

Supplementary Table 3. General characteristics and metabolomics profile of non-diabetic subjects: controls and patients with non-secreting adrenocortical adenomas, autonomous cortisol secretion, and Cushing’s syndrome after age adjustment.

		Controls	Non secreting adenomas	Autonomous cortisol secretion	Cushing’s syndrome	P value ^a
	Number of patients	35	20	22	32	
General characteristics						
	Females, n (%)	25/35 (71.4)	14/20 (70.0)	12/22 (54.5)	21/32 (65.6)	0.595 ^b
	Age, yrs	36.7 ± 13.4	57.3 ± 12.2	61.9 ± 11.7	47.6 ± 16.2	<0.001 ^b
	BMI, Kg/m ²	31.1 ± 8.7	29.9 ± 7.0	27.9 ± 5.6	26.5 ± 5.4	0.083 ^b
Carnitine and acylcarnitines						
	DL-Carnitine (C0)	1.143 (1.033-1.266)	1.112 (0.982-1.26)	0.944 (0.832-1.069) ^c	0.975 (0.887-1.073) ^c	0.037
	Decanoyl-L-carnitine (C10)	2.158 (1.825-2.549)	1.778 (1.448-2.18)	1.517 (1.235-1.862)	1.884 (1.611-2.202)	0.122
	Decenoyl-L-carnitine (C10:1)	1.291 (1.102-1.51)	1 (0.825-1.213)	0.875 (0.721-1.062) ^c	1.102 (0.951-1.276)	0.045
	Decadienoyl-L-carnitine (C10:2)	1.062 (0.971-1.162)	1.125 (1.006-1.254)	0.984 (0.881-1.099)	0.991 (0.911-1.078)	0.200
	Dodecanoyl-L-carnitine (Lauroylcarnitine) (C12)	1.791 (1.526-2.103)	1.435 (1.18-1.747)	1.259 (1.034-1.534)	1.403 (1.207-1.63)	0.060
	Dodecanedioyl-L-carnitine (C12-DC)	0.948 (0.922-0.977)	0.953 (0.92-0.988)	0.959 (0.926-0.995)	0.953 (0.928-0.98)	0.979
	Dodecenoyl-L-carnitine (C12:1)	2.065 (1.758-2.422)	1.538 (1.265-1.872) ^c	1.432 (1.176-1.743) ^c	1.507 (1.297-1.75) ^c	0.020
	Tetradecanoyl-L-carnitine (Myristoylcarnitine) (C14)	2.183 (1.928-2.474)	1.811 (1.555-2.11)	1.552 (1.332-1.811) ^c	1.871 (1.665-2.102)	0.022

Tetradecenoyl-L-carnitine (C14:1)	2.78 (2.311-3.351)	2.046 (1.631-2.569)	1.803 (1.435-2.264) ^c	1.923 (1.617-2.289) ^c	0.018
Hydroxytetradecenoyl-L-carnitine (C14:1-OH)	1.816 (1.602-2.059)	1.517 (1.301-1.767)	1.352 (1.159-1.577) ^c	1.493 (1.328-1.679) ^c	0.042
Tetradecadien-L-carnitine (C14:2)	1.574 (1.294-1.914)	1.059 (0.834-1.347) ^c	0.933 (0.733-1.186) ^c	1.122 (0.935-1.349) ^c	0.014
Hydroxytetradecadien-L-carnitine (C14:2-OH)	1.371 (1.266-1.483)	1.216 (1.104-1.34)	1.091 (0.989-1.202) ^c	1.159 (1.075-1.247) ^c	0.004[*]
Hexadecanoyl-L-carnitine (Palmitoylcarnitine) (C16)	1.795 (1.583-2.034)	1.644 (1.412-1.918)	1.462 (1.253-1.704)	1.73 (1.539-1.946)	0.271
Hydroxyhexadecanoyl-L-carnitine (C16-OH)	1.374 (1.249-1.509)	1.245 (1.108-1.396)	1.159 (1.032-1.302)	1.23 (1.127-1.345)	0.191
