Table e-1. Baseline Characteristics by Study Site and Group (n=361)

Baseline Characteristics	CHARTER (n=117)	University of Hawaii (n=30)	Johns Hopkins (n=89)	University of Puerto Rico (n=55)	HIV- Control (n=30)	RRMS Disease Control (n=40)
Age, mean (SD)	42.2 (7.6)	47.0 (9.2)	47.0 (5.7)	37.4 (6.8)	51.2 (13.2)	42.6 (10.0)
Education, mean (SD)	12.7 (2.6)	14.3 (2.4)	12.4 (1.9)	12.2 (2.1)	15.6 (2.5)	nd
Male, n(%)	84/117 (74.4%)	28/30 (93.3%)	60/89 (67.4%)	0/55	27/30 (90.0%)	9/40 (22.5%)
Nadir CD4, mean (SD)	203.0 (195.1)	151.0 (140.3)	123.3 (128.2)	237.5 (189.6)		
CD4, mean (SD)	465.5 (277.7)	435.9 (241.0)	394.9 (220.8)	388.0 (248.7)		
Detectable plasma viral load, n(%)	65/116 (56.0%)	24/30 (80.0%)	28/85 (32.9%)	41/53 (77.4%)		
Detectable CSF viral load, n(%)	42/117 (35.9%)	nd	18/70 (25.7%)	19/54 (35.2%)		
Current ARV medication, n(%)	82/117 (70.1%)	22/25 (88.0%)	87/89 (97.8%)	46/47 (97.9%)		
MSK, n(%)						
0.0	46 (39.3%)	14 (46.7%)	20 (22.5%)	6 (10.9%)		
0.5	39 (33.3%)	11 (46.7%)	32 (36.0%)	31 (56.4%)		
1	26 (22.2%)	5 (16.7%)	29 (32.6%)	6 (10.9%)		
2	6 (5.1%)	0	8 (9.0%)	10 (18.2%)		

CNS HIV Anti-Retroviral Therapy Effects Research (CHARTER) includes: The Mount Sinai School of Medicine, the University of California in San Diego, the University of Texas Medical Branch, the University of Washington. RRMS = Relapse-Remitting Multiple Sclerosis; nd = no data

Table e-2. CSF Log Sphingolipids Predict Cognitive Decline in HIV+ Individuals, as Measured by Increased MSK

Baseline Log Sphinoglipid	Cognitive Decline – All (n=203)		Cognitive Decline – Visits <365 days (n=165)	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Ceramide				
16:0	1.24 (0.85, 1.82)	0.26	1.21 (0.80, 1.81)	0.37
18:0	1.11 (0.79, 1.55)	0.55	1.09 (0.76, 1.56)	0.63
20:0	1.26 (0.88, 1.81)	0.21	1.22 (0.83, 1.79)	0.32
24:1	1.31 (0.91, 1.88)	0.14	1.28 (0.88, 1.87)	0.19
24:0	1.20 (0.88, 1.64)	0.25	1.17 (0.84, 1.63)	0.34
Sphingomyelin				
16:0	0.91 (0.67, 1.23)	0.54	0.87 (0.63, 1.19)	0.37
18:1	0.91 (0.68, 1.22)	0.53	0.87 (0.65, 1.18)	0.37
18:0	0.90 (0.67, 1.19)	0.44	0.86 (0.64, 1.15)	0.32
20:1	0.95 (0.69, 1.29)	0.73	0.89 (0.65, 1.23)	0.49
22:1	0.95 (0.70, 1.28)	0.72	0.89 (0.65, 1.21)	0.45
22:0	0.92 (0.67, 1.25)	0.59	0.87 (0.63, 1.20)	0.38
24:1	0.94 (0.70, 1.26)	0.68	0.89 (0.66, 1.21)	0.46
24:0	0.98 (0.77, 1.24)	0.85	0.94 (0.73, 1.20)	0.62
Sphingomyelin/Ceramide Ratio				
16:0	0.13 (0.01, 1.83)	0.13	0.13 (0.01, 2.04)	0.15
18:0	0.12 (0.01, 2.97)	0.20	0.11 (0.01, 3.08)	0.20
24:1	**0.06 (0.01, 0.96)**	**0.05**	**0.06 (0.01, 0.94)**	**0.05**
24:0	0.50 (0.04, 5.71)	0.58	0.49 (0.05, 5.00)	0.54
Total Ceramide	1.21 (0.84, 1.74)	0.30	1.20 (0.82, 1.76)	0.35
Total Sphinogmyelin	0.90 (0.67, 1.22)	0.50	0.86 (0.62, 1.17)	0.33
Total Sphinogmyelin/Ceramide Ratio	0.07 (0.002, 2.55)	0.15	0.06 (0.01, 2.38)	0.13

