Lipidomic signatures in microglial extracellular vesicles during acute inflammation: a gateway to neurological biomarkers

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Abstract

Extracellular vesicles (EVs) are membrane bound vesicles released from all cells throughout the body, including the central nervous system, and are known to carry both membrane-bound proteins and cargo reflective of their cell of origin. EVs show promise as neurological disease biomarkers due to their molecular makeup reflecting their parent-cell composition signature and due to their ability to cross the blood-brain barrier. To-date, the vast majority of research in this field has explored the protein profiles of EVs; however, lipids play an important role not only in the formation of EVs, but also in mediating cellular function and the pathological progression of many neurodegenerative conditions. Herein, we take a critical first step in determining the potential utility of EV lipids as biomarkers in neurological disease. *In vitro* we exposed BV-2 microglia to either control media or media containing lipopolysaccharides (LPS), a known pro-inflammatory stimulus, for 24 hours then isolated both the cells and their EVs and performed LC-MS/MS. For the first time, we reveal distinct lipidomic changes can differentiate resting vs. pro-inflammatory microglia and their EVs, while distinct lipids are preserved between EVs and their parent cell. Moreover, we add to current literature by demonstrating acute pro-inflammatory activation of microglia results in the activation and suppression of distinct lipidomic pathways. Finally, we demonstrate that analysis of lipid-based relationships between parent cells and their EVs may be a useful tool to infer cellular function. This study is the first of its kind to demonstrate that lipidomic analysis can not only differentiate the functional state of cells *in vitro* but can also differentiate their EVs. We lay the first brick in a foundation to support future research into EV lipids as novel and exciting biomarker candidates in neurological disease.

Keywords

Lipids, Biomarkers, LC-MS/MS, Microglia, Extracellular Vesicles, Lipidomics, neurological disease

List of Non-Lipid Abbreviations

- Extracellular vesicles (EVs)
- lipopolysaccharides (LPS)
- Alzheimer’s disease (AD)
- Amyloid beta (Aβ)
- Cerebrospinal fluid (CSF)
- Central nervous system (CNS)
- Blood brain barrier (BBB)
- Dulbecco's Modified Eagle Medium (DMEM)
- Fetal bovine serum (FBS)
- Non-treated (NT)
- The Metabolomics Innovation Center (TMIC)
- Quality Control (QC)
- Partial least squares discriminant analysis (PLS-DA)
- Variable importance in projection (VIP)

Introduction

In addition to being a significant cause of both mortality and morbidity, neurological disease is one of the greatest strains on healthcare systems (GBD 2017 US Neurological Disorders

Collaborators 2021). Due to the complexity of the nervous system, non-specific symptoms and variable presentations, neurological diseases are considered among the most difficult medical conditions to diagnose. Considering acute pathology, there are cases such as hemorrhagic vs ischemic stroke where conditions present almost indistinguishably clinically yet have opposing treatments that may worsen the alternative diagnosis (Kase *et al.* 2001). In terms of chronic neurodegenerative diseases, there are cases where early intervention can significantly improve patient outcome such as early stem cell replacement therapy in specific leukodystrophies (Dulski *et al.* 2022) or early commencement of cognitive enhancement therapeutics in Alzheimer's disease (AD) (Dubois *et al.* 2016; Vrahatis *et al.* 2023). Thus, the ability to diagnose neurological diseases in their early phases is critical for identifying optimal therapeutic windows and effective treatments (Rasmussen and and Langerman 2019; Miller 2004; Hansson 2021). Research into biomarkers allowing for the early diagnosis of neurological conditions is continuously emerging. In AD a decrease in amyloid beta (Aβ) 42 has been shown to occur in cerebrospinal fluid (CSF) even prior to abnormal PET imaging (Palmqvist *et al.* 2016; Olsson *et al.* 2016) and a decrease in Aβ42/ Aβ40 within CSF shows promise as a potential diagnostic biomarker (Hansson *et al.* 2019). In the case of Parkinson's disease, Multiple Systems Atrophy and Dementia with Lewy Bodies α-synuclein decreases in CSF (Hansson 2021; Parnetti *et al.* 2019). While these protein-based biomarkers show early promise, future work aims to utilize biomarker panels, in which additional biomarkers may help improve specificity. Additionally, since lumbar puncture is invasive and not readily accessible outside of specialist centers, there is a need for blood-based biomarkers. Collectively, there is a dire and urgent need for the development of biomarkers to aid in the early diagnosis of neurological diseases.