Hexadecenoyl-L-carnitine (C16:1)	1.648 (1.501-1.813)	1.5 (1.335-1.682)	1.452 (1.292-1.63)	1.489 (1.363-1.627)	0.349
Hydroxyhexadecenoyl-L-carnitine (C16:1-OH)	1.66 (1.476-1.867)	1.432 (1.24-1.653)	1.309 (1.132-1.511)	1.387 (1.242-1.547)	0.078
Hexadecadienyl-L-carnitine (C16:2)	1.422 (1.267-1.597)	1.247 (1.084-1.438)	1.211 (1.051-1.396)	1.271 (1.141-1.417)	0.365
Hydroxyhexadecadienyl-L-carnitine (C16:2-OH)	1.13 (1.062-1.2)	1.014 (0.941-1.092)	1.014 (0.942-1.094)	1.03 (0.974-1.092)	0.094
Octadecanoyl-L-carnitine (Stearoylcarnitine) (C18)	1.754 (1.532-2.011)	1.596 (1.353-1.886)	1.521 (1.288-1.798)	1.832 (1.613-2.079)	0.339
Octadecenoyl-L-carnitine (Oleylcarnitine) (C18:1)	2.028 (1.739-2.364)	1.811 (1.503-2.187)	1.652 (1.37-1.997)	1.968 (1.705-2.271)	0.437
Hydroxyoctadecenoyl-L-carnitine (C18:1-OH)	1.34 (1.224-1.464)	1.239 (1.111-1.383)	1.146 (1.025-1.277)	1.213 (1.117-1.32)	0.209
Octadecadienyl-L-carnitine (Linoleylcarnitine) (C18:2)	1.084 (0.91-1.289)	0.839 (0.678-1.039)	0.796 (0.642-0.985) ^c	1.132 (0.962-1.333)	0.039
Acetyl-L-carnitine (C2)	2.113 (1.758-2.541)	1.618 (1.292-2.027)	1.25 (0.997-1.567) ^c	1.556 (1.31-1.849) ^c	0.011[*]
Propionyl-L-carnitine (C3)	1.127 (0.99-1.285)	1.178 (1.004-1.381)	0.861 (0.733-1.01) ^c	0.995 (0.881-1.124)	0.020
Hydroxypropionyl-L-carnitine (C3-OH)	0.984 (0.928-1.042)	0.964 (0.898-1.033)	0.923 (0.859-0.989)	0.998 (0.946-1.054)	0.371
Propenoyl-L-carnitine (C3:1)	0.948 (0.882-1.022)	0.971 (0.887-1.062)	0.984 (0.899-1.078)	0.935 (0.874-1.003)	0.843
Butyryl-L-carnitine (C4)	1.169 (0.994-1.377)	1.132 (0.928-1.383)	0.875 (0.716-1.069)	1.05 (0.901-1.222)	0.157

	Hydroxybutyryl-L-carnitine (C4-OH [C3-DC])	0.873 (0.757-1.006)	0.665 (0.559-0.792)	0.713 (0.599-0.85)	0.748 (0.655-0.854)	0.142
	Butenyl-L-carnitine (C4:1)	1.081 (1.003-1.163)	1.047 (0.956-1.145)	1.13 (1.031-1.237)	1 (0.933-1.072)	0.156
	Valeryl-L-carnitine (C5)	1.104 (0.959-1.268)	1.13 (0.953-1.34)	0.887 (0.748-1.054)	0.938 (0.823-1.069)	0.077
	Methylglutaryl-L-carnitine (C5-M-DC)	1.028 (0.962-1.101)	0.938 (0.863-1.018)	0.938 (0.862-1.018)	1.005 (0.943-1.07)	0.283
	Methylmalonyl-L-carnitine (C5-OH [C3-DC-M])	1.005 (0.951-1.06)	0.989 (0.924-1.056)	1.023 (0.957-1.094)	0.998 (0.948-1.05)	0.882
	Tiglyl-L-carnitine (C5:1)	0.982 (0.925-1.044)	0.916 (0.852-0.987)	0.893 (0.83-0.962)	0.953 (0.9-1.008)	0.305
	Glutaconyl-L-carnitine (C5:1-DC)	1.047 (0.959-1.142)	0.94 (0.844-1.046)	0.887 (0.797-0.989)	0.998 (0.919-1.082)	0.175
