 (192-207)	205 (195-214)	214 (205-231)	0.5982	0.0381*	0.1985
<i>FA 20:4 n6</i>	528 (502-552)	528 (501-550)	527 (507-549)	535 (500-557)	0.9337	0.9029	0.9212
<i>SFA</i>	2.80 (2.63-3.49)	2.64 (2.54-2.94)	2.72 (2.64-3.03)	3.55 (2.76-4.28)	0.4540	0.0104*	0.0602
<i>MUFA</i>	1.53 (1.37-1.99)	1.46 (1.24-1.62)	1.53 (1.39-1.74)	2.08 (1.5-3.23)	0.4212	0.0137*	0.1062
<i>PUFA</i>	2.70 (2.45-2.94)	2.7 (2.49-2.84)	2.44 (2.38-2.8)	2.87 (2.64-3.58)	0.2555	0.1128	0.0134*
<i>Total n3 FA</i>	0.32 (0.31-0.34)	0.32 (0.3-0.33)	0.31 (0.29-0.32)	0.35 (0.31-0.36)	0.4540	0.1500	0.0378*
<i>Total n6 FA</i>	0.81 (0.78-0.86)	0.81 (0.77-0.84)	0.81 (0.79-0.85)	0.84 (0.78-0.9)	0.8029	0.2723	0.3734
<i>TFA</i>	6.85 (6.5-8.52)	6.85 (6.14-7.40)	6.73 (6.44-7.4)	8.76 (6.82-11.09)	0.9337	0.0264*	0.0518
<i>LA/GLA</i>	20.0 (17.9-21.9)	19.6 (18.8-20.7)	17.8 (15.6-20.0)	22.0 (19.9-26.2)	0.0806	0.1021	0.0321*
<i>EPA/DGLA</i>	0.44 (0.41-0.47)	0.45 (0.43-0.5)	0.42 (0.41-0.44)	0.41 (0.39-0.48)	0.1017	0.15	1

<i>AA/EPA</i>	5.86 (5.63-6.27)	5.74 (5.24-6.18)	6.15 (5.84-6.39)	5.79 (5.62-6.17)	0.0806	0.7511	0.1765
<i>Δ5-desaturase index</i>	2.95 (2.63-3.31)	2.88 (2.79-3.12)	2.61 (2.4-2.9)	3.35 (3.07-4.33)	0.0429*	0.0264*	0.0062**
<i>Δ6-desaturase index</i>	10.4 (9.74-11.9)	10.4 (9.93-11.4)	9.56 (8.64-10.8)	11.1 (10.4-14.6)	0.0631	0.2319	0.0378*
<i>Δ9-desaturase index</i>	0.08 (0.08-0.1)	0.08 (0.07-0.09)	0.09 (0.08-0.1)	0.1 (0.08-0.12)	0.1741	0.0832	0.1765
<i>DNL index</i>	1.13 (1.04-1.27)	1.06 (1.02-1.09)	1.26 (1.18-1.34)	1.16 (1.11-1.33)	0.0017**	0.0264*	0.6209
<i>Elongation index</i>	0.36 (0.34-0.38)	0.37 (0.36-0.4)	0.36 (0.32-0.38)	0.33 (0.28-0.36)	0.1741	0.0078**	0.2766
<i>EFA</i>	1695 (1506-1921)	1661 (1548-1816)	1463 (1422-1778)	1852 (1680-2542)	0.0907	0.0923	0.0192*
<i>NEFA</i>	3832 (3469-4935)	3620 (3202-4004)	3830 (3484-4005)	5028 (3620-6911)	0.5235	0.0180*	0.1213
<i>Ceramides</i>							
<i>Cer(d18:1/16:0)</i>	0.59 (0.44-0.65)	0.49 (0.42-0.63)	0.56 (0.38-0.62)	0.7 (0.54-0.76)	0.8461	0.0232*	0.0378*
<i>Cer(d18:1/18:0)</i>	0.24 (0.18-0.31)	0.18 (0.13-0.29)	0.23 (0.18-0.3)	0.29 (0.25-0.37)	0.2917	0.0264*	0.1211
<i>Cer(d18:1/24:0)</i>	10.7 (8.55-12.9)	10.2 (7.75-12.9)	10.0 (8.87-11.8)	11.7 (9.75-13.0)	0.7392	0.4067	0.2622
<i>Cer(d18:1/24:1)</i>	3.49 (2.65-4.47)	3.05 (2.67-4.5)	3.43 (2.65-3.67)	3.94 (3.04-4.63)	0.8897	0.2829	0.2225
<i>Ratio Cer (16:0/24:0)</i>	0.05 (0.04-0.06)	0.05 (0.04-0.05)	0.05 (0.04-0.06)	0.06 (0.05-0.07)	0.2917	0.0264	0.1211
<i>Ratio Cer (18:0/24:0)</i>	0.02 (0.02-0.03)	0.02 (0.01-0.02)	0.02 (0.02-0.03)	0.03 (0.02-0.03)	0.1924	0.0205*	0.3390
<i>Ratio Cer (24:1/24:0)</i>	0.35 (0.28-0.41)	0.32 (0.24-0.42)	0.35 (0.34-0.37)	0.33 (0.3-0.42)	0.8897	0.2830	0.2225
<i>Acylcarnitines</i>							
<i>CAR 2:0</i>	12.6 (8.31-15.1)	9.79 (8.25-16.5)	13.6 (8.92-16.1)	12.6 (10.5-14.8)	0.4881	0.9805	0.5310