All models control for time between visit and site. The first model includes all individuals. The second model only includes those with less than one year between visits.

Table e-3. CSF Log Cholesterol Esters Predict Cognitive Decline and CSF Triglycerides Predict Cognitive Improvement Among HIV-positive Individuals

	Cognitive Decline				Cognitive Improvement			
	All (n=198)		< 1 year between visit (n=163)		All (n=198)		< 1 year between visit (n=163)	
Baseline Log Cholesterol	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value
Cholesterol Ester								
20:6	0.66 (0.42, 1.04)	0.08	0.61 (0.37, 0.99)	0.05	0.93 (0.65, 1.32)	0.68	0.98 (0.68, 1.41)	0.90
22:6	**0.62 (0.38, 0.99)**	**0.05**	**0.57 (0.35, 0.93)**	**0.02**	0.78 (0.53, 1.15)	0.21	0.79 (0.53, 1.18)	0.25
20:5	**0.55 (0.35, 0.87)**	**0.01**	**0.46 (0.27, 0.76)**	**0.003**	1.03 (0.69, 1.54)	0.88	1.05 (0.68, 1.63)	0.82
22:5	**0.66 (0.45, 0.96)**	**0.03**	**0.62 (0.42, 0.92)**	**0.002**	0.93 (0.69, 1.25)	0.64	0.94 (0.70, 1.28)	0.71
18:4	0.78 (0.48, 1.27)	0.32	0.72 (0.43, 1.19)	0.20	107 (0.74, 1.56)	0.71	1.13 (0.76, 1.69)	0.55
20:4	**0.62 (0.40, 0.95)**	**0.03**	**0.49 (0.30, 0.81)**	**0.006**	1.16 (0.80, 1.70)	0.43	1.22 (0.80, 1.88)	0.36
18:3	**0.63 (0.39, 0.99)**	**0.05**	**0.52 (0.31, 0.87)**	**0.01**	1.08 (0.73, 1.59)	0.72	1.11 (0.71, 1.73)	0.65
20:3	0.70 (0.41, 1.19)	0.18	**0.56 (0.32, 0.99)**	**0.05**	1.05 (0.68, 1.62)	0.82	1.08 (0.67, 1.73)	0.77
16:2	0.65 (0.39, 1.09)	0.10	**0.57 (0.33, 0.98)**	**0.04**	0.99 (0.64, 1.55)	0.97	1.00 (0.63, 1.60)	1.00
18:2	**0.58 (0.36, 0.93)**	**0.03**	**0.49 (0.29, 0.83)**	**0.008**	1.05 (0.70, 1.58)	0.80	1.11 (0.71, 1.75)	0.64
16:1	0.67 (0.41, 1.08)	0.10	**0.59 (0.36, 0.97)**	**0.04**	0.92 (0.61, 1.38)	0.68	0.92 (0.59, 1.44)	0.73
18:1	**0.20 (0.32, 0.83)**	**0.007**	**0.45 (0.27, 0.75)**	**0.002**	1.08 (0.70, 1.67)	0.72	1.15 (0.72, 1.84)	0.56
16:0	**0.51 (0.31, 0.84)**	**0.008**	**0.45 (0.27, 0.76)**	**0.003**	0.99 (0.64, 1.55)	0.97	1.01 (0.63, 1.63)	0.96
Cholesterol	1.00 (0.54, 1.83)	0.99	0.92 (0.45, 1.87)	0.82	1.43 (0.85, 2.42)	0.18	1.66 (0.89, 3.09)	0.11
Total Cholesterol	**0.54 (0.33, 0.89)**	**0.02**	**0.46 (0.27, 0.79)**	**0.05**	1.05 (0.67, 1.63)	0.84	1.11 (0.68, 1.79)	0.68
POS (Triglyceride)	0.97 (0.56, 1.68)	0.91	0.91 (0.51, 1.63)	0.76	**1.93 (1.21, 3.10)**	**0.006**	**2.07 (1.24, 3.47)**	**0.006**