	Fumaryl-L-carnitine (C6 [C4:1-DC])	1.629 (1.434-1.853)	1.578 (1.349-1.846)	1.312 (1.12-1.535)	1.538 (1.365-1.735)	0.207
	Glutaryl-L-carnitine (C5-DC [C6-OH])	1.276 (1.185-1.376)	1.047 (0.956-1.148) ^c	1.091 (0.996-1.197) ^c	1.197 (1.116-1.284)	0.014
	Hexenoyl-L-carnitine (C6:1)	0.986 (0.932-1.045)	1.014 (0.946-1.087)	1.009 (0.941-1.083)	0.998 (0.946-1.053)	0.949
	Pimelyl-L-carnitine (C7-DC)	1.535 (1.347-1.749)	1.285 (1.096-1.509)	1.271 (1.082-1.492)	1.213 (1.074-1.371)	0.074
	Octanoyl-L-carnitine (C8)	1.762 (1.507-2.062)	1.51 (1.247-1.83)	1.242 (1.023-1.505)	1.626 (1.405-1.883)	0.075
	Nonayl-L-carnitine (C9)	1.95 (1.725-2.204)	1.496 (1.287-1.736) ^c	1.445 (1.242-1.678) ^c	1.694 (1.51-1.899)	0.026
Amino acids and biogenic amines						
	Alanine	0.865 (0.777-0.965)	0.881 (0.772-1.006)	0.789 (0.691-0.902)	0.877 (0.792-0.969)	0.581
	Arginine	0.757 (0.665-0.862)	0.809 (0.69-0.949)	0.719 (0.614-0.845)	0.706 (0.626-0.798)	0.542
	Asparagine	3.041 (2.753-3.365)	2.698 (2.384-3.048)	2.518 (2.226-2.849)	2.673 (2.433-2.935)	0.140
	Aspartate	0.488 (0.4-0.595)	0.491 (0.385-0.625)	0.673 (0.528-0.859)	0.486 (0.405-0.586)	0.146
	Citrulline	1.365 (1.215-1.535)	1.208 (1.047-1.394)	1.346 (1.166-1.553)	1.211 (1.086-1.351)	0.311
	Glutamine	2.178 (1.886-2.516)	1.698 (1.423-2.025)	1.637 (1.37-1.953)	1.919 (1.676-2.195)	0.107

Glutamate	0.284 (0.222-0.362)	0.313 (0.232-0.421)	0.451 (0.334-0.609)	0.292 (0.232-0.367)	0.109
Glycine	1.079 (0.932-1.25)	1.002 (0.836-1.198)	0.851 (0.71-1.019)	1.074 (0.936-1.232)	0.210
Histidine	1.161 (1.083-1.248)	1.159 (1.064-1.265)	1.023 (0.937-1.116) ^c	1.021 (0.955-1.091) ^c	0.011[*]
Isoleucine	1.081 (0.976-1.196)	1.132 (1.001-1.283)	0.973 (0.859-1.102)	0.893 (0.813-0.982) ^c	0.007[*]
Leucine	1.233 (1.117-1.36)	1.265 (1.121-1.426)	1.069 (0.947-1.206)	1.033 (0.942-1.132) ^c	0.011[*]
Lysine	1.064 (0.996-1.135)	1.062 (0.98-1.149)	0.962 (0.887-1.041)	1 (0.941-1.063)	0.163
Methionine	0.838 (0.755-0.93)	0.841 (0.738-0.96)	0.695 (0.61-0.792)	0.74 (0.671-0.815)	0.061
Ornithine	0.938 (0.81-1.084)	0.964 (0.806-1.151)	0.991 (0.828-1.185)	1.062 (0.927-1.217)	0.618
Phenylalanine	1.14 (1.058-1.227)	1.127 (1.029-1.233)	1.009 (0.922-1.105)	1.047 (0.976-1.121)	0.122
Proline	0.881 (0.792-0.979)	0.923 (0.811-1.051)	0.841 (0.739-0.959)	0.753 (0.682-0.831)	0.052
Serine	1.081 (0.968-1.206)	1.064 (0.931-1.218)	0.929 (0.812-1.064)	0.962 (0.867-1.064)	0.215
Threonine	0.891 (0.801-0.99)	0.828 (0.727-0.943)	0.759 (0.665-0.864)	0.798 (0.722-0.881)	0.299