Supplementary table S3. Detailed plasma lipid composition and comparison between high and low HOMA-IR groups

	<i>Total</i>	<i>Low HOMA-IR</i>	<i>High HOMA-IR</i>	<i>Low vs High HOMA-IR</i> [§]
<i>N</i>	<i>37</i>	<i>18</i>	<i>19</i>	
<i>Fatty acids and analogues</i>				
<i>FA 12:0</i>	73.3 (71.4-75.2)	71.6 (71.1-72.6)	75.1 (73.6-80.4)	0.0010**
<i>FA 14:0</i>	156 (146-170)	148 (142-156)	166 (156-191)	0.0030**
<i>FA 15:0</i>	23.9 (22.7-30.4)	23.0 (21.4-24.0)	26.6 (23.9-33.1)	0.0217*
<i>FA 16:0</i>	1715 (1530-2240)	1612 (1514-1718)	2095 (1684-2664)	0.0085**
<i>FA 17:0</i>	28.5 (25.4-35.8)	25.9 (24.8-32.4)	33.7 (27.4-38.6)	0.0373*
<i>FA 18:0</i>	650 (577-727)	600 (564-672)	718 (600-779)	0.0200*
<i>FA 20:0</i>	56.5 (55.7-57.5)	56.4 (55.6-57.0)	56.6 (56.1-57.9)	0.3234
<i>FA 22:0</i>	84.0 (82.1-85.8)	84.1 (81.8-85.1)	84.0 (82.4-86.8)	0.3087
<i>FA 24:0</i>	50.4(49.7-51.2)	50.3 (49.6-50.9)	50.4 (49.8-51.4)	0.4566
<i>FA 16:1</i>	144 (129-183)	131 (119-144)	179 (143-274)	0.0033**
<i>FA 18:1</i>	1332 (1134-1715)	1271 (1097-1384)	1581 (1193-2231)	0.0275*
<i>FA 20:1</i>	9.42 (8.82-9.99)	9.01 (8.49-9.56)	9.9 (9.19-10.8)	0.0144*
<i>FA 24:1</i>	71.4 (69.8-75.9)	72.2 (69.7-76.3)	71.3 (70.1-74.8)	0.8673
<i>FA 18:2</i>	1521 (1374-1774)	1430 (1328-1617)	1665 (1472-2139)	0.0465*
<i>FA 20:5 n3</i>	89.2 (84.9-93.8)	90.7 (86.0-93.3)	86.9 (84.7-94.5)	0.3540
<i>FA 22:6 n3</i>	161 (148-178)	159 (147-163)	164 (153-181)	0.2300
<i>FA 18:3 n3</i>	65.9 (64.9-69.9)	65.3 (64.7-66.4)	68.9 (65.4-75.5)	0.0617
<i>FA 18:3 n6</i>	79.8 (73.8-84.1)	77.2 (74.9-81.7)	82.6 (73.7-87.9)	0.3700