Microglia are the predominant resident immune cell found in the parenchyma of the central nervous system (CNS) and are critical regulators of homeostasis and first responders to CNS injury. Microglia are known to play important roles in neuroprotective processes, but their dysregulation has also been associated with the progression of both acute CNS injury and neurodegenerative disease (Hickman *et al.* 2018). These cells display remarkable heterogeneity to various stimuli, rapidly transitioning between different phenotypes in response to environmental cues and pathological conditions (Tan *et al.* 2020). Their unique ability to sense and respond to subtle changes in brain microenvironment makes them particularly valuable for early detection of neurological dysfunction. Recent single-cell transcriptomic studies have revealed distinct microglial subpopulations with disease-specific signatures, further emphasizing their potential as diagnostic indicators (Olah *et al.* 2020). This makes microglia important targets for both understanding neurological diseases and for therapeutic modulation. In fact, in the last decade genome-wide association studies (GWAS) have identified genetic variants expressed in microglia that increase risk for late onset AD (Romero-Molina *et al.* 2022). There has also been the emergence of microglia modulating therapeutics that are continuing to be explored in a therapeutic context including TREM2 and PPAR-γ agonists (Lewcock *et al.* 2020; Carta and Pisanu 2013). Collectively, since microglia are critical for the maintenance of homeostasis, can respond to but also exacerbate CNS injury and can potentially be modulated therapeutically, there is an increasing effort to discover blood-based microglia specific biomarkers as a peripheral window into neurological disease (Zhang *et al.* 2021; Chen *et al.* 2023; Tirandi *et al.* 2023).

Lipids are dynamic organic molecules that make up more than half of the brains dry weight. They are essential components of cell membranes and axonal sheaths and take part in a vast range of requisite cellular processes in the brain including cell differentiation, energy storage, metabolism and cell signaling (Ioannou *et al.* 2019; Bazan 2005; Montani 2021; Bansal *et al.* 1999). Lipid dysregulation is critically associated with several neurological diseases including AD, Parkinson's disease, multiple sclerosis (MS) and amyotrophic lateral sclerosis (Phan *et al.* 2023; Wei *et al.* 2024; Podbielska *et al.* 2021). Given the need for biomarkers and the central role lipids play in CNS function, lipids make an intriguing candidate biomarker for many neurological diseases.

Extracellular vesicles (EVs) are small lipid membrane bound vesicles secreted by cells throughout the body and brain into extracellular fluids (Doyle and Wang 2019; Yáñez-Mó *et al.* 2015). EVs were previously thought to be a mechanism of cellular waste removal; however, it is now known they are also important modulators of cell-to-cell signalling (Doyle and Wang 2019; Yáñez-Mó *et al.* 2015). EVs are formed either through the outward budding of the cell membrane (microvesicles) or through the inward budding of the early endosomes as they mature into multivesicular bodies. These multivesicular bodies are then either targeted for destruction by the lysosome or for fusion with the cellular membrane releasing their content of small EVs (exosomes) (Doyle and Wang 2019). Due to their mechanisms of formation, EVs contain membrane, membrane bound proteins and cargo from their parent cells (Doyle and Wang 2019; Yáñez-Mó *et al.* 2015; Raposo and Stoorvogel 2013). Moreover, due to their small size and lipophilic nature, EVs are able to freely cross the blood brain barrier (BBB) (Perets *et al.* 2020; Ramos-Zaldívar *et al.* 2022). The critical role of EVs in cellular communication, their

composition being reflective of their parent cells and their ability to cross the BBB have caused EVs to quickly emerge as potential cell-specific biomarkers in neurological disease (Ollen-Bittle *et al.* 2022; Ollen-Bittle *et al*. 2024b; Thompson *et al.* 2016). Most of the research on EV-based biomarkers has focused on protein composition; however, lipids are known to be important players in EV-mediated cell-to-cell communication, cargo sorting and even functional effects on target cells (Fyfe *et al.* 2023). New research on the potential of EV lipids as biomarkers is continuously emerging with recent reports of EV lipids showing promise as biomarkers for both breast (Liu *et al*. 2023) and prostate cancer(Brzozowski *et al.* 2018). Additionally, a recent study has shown dysregulation of lipids in EVs derived from post-mortem AD brains (Su *et al.* 2021). However, little is known about the baseline lipidomic profile of cell-specific EVs, how the EV lipidome relates to their cell of origin, or how/if it changes with changes in cell state. This is all requisite information if EV lipids are to be considered potential blood-based biomarkers for neurological disease and proof of principle work is needed in a controlled *in vitro* setting before moving to more complex experimental models and human samples.