Models control for date between visits, site, sex, and NNRTI use. For both predicting cognitive decline (any MSK increase vs. stable MSK) and cognitive improvement (any MSK decrease vs. stable MSK), the first model includes all individuals. The second model only includes those with less than one year between visits.

Table e-4. CSF Log Sphingolipids are Associated with Cognitive Decline in HIV+ Individuals

Baseline Log Sphinoglipid	Cognitive Decline – All (n=203)		Cognitive Decline – Visits <365 days (n=165)	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Ceramide				
16:0	0.79 (0.61, 1.02)	0.08	0.88 (0.67, 1.16)	0.37
18:0	**0.78 (0.61, 0.99)**	**0.04**	0.84 (0.65, 1.09)	0.19
20:0	0.83 (0.65, 1.07)	0.15	0.91 (0.70, 1.18)	0.47
24:1	0.83 (0.65, 1.06)	0.13	0.86 (0.67, 1.11)	0.25
24:0	**0.75 (0.57, 0.97)**	**0.03**	0.79 (0.61, 1.02)	0.08
Sphingomyelin				
16:0	1.08 (0.86, 1.35)	0.51	1.06 (0.83, 1.35)	0.64
18:1	1.08 (0.87, 1.33)	0.50	1.05 (0.84, 1.32)	0.66
18:0	1.08 (0.87, 1.34)	0.47	1.06 (0.85, 1.33)	0.62
20:1	1.07 (0.86, 1.34)	0.56	0.94 (0.77, 1.14)	0.51
22:1	1.05 (0.84, 1.32)	0.65	1.04 (0.82, 1.32)	0.72
22:0	1.09 (0.87, 1.37)	0.46	1.07 (0.84, 1.37)	0.57
24:1	1.10 (0.88, 1.36)	0.41	1.09 (0.86, 1.38)	0.46
24:0	1.05 (0.89, 1.24)	0.57	1.04 (0.88, 1.24)	0.62
Sphingomyelin/Ceramide Ratio				
16:0	**5.07 (1.06, 24.15)**	**0.04**	2.50 (0.48, 1305)	0.28
18:0	**11.86 (1.39, 100.90)**	**0.02**	5.04 (0.53, 48.07)	0.16
24:1	4.82 (0.88, 26.47)	0.07	2.86 (0.48, 17.02)	0.25
24:0	**7.98 (1.18, 54.21)**	**0.03**	4.88 (0.69, 34.55)	0.11
Total Ceramide	**0.76 (0.58, 0.98)**	**0.04**	0.82 (0.62, 1.07)	0.14
Total Sphinogmyelin	1.13 (0.90, 1.42)	0.31	1.11 (0.87, 1.42)	0.40
Total Sphinogmyelin/Ceramide Ratio	**15.02 (1.30, 174.02)**	**0.03**	5.09 (0.39, 65.79)	0.21

All models control for time between visit and site and examine change in log sphingolipid between visit 1 and 2 and change in MSK. The first model includes all individuals. The second model only includes those with less than one year between visits.