<i>FA 20:3 n6</i>	205 (196-217)	199 (196-205)	213 (198-220)	0.0706
<i>FA 20:4 n6</i>	528 (502-552)	520 (497-539)	547 (507-575)	0.1325
<i>SFA</i>	2.8 (2.63-3.49)	2.64 (2.57-2.85)	3.36 (2.76-3.98)	0.0065**
<i>MUFA</i>	1.53 (1.37-1.99)	1.48 (1.29-1.6)	1.94 (1.44-2.57)	0.0235*
<i>PUFA</i>	2.7 (2.45-2.94)	2.56 (2.41-2.77)	2.86 (2.55-3.34)	0.0298*
<i>TFA</i>	6.85 (6.5-8.52)	6.7 (6.39-7.22)	8.42 (6.81-9.48)	0.0157*
<i>LA/GLA</i>	20.0 (17.9-21.9)	18.8 (17.6-20.2)	20.6 (19.4-24.3)	0.0465*
<i>EPA/DGLA</i>	0.44 (0.41-0.47)	0.44 (0.43-0.48)	0.42 (0.39-0.46)	0.0575
<i>AA/EPA</i>	5.86 (5.63-6.27)	5.72 (5.45-5.92)	6.26 (5.79-6.41)	0.0157*
<i>Δ5-desaturase index</i>	2.95 (2.63-3.31)	2.8 (2.63-3.04)	3.09 (2.78-3.88)	0.0575
<i>Δ6-desaturase index</i>	10.4 (9.74-11.9)	9.93 (9.56-10.83)	11.2 (10.31-13.3)	0.0617
<i>Δ9-desaturase index</i>	0.08 (0.08-0.1)	0.08 (0.08-0.09)	0.09 (0.08-0.1)	0.0660
<i>DNL index</i>	1.13 (1.04-1.27)	1.07 (1.02-1.23)	1.17 (1.09-1.32)	0.0402*
<i>Elongation index</i>	0.36 (0.34-0.38)	0.37 (0.35-0.39)	0.34 (0.29-0.37)	0.0157*
<i>EFA</i>	1695 (1506-1921)	1571 (1467-1769)	1813 (1614-2300)	0.0465*
<i>NEFA</i>	3832 (3469-4935)	3576 (3338-3963)	4935 (3588-5903)	0.0144*
<i>Ceramides</i>				
<i>Cer(d18:1/16:0)</i>	0.59 (0.44-0.65)	0.47 (0.42-0.61)	0.65 (0.51-0.71)	0.0575
<i>Cer(d18:1/18:0)</i>	0.24 (0.18-0.31)	0.18 (0.13-0.23)	0.29 (0.25-0.35)	0.0038**
<i>Cer(d18:1/24:0)</i>	10.7 (8.55-12.9)	10.1 (8.59-12.4)	10.8 (8.53-13.0)	0.5739
<i>Cer(d18:1/24:1)</i>	3.49 (2.65-4.47)	3.06 (2.56-3.67)	3.72 (2.91-4.64)	0.1212