Here, we interrogate the lipidomic profile of microglial EVs in a controlled, *in vitro* setting to establish foundational information regarding the potential future utility of EV lipids as biomarkers in neurological disease. We exposed BV-2 microglia to lipopolysaccharide (LPS), a component of gram-negative bacteria and well-established pro-inflammatory activator of microglia (Nakamura *et al.* 1999) and conducted lipidomic analysis of both the microglia and their secreted EVs. We hypothesized the lipidomic profile of EVs would correlate with the lipidomic profile of the cell group from which they were released, and that the lipidomic profile of EVs would therefore be capable of inferring the cellular activation state.

Methods

To enhance reproducibility a Lipidomics Minimal Reporting Checklist (Kopczynski *et al.* 2024) from the Lipidomics Standards Initiative can be found in Supplemental Table 8.

Cell growth conditions: BV-2 cells were purchased from AcceGen (catalogue number: ABC-TC212S). Cells were passaged a maximum of nine times. BV-2 cells were cultured in a humidified atmosphere at 37 °C with 5% CO_2. Prior to treatment cells were maintained with dulbecco's Modified Eagle Medium (DMEM) (Gibco) supplemented with 10% EV-depleted fetal bovine serum (FBS), Penicillin (100 U/mL) and Streptomycin (100 μg/mL) (Gibco). EV-depleted FBS was ultra-centrifuged at 100,000xG, 4 °C overnight after which the supernatant was filtered through a 0.2 μm filter.

Cell treatments: BV-2 microglia were seeded in 150 mm plates at a seeding density of 5.0×10^6 cells per plate and grown to 70% confluency. Cells were then washed with PBS and maintained in serum free media for 12 hours prior to treatment. Cells were then either treated with 40 mL of fresh serum free media (non-treated (NT), n=5) or 40 mL of 500 ng/ml LPS (n=5) in serum free media for 24 hours. At 24 hours both cells and their media were collected, frozen and transported on dry ice for further analysis. Media was collected into 50 mL tubes and cells were scraped off plates and collected in 15 mL tubes. The workflow utilized in this study is summarized in **Figure 1**.