Tryptophan	1.327 (1.178-1.494)	1.318 (1.14-1.525)	1.047 (0.905-1.213) ^c	1.112 (0.994-1.242) ^c	0.023
Tyrosine	1.117 (1.004-1.244)	1.159 (1.016-1.321)	0.904 (0.792-1.031) ^c	0.883 (0.799-0.976) ^c	0.001[*]
Valine	1.239 (1.146-1.343)	1.276 (1.159-1.408)	1.117 (1.014-1.232)	1.03 (0.958-1.111) ^c	0.001[*]
Acetyloronithine	1.552 (1.242-1.943)	1.225 (0.931-1.609)	1.589 (1.207-2.091)	1.928 (1.563-2.373)	0.077
Asymmetric dimethylarginine	1.377 (1.249-1.518)	1.233 (1.094-1.388)	1.122 (0.995-1.264)	1.274 (1.164-1.396)	0.123
Alpha-Aminoadipic acid	0.887 (0.781-1.008)	0.855 (0.732-1)	0.776 (0.664-0.908)	0.752 (0.667-0.846)	0.223
Creatinine	1.189 (1.072-1.315)	0.938 (0.829-1.063) ^c	0.942 (0.832-1.069) ^c	1.052 (0.956-1.156)	0.029
Kynurenine	1.592 (1.414-1.79)	1.377 (1.192-1.59)	1.119 (0.968-1.292) ^c	1.096 (0.982-1.224) ^c	<0.001[*]
Methioninesulfoxide	0.513 (0.392-0.671)	0.619 (0.45-0.852)	0.718 (0.521-0.989)	0.452 (0.351-0.582)	0.153
Putrescine	6.776 (5.724-8.013)	4.864 (3.957-5.97)	6.295 (5.123-7.743)	6.902 (5.897-8.075)	0.053

	Spermidine	1.671 (1.389-2.011)	1.062 (0.847-1.333) ^c	1.521 (1.21-1.907)	2.275 (1.916-2.708) ^c	<0.001 [*]
	Spermine	1.211 (1.112-1.316)	1.094 (0.987-1.214)	1.216 (1.096-1.348)	1.282 (1.185-1.388)	0.123
	Trans-4-Hydroxyproline	0.736 (0.63-0.862)	0.776 (0.64-0.94)	0.692 (0.571-0.839)	0.594 (0.513-0.688)	0.094
	Taurine	1.026 (0.881-1.195)	1.005 (0.834-1.211)	1.197 (0.993-1.444)	1.091 (0.947-1.259)	0.514
	Phosphatidylcholines					
	Lyso PC a C14:0	1.164 (1.072-1.265)	1.18 (1.066-1.305)	1.069 (0.966-1.185)	1.202 (1.113-1.299)	0.324
	Lyso PC a C16:0	0.598 (0.528-0.678)	0.547 (0.47-0.638)	0.485 (0.416-0.566)	0.592 (0.527-0.665)	0.197
	Lyso PC a C16:1	0.845 (0.729-0.981)	0.973 (0.811-1.166)	0.776 (0.647-0.932)	0.879 (0.765-1.01)	0.320
	Lyso PC a C17:0	0.548 (0.475-0.631)	0.514 (0.432-0.611)	0.466 (0.391-0.554)	0.601 (0.527-0.687)	0.145
	Lyso PC a C18:0	0.437 (0.378-0.504)	0.406 (0.34-0.484)	0.353 (0.296-0.421)	0.398 (0.348-0.455)	0.389
	Lyso PC a C18:1	0.705 (0.609-0.817)	0.807 (0.674-0.965)	0.713 (0.595-0.854)	0.798 (0.695-0.915)	0.458
	Lyso PC a C18:2	0.834 (0.702-0.99)	0.942 (0.763-1.163)	0.855 (0.692-1.056)	0.989 (0.843-1.162)	0.436
	Lyso PC a C20:3	0.826 (0.716-0.951)	1.04 (0.875-1.239)	0.818 (0.687-0.975)	0.916 (0.802-1.047)	0.128
	Lyso PC a C20:4	0.535 (0.458-0.623)	0.562 (0.466-0.679)	0.498 (0.412-0.601)	0.568 (0.491-0.655)	0.675
	Lyso PC a C24:0	1.186 (1.07-1.315)	1.542 (1.358-1.748) ^c	1.334 (1.174-1.513)	1.194 (1.083-1.314)	0.011 [*]