<i>Ratio Cer(16:0/24:0)</i>	0.05 (0.04-0.06)	0.05 (0.04-0.05)	0.05 (0.05-0.06)	0.1862
<i>Ratio Cer(18:0/24:0)</i>	0.02 (0.02-0.03)	0.02 (0.01-0.02)	0.03 (0.02-0.03)	0.0040**
<i>Ratio Cer(24:1/24:0)</i>	0.35 (0.28-0.41)	0.31 (0.24-0.39)	0.35 (0.32-0.41)	0.2545
Acylcarnitines				
<i>CAR 2:0</i>	12.6 (8.31-15.1)	9.01 (8.3-16.3)	13.0 (10.9-14.8)	0.5535
<i>CAR 3:0</i>	0.57 (0.51-0.72)	0.53 (0.5-0.6)	0.62 (0.56-0.78)	0.0465*
<i>CAR 4:0</i>	0.09 (0.07-0.12)	0.08 (0.06-0.12)	0.1 (0.08-0.12)	0.1176
<i>CAR 5:0</i>	0.06 (0.05-0.07)	0.05 (0.05-0.07)	0.07 (0.06-0.09)	0.0235*
<i>CAR 6:0</i>	0.06 (0.04-0.08)	0.06 (0.04-0.08)	0.07 (0.05-0.09)	0.4846
<i>CAR 8:0</i>	0.15 (0.1-0.19)	0.16 (0.12-0.19)	0.13 (0.09-0.2)	0.7497
<i>CAR 10:0</i>	0.26 (0.14-0.33)	0.27 (0.2-0.33)	0.2 (0.14-0.32)	0.3234
<i>CAR 12:0</i>	0.04 (0.03-0.06)	0.04 (0.03-0.06)	0.04 (0.03-0.07)	0.9153
<i>CAR 14:0</i>	0.04 (0.03-0.05)	0.04 (0.03-0.04)	0.04 (0.03-0.05)	0.4474
<i>CAR 16:0</i>	0.1 (0.09-0.14)	0.1 (0.08-0.12)	0.1 (0.09-0.14)	1.0000
<i>CAR 18:2</i>	0.18 (0.14-0.26)	0.19 (0.13-0.24)	0.16 (0.15-0.26)	0.8197
<i>CAR 18:1</i>	0.18 (0.14-0.24)	0.19 (0.15-0.27)	0.17 (0.14-0.23)	0.3700
<i>CAR 18:0</i>	0.03 (0.02-0.03)	0.03 (0.02-0.03)	0.02 (0.02-0.03)	0.1621
- Values of the plasma lipids are presented as median (25th-75th percentile) - ‡: In the comparison between the groups the <i>P</i> values were calculated using the Mann Whitney U test - *: <i>p</i> value <0.05. **: <i>p</i> value <0.01. statistically significant				

Supplementary table S4. Correlation of clinical, laboratory and plasma lipid parameters with NAS and Fibrosis score

	NAS score*	Fibrosis score*
FA 16:1	0,5265	0,2081
FA 18:3 n 6	0,3073	0,1755
Cer(d18:1/18:0)	0,4599	0,2606
Cer(d18:1/24:0)	0,2492	0,0533
Cer(d18:1/24:1)	0,2739	0,1172
AA/EPA	0,0655	0,0126
CAR 2:0	-0,0691	-0,088
Age	0,0823	0,3084
ALB	0,0348	-0,0676
ALP	0,1769	0,1999
ALT	0,6929	0,2742
AST	0,6384	0,3078
BMI	0,4711	0,4812
CAR 4:0	0,2421	-0,0081
FA 12:0	0,3998	0,5277
FA 14:0	0,5105	0,3631
FA 15:0	0,3483	0,369
FA 16:0	0,5185	0,305
FA 17:0	0,3421	0,3736
FA 18:0	0,4541	0,2377
FA 18:3 n3	0,3992	0,2518