Table e-5. Baseline Associations Between CSF Lipids, Antiretroviral Drugs, and CNS Penetrance Effectiveness

Log Lipid	NRTI (n=203)		NNRTI (n=90)		PI (n=149)		FI (n=3)		II (n=9)		CPE	
	b	p-value	b	p-value	b	p-value	b	p-value	b	p-value	b	p-value
Sphingolipids												
Cer 16:0	-0.179	0.339	-0.169	0.270	0.034	0.819	-0.103	0.882	0.753	0.066	-0.012	0.537
Cer 18:0	-0.011	0.958	-0.097	0.574	-0.020	0.906	0.046	0.953	0.887	0.055	0.001	0.971
Cer 20:0	-0.106	0.571	-0.081	0.598	-0.017	0.910	-0.023	0.974	**0.827**	**0.044**	-.004	0.838
Cer 24:1	-0.093	0.638	0.043	0.791	-0.029	0.852	-0.030	0.967	0.594	0.172	0.005	0.764
Cer 24:0	-0.138	0.512	-0.026	0.881	-0.028	0.869	-0.044	0.955	0.715	0.120	-0.001	0.993
SM 16:0	-0.023	0.913	0.072	0.670	-0.066	0.689	-0.410	0.596	0.845	0.064	0.004	0.851
SM 18:1	0.075	0.734	0.146	0.416	-0.063	0.717	-0.204	0.802	0.816	0.090	0.015	0.517
SM 18:0	-0.008	0.970	0.081	0.652	-0.096	0.583	-0.329	0.686	0.845	0.079	0.003	0.914
SM 20:1	0.007	0.975	0.203	0.240	-0.175	0.294	-0.365	0.641	0.798	0.085	0.007	0.750
SM 22:1	0.041	0.846	0.242	0.162	-0.190	0.255	-0.347	0.658	0.751	0.107	0.012	0.606
SM 22:0	0.004	0.983	0.151	0.374	-0.121	0.458	-0.099	0.897	0.786	0.084	0.008	0.705
SM 24:1	0.047	0.834	0.212	0.250	-0.138	0.438	-0.301	0.720	0.828	0.095	0.015	0.530
SM 24:0	-0.009	0.973	0.120	0.581	-0.134	0.521	-0.186	0.850	0.792	0.174	0.003	0.928
SM/Cer 16:0	0.017	0.515	0.033	0.109	0.019	0.346	-0.042	0.658	-0.034	0.547	0.002	0.583
SM/Cer 18:0	-0.013	0.581	0.007	0.722	-0.001	0.962	-0.049	0.586	-0.042	0.436	-0.001	0.594
SM/Cer 24:1	0.017	0.524	0.017	0.406	-0.018	0.371	-0.050	0.605	-0.023	0.693	-0.001	0.943
SM/Cer 24:0	0.020	0.460	0.019	0.378	-0.014	0.509	-0.019	0.843	0.003	0.962	0.001	0.851
Total Cer	-0.120	0.539	-0.087	0.587	-0.004	0.979	-0.032	0.965	0.812	0.057	-0.002	0.905
Total SM	-0.056	0.788	0.098	0.566	-0.117	0.478	-0.336	0.663	0.811	0.076	0.001	0.971
Total SM/Cer	0.010	0.594	0.019	0.234	-0.011	0.472	-0.034	0.629	-0.028	0.510	0.001	0.851
Cholesterol ester												
20:6	0.167	0.322	0.190	0.166	0.031	0.817	-0.075	0.904	**0.759**	**0.038**	0.011	0.531
22:6	0.281	0.080	**0.266**	**0.041**	0.064	0.613	-0.340	0.564	0.240	0.492	0.025	0.139
20:5	**0.410**	**0.007**	**0.280**	**0.025**	0.033	0.784	0.311	0.582	-0.017	0.958	0.025	0.123
22:5	0.287	0.170	-0.020	0.906	0.239	0.148	-0.647	0.380	0.629	0.168	0.017	0.444
18:4	0.160	0.326	**0.571**	**<0.001**	-0.201	0.117	0.062	0.295	-0.218	0.538	0.015	0.378
20:4	**0.366**	**0.026**	0.212	0.117	0.036	0.786	0.349	0.567	-0.234	0.517	0.020	0.256
18:3	**0.316**	**0.038**	**0.344**	**0.006**	-0.088	0.469	0.024	0.966	-0.264	0.433	0.018	0.274
20:3	0.270	0.053	**0.377**	**0.001**	-0.046	0.675	0.202	0.694	-0.246	0.419	0.021	0.169
16:2	0.231	0.080	**0.320**	**0.003**	-0.009	0.928	-0.007	0.989	-0.090	0.754	0.022	0.114
18:2	**0.322**	**0.025**	**0.246**	**0.043**	-0.017	0.887	0.027	0.961	-0.270	0.416	0.019	0.238
16:1	**0.307**	**0.026**	**0.379**	**0.001**	-0.017	0.877	0.057	0.911	-0.157	0.606	**0.029**	**0.049**
18:1	**0.369**	**0.008**	0.199	0.084	0.092	0.408	0.085	0.870	-0.218	0.480	0.026	0.083
16:0	**0.386**	**0.004**	0.109	0.320	0.166	0.117	-0.061	0.902	-0.283	0.335	0.026	0.074
Total Cholesterol	0.267	0.051	0.203	0.065	0.102	0.311	-0.487	0.302	-0.139	0.629	0.013	0.382
Pos (Triglyceride)	-0.083	0.519	-0.050	0.632	0.011	0.914	0.009	0.986	-0.011	0.969	-0.007	0.602