	Lyso PC a C26:0	1.39 (1.184-1.634)	2.178 (1.791-2.654) ^c	1.968 (1.616-2.399) ^c	1.476 (1.269-1.713)	0.003 [*]
	Lyso PC a C26:1	1.253 (1.103-1.423)	1.545 (1.323-1.807)	1.517 (1.296-1.773)	1.25 (1.11-1.408)	0.088
	Lyso PC a C28:0	1.169 (1.005-1.36)	1.648 (1.37-1.983) ^c	1.419 (1.179-1.709)	1.186 (1.029-1.364)	0.028
	Lyso PC a C28:1	1.486 (1.299-1.7)	1.888 (1.603-2.228)	1.766 (1.498-2.085)	1.552 (1.368-1.759)	0.151
	PC aa C24:0	1.199 (1.031-1.398)	1.687 (1.4-2.032) ^c	1.629 (1.351-1.964) ^c	1.208 (1.048-1.393)	0.011 [*]
	PC aa C26:0	1.222 (1.118-1.335)	1.462 (1.311-1.629)	1.476 (1.322-1.645)	1.34 (1.233-1.455)	0.060

PC aa C28:1	2.193 (1.954-2.455)	2.143 (1.862-2.461)	2.032 (1.768-2.34)	2.307 (2.072-2.565)	0.565
PC aa C30:0	2.729 (2.38-3.134)	2.999 (2.533-3.547)	2.576 (2.178-3.054)	2.729 (2.4-3.104)	0.615
PC aa C32:0	2.109 (1.91-2.329)	2.113 (1.87-2.383)	1.897 (1.678-2.14)	1.932 (1.761-2.119)	0.349
PC aa C32:1	4.305 (3.596-5.16)	5.689 (4.56-7.092)	4.345 (3.484-5.43)	4.571 (3.863-5.414)	0.218
PC aa C32:2	2.553 (2.171-3.006)	2.735 (2.242-3.339)	2.213 (1.812-2.703)	2.679 (2.302-3.12)	0.377
PC aa C32:3	1.146 (1.016-1.292)	1.346 (1.161-1.558)	1.146 (0.989-1.329)	1.219 (1.089-1.363)	0.317
PC aa C34:1	2.529 (2.278-2.811)	2.698 (2.374-3.07)	2.404 (2.112-2.734)	2.57 (2.331-2.837)	0.602
PC aa C34:2	1.807 (1.645-1.989)	1.641 (1.46-1.841)	1.538 (1.367-1.727)	1.726 (1.579-1.885)	0.254
PC aa C34:3	1.972 (1.729-2.251)	2.323 (1.978-2.733)	1.968 (1.671-2.312)	2.07 (1.829-2.34)	0.377
PC aa C34:4	2.094 (1.767-2.479)	2.377 (1.934-2.925)	1.854 (1.505-2.281)	2.061 (1.758-2.412)	0.364
PC aa C36:0	1.75 (1.431-2.144)	2.037 (1.59-2.607)	1.845 (1.44-2.367)	1.479 (1.224-1.786)	0.207
PC aa C36:1	2.028 (1.809-2.278)	2.312 (2.01-2.665)	2.023 (1.754-2.328)	1.923 (1.725-2.14)	0.224
PC aa C36:2	1.675 (1.514-1.855)	1.596 (1.409-1.806)	1.459 (1.289-1.654)	1.452 (1.321-1.597)	0.161
PC aa C36:3	1.786 (1.604-1.992)	1.824 (1.598-2.082)	1.56 (1.366-1.782)	1.57 (1.421-1.739)	0.118
PC aa C36:4	1.578 (1.398-1.782)	1.479 (1.275-1.716)	1.265 (1.09-1.468)	1.374 (1.225-1.538)	0.138
PC aa C36:5	2.661 (2.163-3.276)	3.388 (2.63-4.371)	2.466 (1.912-3.184)	3.027 (2.495-3.678)	0.230
PC aa C36:6	2.317 (1.908-2.816)	2.831 (2.233-3.595)	2.158 (1.697-2.737)	2.377 (1.981-2.851)	0.375
PC aa C38:0	1.871 (1.602-2.186)	2.023 (1.673-2.446)	1.734 (1.433-2.1)	1.503 (1.301-1.739)	0.060