FA 20:0	0,2227	0,1987
FA 20:1n11	0,4595	0,4309
FA 20:3 n6	0,419	0,0895
FA 20:4 n6	0,1377	0,0362
FA 20:5 n3	0,0162	0,0123
FA 22:0	0,0163	-0,0747
FA 22:6 n3	0,2985	0,1538
FA 24:0	0,0023	-0,1031
FA 24:1	-0,3467	-0,2893
Cer(d18:1/16:0)	0,3844	0,3283
FA 18:1	0,5065	0,3503
FA 18:2	0,412	0,2324
$\Delta 5$ -desaturase index	0,4256	0,2595
$\Delta 6$ -desaturase index	0,3588	0,2093
$\Delta 9$ -desaturase index	0,282	0,0347
CAR 10:0	-0,0463	-0,0988
DNL index	0,4136	0,3352
Elongation index	-0,5236	-0,4253
EPA/DGLA	-0,3451	-0,0812
EFA	0,4138	0,2341
FBG	0,3981	0,5594
FERRITIN	0,3882	0,3801
GGT	0,3668	0,5084
HBA1C	0,3171	0,5154
HDL	-0,4441	-0,347
CAR 6:0	0,1165	0,1074
HOMA-IR	0,6532	0,6312
LA/GLA	0,3785	0,2226
CAR 12:0	0,1055	-0,0184
LDL	-0,0172	-0,119
CAR 18:2	-0,0967	-0,0258
CAR 14:0	0,1181	0,0639
NEFA	0,5196	0,3184
CAR 8:0	-0,0195	-0,0599
CAR 18:1	-0,1717	-0,0919
CAR 16:0	0,0576	0,0207
PLT(x1000)	-0,0922	-0,2431
CAR 3:0	0,3304	0,3101
Ratio Cer(d18:1/16:0)/ Cer(d18:1/24:0)	0,1679	0,3305
Ratio Cer(d18:1/18:0)/ Cer(d18:1/24:0)	0,3441	0,2664
Ratio Cer(d18:1/24:1)/ Cer(d18:1/24:0)	0,0298	0,0705
CAR 18:0	-0,1563	-0,0272
TFA	0,4972	0,2995
MUFA	0,5194	0,3385
Total n3 FA	0,3388	0,1924
Total n6 FA	0,2971	0,0798
PUFA	0,4153	0,2264

SFA	0,5101	0,3015
TRG	0,6075	0,3859
Uric acid	0,5162	0,0502
CAR 5:0	0,3476	0,2602
WC	0,4595	0,4318
* Correlations are presented with Pearson's correlation coefficient (r) which ranges from -1 to +1		

Supplementary Table S5. The AUC values for all the plasma lipids and each pair of groups compared

