

Table S1 Significantly different lipids in hyperoxia and normoxia group

Name	VIP	P value	LogFC
SHexCer (d51:2)	1.759244457	0.008951975	-4.171466226
SHexCer (d50:0)	1.767233814	0.005685352	-3.936007212
SHexCer (d39:2)	1.511313336	0.001909424	-1.840828717
LPE (20:4)	1.781130651	0.003430229	-2.969808116
LPE (22:6)	1.540689738	0.008702301	-1.788906255
PC (14:0e/26:4)	1.505722454	0.008303046	-3.025757156
PC (18:5e/19:2)	1.629417227	0.003694748	-2.694504115
PC (14:0e/22:0)	1.790915938	0.006164157	-6.23594675
SM (d14:0/14:1)	1.642293754	0.003564308	-3.09306902
PC (13:0/13:0)	1.85327202	0.001680792	-3.292006224
PC (14:0/14:0)	1.686438754	0.005279331	-2.704117256
TAG (14:2/19:3/22:5)	1.800074913	0.00034951	-4.010694917
PC (15:1/19:2)	1.516950823	0.001549011	-0.879040877
TAG (19:3/19:3/19:3)	1.656527006	0.00231868	-4.689969
PE (22:5e/20:3)	1.614736594	0.004281273	-2.231349201
PE (18:1/20:3)	1.545983173	0.008593124	-1.466193761
TAG (15:3/21:4/21:4)	1.735688462	0.001003238	-4.180663176
TAG (17:3/17:3/21:3)	1.724276275	0.000878716	-4.125732126
TAG (15:1/16:0/22:7)	1.760836004	0.000521404	-3.431461876
TAG (13:0/22:5/22:5)	1.767612149	0.001821458	-6.487977504
TAG (12:1/19:0/19:0)	1.731940538	0.003048087	-6.126077722
TAG (17:1/22:6/22:6)	1.78223251	0.003353576	-4.721228934
TAG (13:0/19:4/19:4)	1.645298197	0.00227543	-3.413174677
TAG (13:1/19:3/19:3)	1.687450457	0.000429479	-4.811636636
TAG (13:0/18:4/18:4)	1.661733043	0.00389627	-3.451696026
TAG (13:1/18:3/18:3)	1.551331327	0.005248679	-4.150432527
PC (14:0/18:1)	1.54225638	0.003019655	-1.946057347
PC (14:0/15:0)	1.631152278	0.003870911	-2.164406934
TAG (18:0/20:4/22:5)	1.542898106	0.008867941	-2.267595387
HexCer/NS (d23:2/22:1)	1.58895923	0.003831516	-4.645172475
HexCer/NS (d17:2/34:1)	1.800021149	0.001840981	-4.615151242
TAG (18:2/20:4/22:6)	1.586932974	0.003675036	-2.551513008
TAG (17:3/18:5/20:0)	1.796614993	0.002275395	-5.001391308
TAG (15:2/18:5/20:0)	1.51251652	0.00437124	-3.542759413
TAG (18:4/18:5/19:0)	1.639533393	0.004146881	-5.630998376
TAG (17:3/20:0/20:6)	1.811172254	0.003930727	-4.44136956
TAG (16:0/18:5/21:4)	1.793767599	0.004355631	-4.60288963
HexCer/AP (t15:0/34:2)	1.840436896	0.007977574	-4.868399806
DGTS (27:0/20:4)	1.796626923	0.002287149	-2.89853778
DGTS (27:0/20:3)	1.829970738	0.002798947	-7.267633265
DGTS (27:0/20:2)	1.759864038	0.002435985	-3.581286331
DGTS (27:0/22:5)	1.822673067	0.00428976	-4.984887613
DGTS (27:0/20:5)	1.811224184	0.003587852	-4.245537019
DGTS (27:0/24:4)	1.613464684	0.004778608	-4.620162662
DGTS (27:0/18:3)	1.729145466	0.001697979	-3.880137735
DGTS (24:1/26:2)	1.774484636	0.002275358	-3.966153446
DGTS (24:0/26:4)	1.811509485	0.001691884	-4.621452751
DGTS (12:0/26:1)	1.752922819	0.002933915	-3.629707994

VIP, variable importance in projection; FC, fold change; SHexCer, sulfur hexosylceramide hydroxy fatty acid; LPE, lysophosphatidylethanolamine; PC, phosphatidylcholine; SM, sphingomyelin; TAG, triacylglycerol; PE, phosphatidylethanolamine; HexCer/NS, hexosylceramide non-hydroxy fatty acid-sphingosine; HexCer/AP, hexosylceramide alpha-hydroxy fatty acid-phytosphingosine; DGTS, diacylglycerol trimethylhomoserine.