PC aa C38:1	1.875 (1.564-2.251)	2.673 (2.139-3.338)	2.28 (1.824-2.852)	1.858 (1.567-2.201)	0.062
PC aa C38:3	1.698 (1.506-1.913)	1.795 (1.551-2.078)	1.439 (1.243-1.668)	1.349 (1.206-1.508)^c	0.004[*]
PC aa C38:4	1.334 (1.179-1.511)	1.259 (1.083-1.466)	1.047 (0.899-1.219)^c	1.028 (0.915-1.153)^c	0.008[*]
PC aa C38:5	1.56 (1.366-1.778)	1.592 (1.355-1.87)	1.271 (1.08-1.494)	1.429 (1.264-1.618)	0.162

PC aa C38:6	2.239 (1.893-2.648)	1.963 (1.6-2.411)	1.738 (1.413-2.134)	1.941 (1.659-2.27)	0.359
PC aa C40:1	1.245 (1.073-1.44)	1.652 (1.379-1.975)	1.393 (1.163-1.669)	1.233 (1.074-1.414)	0.072
PC aa C40:2	1.091 (0.892-1.332)	1.618 (1.267-2.069)	1.355 (1.06-1.735)	1.084 (0.899-1.308)	0.061
PC aa C40:3	1.216 (1.027-1.44)	1.538 (1.25-1.89)	1.327 (1.077-1.632)	1.13 (0.965-1.324)	0.144
PC aa C40:4	1.119 (0.988-1.267)	1.13 (0.971-1.317)	0.979 (0.84-1.14)	0.857 (0.762-0.962) ^c	0.005[*]
PC aa C40:5	1.38 (1.208-1.576)	1.352 (1.148-1.59)	1.094 (0.928-1.287)	1.138 (1.005-1.289)	0.053
PC aa C40:6	1.95 (1.651-2.305)	1.778 (1.451-2.182)	1.528 (1.246-1.877)	1.489 (1.274-1.74)	0.090
PC aa C42:0	1.361 (1.183-1.568)	1.535 (1.291-1.82)	1.268 (1.068-1.508)	1.285 (1.128-1.467)	0.331
PC aa C42:1	1.262 (1.085-1.464)	1.57 (1.306-1.884) ^c	1.247 (1.037-1.498)	1.175 (1.021-1.351)	0.094
PC aa C42:2	1.219 (1.043-1.426)	1.585 (1.31-1.92)	1.34 (1.106-1.624)	1.222 (1.057-1.415)	0.165
PC aa C42:4	0.957 (0.819-1.12)	1.109 (0.917-1.344)	0.993 (0.819-1.203)	0.847 (0.732-0.98)	0.168
PC aa C42:5	1.387 (1.199-1.603)	1.429 (1.197-1.707)	1.306 (1.093-1.561)	1.156 (1.008-1.323)	0.168
PC aa C42:6	1.483 (1.294-1.698)	1.578 (1.336-1.863)	1.419 (1.201-1.677)	1.276 (1.124-1.449)	0.180
PC ae C30:0	2.094 (1.86-2.359)	2.244 (1.94-2.595)	2.094 (1.811-2.426)	2.075 (1.856-2.318)	0.845
PC ae C30:2	1.334 (1.18-1.507)	1.626 (1.4-1.887)	1.486 (1.279-1.727)	1.371 (1.223-1.537)	0.241
PC ae C32:1	1.866 (1.691-2.059)	1.871 (1.657-2.108)	1.702 (1.509-1.923)	1.698 (1.547-1.861)	0.358
PC ae C32:2	1.667 (1.493-1.862)	1.832 (1.602-2.1)	1.675 (1.461-1.917)	1.629 (1.468-1.805)	0.571
PC ae C34:0	2.118 (1.889-2.375)	2.153 (1.871-2.476)	2.028 (1.762-2.335)	2.163 (1.944-2.407)	0.893
PC ae C34:1	2.472 (2.244-2.727)	2.547 (2.26-2.869)	2.296 (2.036-2.587)	2.41 (2.202-2.642)	0.620
PC ae C34:2	1.75 (1.553-1.975)	1.687 (1.455-1.952)	1.57 (1.356-1.822)	1.734 (1.549-1.939)	0.729
PC ae C34:3	1.247 (1.095-1.422)	1.135 (0.967-1.331)	1.153 (0.982-1.353)	1.132 (1.003-1.281)	0.726