Nucleoside reverse transcriptase inhibitor (NRTI), Non-nucleoside reverse transcriptase inhibitor (NNRTI), Protease inhibitor (PI), Fusion inhibitors (FI), Integrase inhibitors (II), CNS penetration effectiveness (CPE).

Table e-6. Baseline Associations Between CSF Lipids and Non-Nucleoside Reverse Transcriptase Inhibitors

Log Lipid	NVP (n=22) b	NVP (n=22) p-value	DLV (n=2) b	DLV (n=2) p-value	EFV (n=63) b	EFV (n=63) p-value	ETR (n=3) b	ETR (n=3) p-value
Sphingolipids								
Cer 16:0	0.236	0.377	0.924	0.271	**-0.395**	**0.021**	0.744	0.283
Cer 18:0	0.228	0.446	0.961	0.308	-0.320	0.097	1.023	0.189
Cer 20:0	0.235	0.377	1.107	0.187	-0.202	0.089	0.748	0.281
Cer 24:1	0.222	0.431	1.187	0.181	-0.139	0.444	0.833	0.256
Cer 24:0	0.253	0.397	0.642	0.495	-0.211	0.277	0.709	0.362
SM 16:0	0.240	0.418	-0.318	0.733	-0.055	0.775	0.972	0.207
SM 18:1	0.325	0.452	-0.232	0.813	0.038	0.849	0.942	0.246
SM 18:0	0.336	0.283	-0.575	0.559	-0.070	0.727	0.929	0.253
SM 20:1	0.273	0.365	-0.155	0.870	0.092	0.634	0.922	0.239
SM 22:1	0.288	0.340	-0.259	0.785	0.141	0.467	0.893	0.256
SM 22:0	0.241	0.413	-0.183	0.844	0.039	0.837	0.947	0.217
SM 24:1	0.313	0.330	0.046	0.964	0.072	0.727	1.026	0.220
SM 24:0	0.356	0.345	0.148	0.901	-0.067	0.783	1.039	0.290
SM/Cer 16:0	-0.006	0.870	-0.170	0.138	0.053	0.024	-0.020	0.829
SM/Cer 18:0	0.018	0.612	-0.156	0.151	0.011	0.625	-0.045	0.621
SM/Cer 24:1	0.012	0.741	-0.175	0.131	0.027	0.257	-0.041	0.669
SM/Cer 24:0	-0.010	0.796	-0.069	0.563	0.030	0.229	0.030	0.761
Total Cer	0.254	0.360	0.909	0.297	-0.308	0.087	0.834	0.246
Total SM	0.242	0.413	-0.311	0.739	-0.023	0.905	0.948	0.219
Total SM/Cer	-0.005	0.867	-0.126	0.143	0.032	0.070	-0.017	0.806
Cholesterol ester								
20:6	0.389	0.102	0.303	0.686	0.021	0.890	0.676	0.274
22:6	0.425	0.061	0.064	0.928	0.124	0.399	0.494	0.402
20:5	0.258	0.235	0.599	0.381	0.188	0.182	0.517	0.360
22:5	0.159	0.591	-0.756	0.416	-0.090	0.639	0.480	0.533
18:4	**0.590**	**0.010**	0.321	0.657	0.454	0.002	0.067	0.911
20:4	0.059	0.800	0.656	0.373	0.185	0.223	0.478	0.433
18:3	0.354	0.103	0.649	0.343	0.245	0.082	0.218	0.701
20:3	0.365	0.063	0.380	0.540	**0.303**	**0.017**	0.039	0.939
16:2	**0.423**	**0.023**	0.257	0.661	0.205	0.090	0.162	0.739
18:2	0.225	0.285	0.552	0.406	0.181	0.185	0.180	0.743
16:1	**0.507**	**0.010**	0.523	0.398	0.234	0.067	0.159	0.756
18:1	0.202	0.312	0.460	0.465	0.139	0.285	0.134	0.797
16:0	0.255	0.180	0.197	0.743	0.029	0.817	-0.102	0.838
total cholesterol	0.205	0.302	0.475	0.416	0.137	0.270	0.261	0.589
pos (Triglyceride)	0.110	0.543	0.358	0.530	-0.138	0.240	0.214	0.651