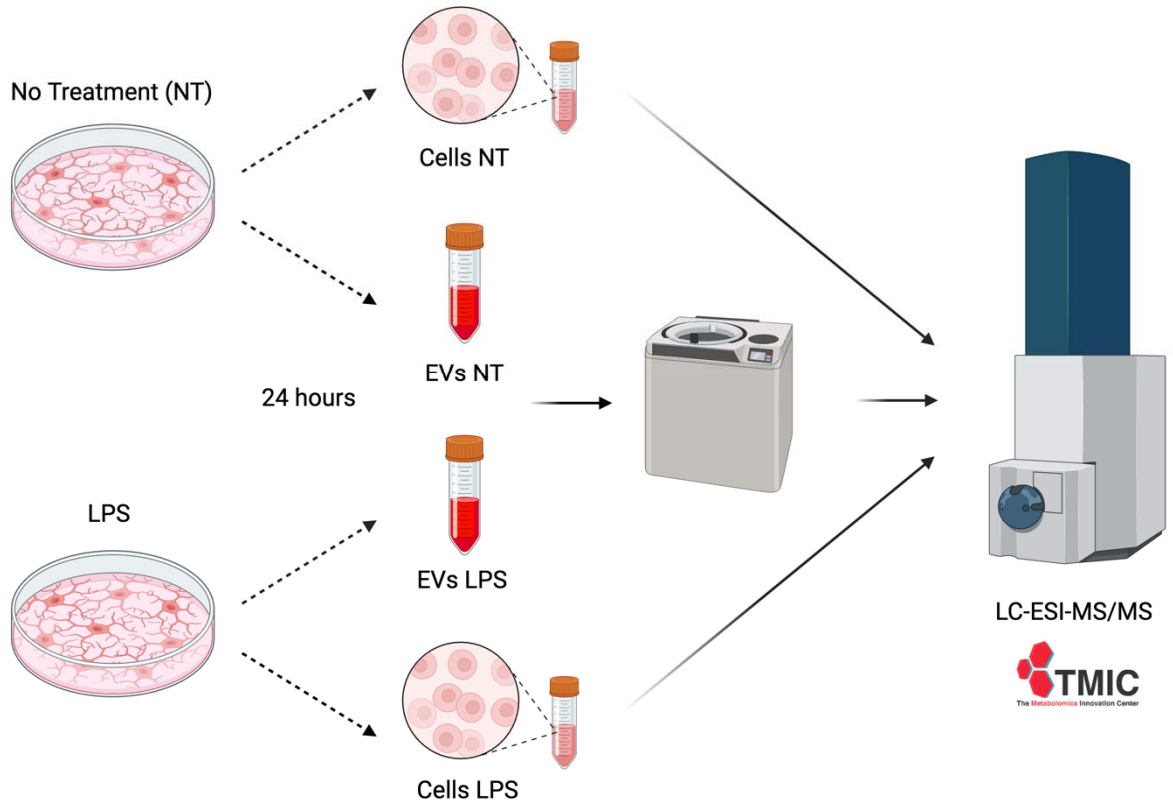

Figure 1. Workflow summary. BV-2 microglia were seeded in 150 mm plates and grown to 70% confluency. Cells were switched to serum free media for 12 hours then non-treated (NT) cells underwent fresh serum free media replacement (NT, n=5), while LPS exposed cells underwent media replacement with serum free media containing 500 ng/ml LPS (LPS, n=5). At 24 hours both cells and their media were collected and frozen. Once all samples were collected media was ultracentrifuged to isolate EVs and both cells and isolated EVs were sent to The Metabolomics Innovation Center (TMIC), Edmonton, Alberta, Canada for LC-MS/MS. Created with BioRender.com.

<u>EV isolation:</u> EVs were isolated as previously described(Roseborough *et al.* 2023) and isolated EVs were further characterized (Supplemental Figure 1A). Briefly, 50 mL tubes with collected media were centrifuged at 500 RCF for 5 minutes to pellet cellular debris before supernatant was immediately transferred to a new 50 mL tube and placed on ice. Supernatant was then filtered through a 0.2 µm SFPA into Amicon ultra 15 100k centrifuge filter tubes, which were centrifuged to achieve a final concentrated volume of 1 mL supernatant. EVs were then pelleted

through ultracentrifugation of the concentrated supernatant at 50,000 rpm (MLA130 rotor) for 1 hour 15 minutes at 4°C. The supernatant was then removed, and the pellet was immediately dried, covered and placed on dry ice for shipment to the LC-MS/MS facility (TMIC, The Metabolomics Innovation Center, Edmonton, Alberta, Canada).

Data collection and processing by TMIC: Lipid isolation and LC-MS/MS data collection was performed in entirety at TMIC. Samples were analyzed randomized prior to analysis, and technicians at TMIC were blinded to sample group identities and other background information to reduce bias

Lipid extraction: Lipid extraction was performed based on a modified Folch liquid-liquid extraction protocol in cold conditions. Briefly, the samples were homogenized in 80% ice-cold methanol with ceramic beads (3.2 mm) at 4.6 m/s for 15 s. Samples were aliquoted to 20 nmol of TMC and then mixed with NovaMT LipidRep Internal Standard Basic Mix for Tissue/Cells (Catalog No. IDG-7002-IS). Samples were re-suspended in cold water and sonicated for 5 min. Phase separation was then performed by adding chilled dichloromethane and methanol to achieve a final solvent ratio of 2:1:0.7 (DCM:MeOH:water). The samples were vortexed and equilibrated at 4°C room temperature for 10 min and centrifuged at 16,000 g for 10 min at 4°C. The aqueous and organic layers were collected separately, evaporated to dryness under nitrogen, and stored at –80 °C for subsequent analyses.

To evaluate technical stability, an aggregate of Quality Control (QC) mixture was prepared by pooling aliquots for each the aqueous and organic layers from each sample, then splitting into

multiple equal-volume aliquots. These aliquots were dried under nitrogen flow and stored at –80 °C until use. For each randomized batch of samples (two batches of seven samples and one batch of six samples), one QC aliquot was re-suspended and duplicated injected, at the beginning and at the end of the batch sequence to evaluate batch effects. Additionally, multiple QC aliquots were injected both before and after all sample runs.