PC ae C36:0	2.009 (1.804-2.237)	2.265 (1.984-2.581)	2.094 (1.834-2.389)	1.968 (1.781-2.178)	0.422

PC ae C36:1	1.337 (1.144-1.559)	1.552 (1.284-1.874)	1.517 (1.254-1.834)	1.469 (1.271-1.698)	0.670
PC ae C36:2	1.845 (1.619-2.1)	1.816 (1.549-2.129)	1.726 (1.47-2.023)	1.866 (1.652-2.106)	0.894
PC ae C36:3	1.578 (1.408-1.764)	1.574 (1.372-1.807)	1.403 (1.222-1.611)	1.435 (1.293-1.596)	0.411
PC ae C36:4	1.545 (1.361-1.758)	1.5 (1.283-1.755)	1.233 (1.052-1.442)^c	1.211 (1.073-1.364)^c	0.014
PC ae C36:5	1.282 (1.123-1.464)	1.216 (1.034-1.43)	1.052 (0.894-1.239)	1.086 (0.959-1.229)	0.178
PC ae C38:0	1.503 (1.292-1.751)	1.766 (1.465-2.124)	1.483 (1.23-1.786)	1.5 (1.301-1.728)	0.460
PC ae C38:2	0.857 (0.706-1.039)	1.132 (0.894-1.435)	1.074 (0.847-1.363)	0.845 (0.705-1.013)	0.179
PC ae C38:3	0.687 (0.591-0.801)	0.832 (0.69-1.002)	0.757 (0.628-0.912)	0.661 (0.573-0.762)	0.270
PC ae C38:4	1.435 (1.293-1.594)	1.361 (1.197-1.546)	1.183 (1.039-1.344)^c	1.208 (1.096-1.332)^c	0.046
PC ae C38:5	1.5 (1.335-1.682)	1.374 (1.195-1.584)	1.164 (1.01-1.341)^c	1.191 (1.069-1.326)^c	0.013
PC ae C38:6	1.629 (1.412-1.881)	1.545 (1.296-1.84)	1.297 (1.087-1.546)	1.365 (1.194-1.561)	0.152
PC ae C40:1	1.445 (1.248-1.679)	1.803 (1.505-2.163)	1.578 (1.314-1.893)	1.452 (1.263-1.667)	0.262
PC ae C40:2	1.324 (1.154-1.521)	1.528 (1.292-1.81)	1.374 (1.16-1.628)	1.288 (1.133-1.466)	0.462
PC ae C40:3	0.323 (0.272-0.383)	0.421 (0.341-0.519)	0.392 (0.317-0.484)	0.321 (0.273-0.377)	0.168
PC ae C40:4	0.755 (0.669-0.854)	0.836 (0.72-0.971)	0.752 (0.647-0.874)	0.706 (0.631-0.792)	0.369
PC ae C40:5	0.791 (0.706-0.886)	0.826 (0.719-0.949)	0.762 (0.663-0.876)	0.733 (0.659-0.815)	0.533
PC ae C40:6	1.663 (1.467-1.887)	1.521 (1.305-1.776)	1.352 (1.159-1.579)	1.452 (1.29-1.633)	0.236
PC ae C42:0	1.194 (1.1-1.298)	1.321 (1.196-1.463)	1.247 (1.127-1.381)	1.153 (1.067-1.245)	0.203
PC ae C42:1	0.993 (0.851-1.161)	1.384 (1.144-1.671)	1.175 (0.97-1.42)	0.925 (0.799-1.068)	0.011[*]
PC ae C42:2	1.489 (1.292-1.713)	1.888 (1.591-2.245)	1.641 (1.38-1.95)	1.476 (1.293-1.683)	0.139
PC ae C42:3	1.294 (1.128-1.485)	1.552 (1.313-1.839)	1.393 (1.176-1.648)	1.315 (1.156-1.496)	0.399
PC ae C42:4	0.957 (0.844-1.085)	1.019 (0.875-1.189)	0.897 (0.768-1.046)	0.933 (0.83-1.049)	0.649

	PC ae C42:5	0.951 (0.862-1.049)	0.953 (0.845-1.075)	0.873 (0.773-0.985)	0.879 (0.801-0.963)	0.481
	PC ae C44:3	1.033 (0.894-1.195)	1.422 (1.191-1.698)^c	1.222 (1.023-1.462)	1.05 (0.917-1.203)	0.039