Nevirapine (NVP), Delavirdine (DLV), Efavirenz (EFV), Etravirine (ETR)

Table e-7. Baseline Associations Between CSF Lipids and Nucleoside Reverse Transcriptase Inhibitors

Log Lipid	AZT (n=75) b	p-value	ABC (n=68) b	p-value	FTC (n=62) b	p-value	DDI (n=18) b	p-value	3TC (n=134) b	p-value	D4T (n=27) b	p-value	TDF (n=109) b	p-value
Sphingolipids														
Cer 16:0	-0.050	0.763	0.080	0.633	-0.320	0.075	0.024	0.935	0.147	0.324	0.323	0.239	**-0.405**	**0.006**
Cer 18:0	-0.125	0.501	0.211	0.262	-0.248	0.221	0.201	0.539	0.201	0.230	0.474	0.123	-0.305	0.069
Cer 20:0	-0.008	0.953	0.086	0.610	-0.318	0.077	0.087	0.765	0.217	0.144	0.349	0.203	**-0.435**	**0.003**
Cer 24:1	0.015	0.934	0.148	0.403	-0.321	0.092	0.094	0.760	0.199	0.206	0.393	0.175	**-0.379**	**0.016**
Cer 24:0	0.040	0.831	0.100	0.596	-0.287	0.155	0.043	0.902	0.122	0.465	0.302	0.324	**-0.460**	**0.006**
SM 16:0	0.020	0.911	0.090	0.626	-0.380	0.057	-0.185	0.568	**0.346**	**0.036**	0.382	0.207	**-0.374**	**0.024**
SM 18:1	0.056	0.771	0.132	0.499	-0.356	0.092	-0.200	0.558	**0.408**	**0.019**	0.373	0.243	**-0.359**	**0.040**
SM 18:0	0.035	0.850	0.072	0.714	**-0.447**	**0.034**	-0.222	0.516	**0.409**	**0.018**	0.429	0.179	**-0.370**	**0.034**
SM 20:1	0.059	0.750	0.087	0.644	-0.315	0.121	-0.111	0.736	0.316	0.060	0.277	0.368	**-0.400**	**0.017**
SM 22:1	0.073	0.695	0.119	0.528	-0.332	0.103	-0.112	0.734	**0.343**	**0.041**	0.269	0.384	**-0.377**	**0.026**
SM 22:0	0.053	0.772	0.131	0.477	-0.376	0.059	-0.215	0.504	**0.366**	**0.025**	0.312	0.301	**-0.375**	**0.023**
SM 24:1	0.081	0.684	0.192	0.340	-0.411	0.058	-0.227	0.518	**0.438**	**0.014**	0.422	0.199	**-0.453**	**0.012**
SM 24:0	0.062	0.792	0.082	0.728	**-0.534**	**0.036**	-0.254	0.538	**0.521**	**0.013**	0.584	0.130	**-0.455**	**0.031**
SM/Cer 16:0	0.010	0.657	-0.007	0.773	0.006	0.808	-0.029	0.465	0.013	0.514	-0.010	0.784	0.018	0.379
SM/Cer 18:0	0.018	0.395	-0.026	0.235	-0.012	0.602	-0.053	0.163	0.010	0.594	-0.015	0.670	-0.002	0.909
SM/Cer 24:1	0.006	0.794	-0.009	0.695	0.008	0.749	-0.043	0.284	0.014	0.504	-0.014	0.714	0.013	0.538