Lipids	NASH_CTRL		NASH_NAFL		NAFL_CTRL	
	AUROC (95% CI)	P value	AUROC (95% CI)	P value	AUROC (95% CI)	P value
AA/EPA	0.53 (0.49-0.79)	0.735	0.67 (0.51-0.88)	0.139	0.72 (0.54-0.91)	0.045*
CAR 10:0	0.57 (0.51-0.82)	0.607	0.53 (0.49-0.82)	0.851	0.67 (0.51-0.88)	0.191
CAR 12:0	0.54 (0.51-0.80)	0.714	0.57 (0.50-0.80)	0.558	0.58 (0.50-0.78)	0.480
CAR 14:0	0.57 (0.50-0.79)	0.537	0.58 (0.50-0.80)	0.601	0.55 (0.50-0.79)	0.679
CAR 16:0	0.51 (0.50-0.76)	0.849	0.58 (0.51-0.83)	0.516	0.58 (0.50-0.85)	0.564
CAR 18:0	0.66 (0.51-0.86)	0.129	0.55 (0.50-0.80)	0.747	0.68 (0.52-0.92)	0.133
CAR 18:1	0.63 (0.52-0.85)	0.247	0.55 (0.50-0.79)	0.652	0.53 (0.51-0.80)	0.831
CAR 18:2	0.59 (0.51-0.80)	0.399	0.49 (0.50-0.83)	1.000	0.63 (0.51-0.90)	0.269
CAR 2:0	0.50 (0.50-0.80)	0.963	0.58 (0.50-0.81)	0.512	0.59 (0.50-0.83)	0.459
CAR 3:0	0.79 (0.61-0.94)	0.002**	0.69 (0.51-0.92)	0.126	0.54 (0.51-0.84)	0.846
CAR 4:0	0.72 (0.53-0.91)	0.031*	0.65 (0.51-0.88)	0.238	0.58 (0.50-0.80)	0.584
CAR 5:0	0.73 (0.54-0.89)	0.029*	0.61 (0.50-0.87)	0.339	0.59 (0.51-0.82)	0.431
CAR 6:0	0.55 (0.51-0.79)	0.640	0.50 (0.50-0.78)	1.000	0.56 (0.50-0.81)	0.601
CAR 8:0	0.52 (0.50-0.78)	0.928	0.55 (0.50-0.79)	0.648	0.66 (0.51-0.86)	0.238
Cer(d18:1/16:0)	0.76 (0.56-0.91)	0.006**	0.77 (0.54-0.94)	0.009**	0.54 (0.50-0.78)	0.828
Cer(d18:1/18:0)	0.76 (0.54-0.92)	0.007**	0.69 (0.52-0.91)	0.078	0.63 (0.51-0.84)	0.261
Cer(d18:1/24:0)	0.59 (0.51-0.79)	0.383	0.65 (0.50-0.88)	0.224	0.55 (0.50-0.78)	0.711
Cer(d18:1/24:1)	0.63 (0.50-0.82)	0.256	0.66 (0.51-0.89)	0.184	0.51 (0.50-0.75)	0.867
DNL index	0.76 (0.57-0.93)	0.010*	0.58 (0.50-0.83)	0.598	0.89 (0.71-1)	<0.001**
EFA	0.68 (0.51-0.89)	<0.001**	0.80 (0.57-0.96)	0.239	0.70 (0.52-0.95)	0.139
EPA/DGLA	0.67 (0.51-0.90)	0.066	0.51 (0.48-0.78)	0.002**	0.71 (0.52-0.89)	0.105
Elongation index	0.81 (0.63-0.96)	0.132	0.64 (0.51-0.87)	1.000	0.67 (0.51-0.86)	0.059
FA 12:0	0.92 (0.80-1)	<0.001**	0.75 (0.50-0.92)	0.035*	0.59 (0.49-0.83)	0.468
FA 14:0	0.87 (0.72-0.97)	<0.001**	0.82 (0.59-0.96)	0.001**	0.51 (0.50-0.79)	0.789
FA 15:0	0.72 (0.55-0.89)	0.016*	0.79 (0.57-0.95)	0.005**	0.55 (0.50-0.84)	0.660
FA 16:0	0.79 (0.58-0.96)	0.003**	0.72 (0.51-0.89)	0.049*	0.61 (0.51-0.85)	0.372
FA 16:1	0.81 (0.61-0.96)	0.001**	0.75 (0.55-0.92)	0.019*	0.59 (0.49-0.83)	0.408
FA 17:0	0.71 (0.52-0.88)	0.035*	0.81 (0.61-0.94)	0.001**	0.58 (0.50-0.82)	0.536
FA 18:0	0.74 (0.53-0.92)	0.022*	0.79 (0.58-0.94)	0.003**	0.55 (0.50-0.80)	0.694
FA 18:1	0.79 (0.61-0.93)	0.002**	0.71 (0.52-0.91)	0.065	0.60 (0.51-0.84)	0.396
FA 18:2	0.69 (0.51-0.89)	0.074	0.80 (0.57-0.96)	0.001**	0.70 (0.52-0.95)	0.105
FA 18:3 n3	0.83 (0.66-0.97)	<0.001**	0.85 (0.67-1)	<0.001**	0.53 (0.48-0.78)	0.737
FA 18:3 n6	0.65 (0.50-0.86)	0.190	0.68 (0.50-0.90)	0.157	0.51 (0.50-0.78)	0.912