	PC ae C44:4	1.671 (1.493-1.872)	1.782 (1.55-2.045)	1.6 (1.392-1.839)	1.545 (1.389-1.717)	0.388
	PC ae C44:5	1.905 (1.689-2.148)	1.726 (1.491-2)	1.556 (1.342-1.803)	1.633 (1.46-1.827)	0.178
	PC ae C44:6	1.208 (1.066-1.366)	1.175 (1.01-1.368)	0.989 (0.848-1.15)	1.114 (0.992-1.251)	0.237
Sphingomyelins						
	SM (OH) C14:1	1.884 (1.68-2.11)	1.73 (1.505-1.989)	1.637 (1.422-1.881)	1.995 (1.795-2.221)	0.147
	SM (OH) C16:1	1.538 (1.383-1.714)	1.489 (1.305-1.697)	1.374 (1.203-1.566)	1.644 (1.486-1.817)	0.206
	SM (OH) C22:1	1.466 (1.317-1.633)	1.396 (1.225-1.593)	1.282 (1.124-1.463)	1.396 (1.264-1.545)	0.543
	SM (OH) C22:2	1.954 (1.752-2.182)	1.845 (1.613-2.11)	1.722 (1.504-1.969)	1.854 (1.674-2.055)	0.612
	SM (OH) C24:1	1.483 (1.343-1.639)	1.34 (1.186-1.513)	1.253 (1.108-1.416)	1.297 (1.183-1.425)	0.172
	SM C16:0	1.469 (1.344-1.606)	1.466 (1.315-1.636)	1.355 (1.213-1.511)	1.452 (1.337-1.579)	0.667
	SM C16:1	1.574 (1.43-1.736)	1.545 (1.371-1.739)	1.38 (1.224-1.555)	1.563 (1.428-1.713)	0.345
	SM C18:0	1.429 (1.287-1.585)	1.507 (1.326-1.71)	1.324 (1.165-1.505)	1.459 (1.323-1.607)	0.484
	SM C18:1	1.318 (1.177-1.479)	1.384 (1.204-1.592)	1.183 (1.027-1.36)	1.374 (1.235-1.529)	0.300
	SM C20:2	1.094 (0.967-1.238)	1.079 (0.928-1.256)	0.935 (0.804-1.089)	0.971 (0.865-1.089)	0.282
	SM C24:0	1.349 (1.219-1.494)	1.349 (1.191-1.527)	1.236 (1.09-1.399)	1.245 (1.133-1.37)	0.504
	SM C24:1	1.746 (1.591-1.917)	1.714 (1.528-1.919)	1.611 (1.436-1.806)	1.556 (1.427-1.7)	0.278
	SM C26:0	1.318 (1.149-1.512)	0.998 (0.84-1.187)	1.084 (0.913-1.288)	1.242 (1.09-1.414)	0.101
	SM C26:1	1.832 (1.631-2.056)	1.762 (1.529-2.03)	1.687 (1.462-1.943)	1.6 (1.434-1.781)	0.360
Hexoses						

	Sum of hexoses	1.117 (1.026-1.215)	1.072 (0.967-1.189)	1.028 (0.927-1.142)	0.971 (0.896-1.05)	0.097
<p>The table reports the general characteristics of the patients as mean \pm SD and frequencies, and the metabolomic profile as estimated marginal means of normalized concentrations obtained after adjustment for age in the ANCOVA model. The latter are expressed as mean and 95% confidence interval in parentheses. Significant differences are highlighted in bold. PC: Phosphatidylcholine. aa: diacyl. ae: acyl/alkyl. SM: Sphingomyelin.</p> <p>^a ANCOVA including age in the model.</p> <p>^b Chi-square test or one-way ANOVA.</p> <p>* Significant at false discovery rate $\alpha=0.1$ after applying Benjamini-Hochberg procedure.</p> <p>Simple contrasts applied to ANCOVA:</p> <p>^c: P<0.05 vs. controls.</p>						