SM/Cer 24:0	0.011	0.627	-0.009	0.723	-0.030	0.248	-0.021	0.626	**0.048**	**0.024**	0.037	0.483	-0.002	0.922
Total Cer	-0.028	0.871	0.119	0.498	-0.310	0.097	0.100	0.754	0.189	0.223	0.365	0.199	**-0.413**	**0.008**
Total SM	0.029	0.873	0.088	0.635	**-0.399**	**0.046**	-0.200	0.537	**0.346**	**0.036**	0.360	0.235	**-0.400**	**0.016**
Total SM/Cer	0.008	0.654	-0.005	0.753	-0.001	0.957	-0.020	0.535	0.009	0.560	-0.009	0.741	0.010	0.513
Cholesterol ester														
20:6	**-0.303**	**0.039**	0.062	0.678	-0.049	0.766	0.482	0.063	-0.056	0.676	0.160	0.511	0.069	0.607
22:6	-0.168	0.231	0.046	0.745	0.020	0.899	0.391	0.114	-0.022	0.861	0.112	0.630	0.172	0.178
20:5	-0.063	0.636	0.059	0.665	0.063	0.672	0.376	0.113	0.052	0.670	0.259	0.243	0.136	0.270
22:5	-0.242	0.186	0.073	0.695	-0.029	0.886	0.561	0.082	-0.078	0.641	0.059	0.847	0.164	0.326
18:4	-0.202	0.153	0.022	0.877	0.071	0.654	0.265	0.291	-0.045	0.726	0.237	0.313	0.150	0.250
20:4	-0.041	0.775	0.072	0.624	0.060	0.707	**0.503**	**0.049**	0.050	0.706	0.278	0.245	0.073	0.581
18:3	-0.018	0.895	0.024	0.862	0.070	0.641	0.435	0.067	0.023	0.850	0.178	0.424	0.017	0.889
20:3	-0.131	0.281	0.084	0.497	0.043	0.751	0.345	0.108	0.007	0.953	0.222	0.271	0.118	0.292
16:2	-0.108	0.350	0.051	0.663	0.041	0.748	0.238	0.244	0.003	0.974	0.201	0.291	0.194	0.066
18:2	-0.048	0.712	0.059	0.656	0.080	0.581	**0.533**	**0.020**	0.008	0.946	0.174	0.419	0.060	0.618
16:1	-0.054	0.659	0.007	0.956	0.042	0.755	0.161	0.455	0.059	0.591	0.297	0.139	**0.218**	**0.050**
18:1	-0.068	0.582	0.086	0.493	0.104	0.447	0.401	0.066	0.022	0.848	0.159	0.438	0.174	0.125
16:0	-0.010	0.932	0.032	0.787	0.108	0.410	0.312	0.124	0.026	0.810	0.173	0.374	0.180	0.096
total cholesterol	-0.074	0.528	0.029	0.809	0.053	0.682	0.394	0.059	-0.020	0.853	0.200	0.306	0.044	0.687
pos (Triglyceride)	-0.142	0.207	0.219	0.053	-0.091	0.465	0.059	0.767	-0.042	0.680	-0.190	0.305	-0.042	0.682

Zidovudine (AZT), abacavir (ABC), Emtricitabine (FTC), Didanosine (DDI), lamivudine (3TC), Stavudine (d4T), Tenofovir (TDF)