FA 20:0	0.62 (0.46-0.83)	0.495	0.67 (0.49-0.86)	0.137	0.58 (0.48-0.79)	0.534
FA 20:1	0.83 (0.67-0.96)	<0.001**	0.73 (0.53-0.93)	0.061	0.57 (0.50-0.83)	0.550
FA 20:3 n6	0.74 (0.55-0.91)	0.020*	0.67 (0.51-0.88)	0.158	0.57 (0.49-0.80)	0.582
FA 20:4 n6	0.53 (0.49-0.76)	0.889	0.53 (0.48-0.78)	0.896	0.52 (0.49-0.81)	0.913
FA 20:5 n3	0.57 (0.49-0.80)	0.626	0.70 (0.53-0.91)	0.079	0.66 (0.52-0.86)	0.109
FA 22:0	0.49 (0.48-0.73)	1.000	0.60 (0.47-0.82)	0.558	0.59 (0.49-0.82)	0.456
FA 22:6 n3	0.64 (0.51-0.86)	0.208	0.72 (0.52-0.90)	0.062	0.6 (0.50-0.81)	0.403
FA 24:0	0.52 (0.50-0.72)	0.961	0.60 (0.48-0.83)	0.471	0.59 (0.48-0.81)	0.441
FA 24:1	0.68 (0.52-0.88)	0.067	0.53 (0.49-0.80)	0.793	0.67 (0.50-0.89)	0.095
LA/GLA	0.68 (0.52-0.91)	0.092	0.78 (0.56-0.95)	0.006**	0.71 (0.53-0.96)	0.079
MUFA	0.78 (0.61-0.93)	0.002**	0.70 (0.52-0.90)	0.062	0.61 (0.51-0.85)	0.393
NEFA	0.78 (0.60-0.93)	0.004**	0.70 (0.52-0.89)	0.078	0.58 (0.50-0.85)	0.507
PUFA	0.68 (0.51-0.89)	0.083	0.80 (0.57-0.97)	0.001**	0.65 (0.51-0.92)	0.277
Ratio Cer(16:0/24:0)	0.62 (0.51-0.84)	0.340	0.64 (0.51-0.87)	0.268	0.50 (0.50-0.82)	1.000
Ratio Cer(18:0/24:0)	0.77 (0.57-0.93)	0.004**	0.63 (0.50-0.85)	0.316	0.66 (0.50-0.87)	0.153
Ratio Cer(18:1/24:0)	0.54 (0.51-0.76)	0.697	0.50 (0.50-0.82)	1.000	0.52 (0.50-0.77)	0.868
SFA	0.79 (0.59-0.95)	0.001**	0.75 (0.54-0.91)	0.024*	0.59 (0.50-0.84)	0.436
TFA	0.75 (0.57-0.92)	0.008**	0.75 (0.56-0.92)	0.016*	0.51 (0.50-0.81)	0.914
Total n3 FA	0.65 (0.51-0.87)	0.128	0.77 (0.58-0.93)	0.010*	0.60 (0.50-0.80)	0.422
Total n6 FA	0.62 (0.50-0.83)	0.268	0.62 (0.50-0.86)	0.351	0.53 (0.50-0.80)	0.780
Δ5-desaturase index	0.75 (0.55-0.94)	0.015*	0.85 (0.66-1)	<0.001**	0.75 (0.56-0.97)	0.033*
Δ6-desaturase index	0.62 (0.50-0.86)	0.225	0.77 (0.56-0.95)	0.010*	0.73 (0.54-0.97)	0.069
Δ9-desaturase index	0.71 (0.52-0.91)	0.078	0.68 (0.51-0.89)	0.144	0.67 (0.51-0.85)	0.135

-The table includes for each pair of groups compared and for each lipid. the AUC value (95% CI). as well as the corresponding one P value of the difference from the dummy model

- *: p value <0.05. **: p value <0.01. statistically significant