Table S2 The AUCs of significantly different lipids in hyperoxia and normoxia group

Name	P value	AUC	95% CI
DGTS (12:0/26:1)	0.002933915	0.99	0.962281923513006-1
DGTS (24:0/26:4)	0.001691884	0.99	0.962281923513006-1
DGTS (24:1/26:2)	0.002275358	0.98	0.932888329037854-1
DGTS (27:0/18:2)	0.001850072	0.97	0.910839237543705-1
DGTS (27:0/18:3)	0.001697979	0.97	0.910839237543705-1
DGTS (27:0/20:1)	0.004403293	0.9	0.751019815383203-1
DGTS (27:0/20:2)	0.002435985	0.98	0.932888329037854-1
DGTS (27:0/20:3)	0.002798947	1	1-1
DGTS (27:0/20:4)	0.002287149	0.98	0.932888329037854-1
DGTS (27:0/20:5)	0.003587852	0.97	0.904017780197086-1
DGTS (27:0/22:5)	0.00428976	0.99	0.962281923513006-1
DGTS (27:0/24:4)	0.004778608	0.99	0.962281923513006-1
HexCer/AP (t15:0/34:2)	0.007977574	0.99	0.962281923513006-1
HexCer/NS (d17:2/34:1)	0.001840981	0.99	0.962281923513006-1
HexCer/NS (d23:2/22:1)	0.003831516	0.98	0.932888329037854-1
LPE (20:4)	0.003430229	0.97	0.904017780197086-1
LPE (22:6)	0.008702301	0.93	0.789573903376557-1
PC (13:0/13:0)	0.001680792	1	1-1
PC (14:0/14:0)	0.005279331	0.97	0.904017780197086-1
PC (14:0/15:0)	0.003870911	0.96	0.886085129368017-1
PC (14:0/18:1)	0.003019655	0.93	0.816464857919594-1
PC (14:0e/22:0)	0.006164157	0.99	0.962281923513006-1
PC (14:0e/26:4)	0.008303046	0.91	0.776428138897689-1
PC (15:1/19:2)	0.001549011	0.94	0.841350642784194-1
PC (18:5e/19:2)	0.003694748	0.97	0.904017780197086-1
PE (18:1/20:3)	0.008593124	0.93	0.820288692599585-1
PE (22:5e/20:3)	0.004281273	0.96	0.875319877586518-1
SHexCer (d39:2)	0.001909424	0.95	0.859945869615863-1
SHexCer (d50:0)	0.005685352	0.97	0.904017780197086-1
SHexCer (d51:2)	0.008951975	0.98	0.932888329037854-1
SM (d14:0/14:1)	0.003564308	0.97	0.904017780197086-1
TAG (13:0/18:4/18:4)	0.00389627	0.96	0.886085129368017-1
TAG (13:0/19:4/19:4)	0.00227543	0.96	0.886085129368017-1
TAG (13:0/22:5/22:5)	0.001821458	0.99	0.962281923513006-1
TAG (13:1/18:3/18:3)	0.005248679	0.97	0.910839237543705-1
TAG (13:1/19:3/19:3)	0.000429479	0.99	0.962281923513006-1
TAG (14:2/19:3/22:5)	0.00034951	0.99	0.962281923513006-1
TAG (15:1/16:0/22:7)	0.000521404	0.97	0.910839237543705-1
TAG (15:2/18:5/20:0)	0.00437124	0.94	0.841350642784194-1
TAG (15:3/21:4/21:4)	0.001003238	0.98	0.932888329037854-1
TAG (16:0/18:5/21:4)	0.004355631	0.99	0.962281923513006-1
TAG (17:1/22:6/22:6)	0.003353576	0.99	0.962281923513006-1
TAG (17:3/17:3/21:3)	0.000878716	0.98	0.932888329037854-1
TAG (17:3/18:5/20:0)	0.002275395	0.99	0.962281923513006-1
TAG (17:3/20:0/20:6)	0.003930727	0.99	0.962281923513006-1
TAG (18:0/20:4/22:5)	0.008867941	0.91	0.782979816379776-1
TAG (18:2/20:4/22:6)	0.003675036	0.89	0.732930899907037-1
TAG (18:4/18:5/19:0)	0.004146881	0.99	0.962281923513006-1
TAG (19:3/19:3/19:3)	0.00231868	0.99	0.962281923513006-1

AUC, area under the curve; CI, confidence interval; DGTS, diacylglycerol trimethylhomoserine; HexCer/AP, hexosylceramide alpha-hydroxy fatty acid-phytosphingosine; HexCer/NS, hexosylceramide non-hydroxy fatty acid-sphingosine; LPE, lysophosphatidylethanolamine; PC, phosphatidylcholine; PE, phosphatidylethanolamine; SHexCer, sulfur hexosylceramide hydroxy fatty acid; SM, sphingomyelin; TAG, triacylglycerol.