LC-MS Analysis: Dried extracts were re-suspended in mobile phase B, vortexed for 1 min, and diluted with mobile phase A. The LC-MS/MS was performed in both positive and negative ionization mode on a Thermo Vanquish UHPLC coupled to Bruker Impact II QTOF Mass Spectrometer. The system included a Waters Acquity CSH C18 column 1.7 µm, with a flow rate of 250 to 200 µL/min and a column oven temperature of 45°C. LC analysis was conducted using 10 mM ammonium formate in methanol/acetonitrile/water (50:40:10 v/v/v) as mobile phase A, and 10 mM ammonium formate in isopropanol/water (95:5 v/v) as mobile phase B. A 20-min gradient was employed, starting at 15% B at 0 min, 43% B at 2.0 min, 46% B at 6.3 min, 75% B at 10.4 min, 85% B at 10.6 min, 86% B at 10.8 min, 88% B at 13.5 min, and 98% B at 14.5 min, which was held until 15.0 min before allowing 5 min of column re-equilibration at the initial conditions. Injection volumes were 4.0 µL for positive ionization mode and 8.0 µL for negative ionization mode. Data were acquired in data-dependent acquisition mode over an m/z range of 150–2000, with MS/MS collision energies set between 10 and 60 eV.
Data Processing: LC-MS data from 25 injections per extract type (20 sample injection plus 5 QCs) were independently processed in positive and negative ionization using NovaMT LipidScreener software v 1.0.0. Positive- and negative- ion features were merged into a single feature-intensity matrix. Lipid identification was performed based on a three-tier identification

approach based on MS/MS spectral similarity, retention time, and accurate mass: 1) Tier 1 (MS/MS): MS/MS match score ≥500; precursor m/z error ≤20.0 ppm and 5.0 mDa; 2) Tier 2 (MS/MS): MS/MS match score <500; precursor m/z error ≤20.0 ppm and 5.0 mDa; and 3) Tier 3 (MS): Mass match with m/z error ≤20.0 ppm and 5.0 mDa. Identified features from all tiers were used for normalization and statistical analysis. Lipids with identical identifications, regardless of retention times, were summed prior to statistical analysis. Unidentified features were not employed for statistics. Identified features were normalized by internal standards and the median intensity ratio prior to any statistical analysis to correct for any sample variations. This ensured slight variations in EV amount between samples did not impact lipidomic analysis.

Statistical Analysis: All lipids identified were detected in all samples. Statistical analysis was performed using MetaboAnalyst 6.0 Software (Pang *et al.* 2024) without blinding. For multivariate statistics, features with near-constant values between the groups (the 25% features with the lowest relative standard deviation for all samples) were filtered out. The dataset was also auto-scaled. No other filtering, normalization, transformation, or scaling methods were employed before multivariate statistical analysis. Multivariate statistics including PLS-DA, hierarchical clustering heatmaps and correlation heatmaps were employed to assess the ability to differentiate samples by their lipidomic profiles. For univariate statistics and pathways analysis, no extra filtering or data scaling methods were applied. Univariate statistics including t-tests and volcano plots combing fold change and t-test analysis were employed to identify distinct lipidomic changes between groups that may not be apparent with multivariate methods. For pathway analysis BioPAN software was used (Gaud *et al.* 2021). LipidLynxX (Ni and Fedorova 2020) was first used to convert lipid names to BioPAN compatible bulk nomenclature. Due to

the size of the dataset all non-BioPAN recognized lipid classes were removed, and pathway analysis was conducted within lipid categories without removing fatty acids. BioPAN groups included: Glycerophospholipids, glycerolipids and fatty acids. BioPAN software was then utilized for reaction pathway analysis at the species and class levels. For Cell:EV ratio analysis of distinct lipid species normality was assessed with a Shapiro-Wilk test then parametric and non-parametric data were analyzed with either an unpaired t-test or a Mann-Whitney test respectively. See **Table 1** for a full list of lipid subclass abbreviations utilized throughout this study. Tables with extended statistics can be found in the supplemental material.

Results

Lipid changes following 24 hours of either no treatment (NT, n= 5) or LPS exposure (n = 5) of both microglia and their released EVs were assessed using LC-MS/MS. A total of 3626 lipid species were detected and identified. **Figure 2A** depicts the relative number of lipid species detected per lipid category in all samples with this protocol. All lipids detected and identified were detected in all samples including both cells and EVs. First, we assessed if the lipid profiles of detected and identified lipids could be used to differentiate the LPS exposed cells, NT cells and their respective EVs using multivariate statistics. Partial least squares discriminant analysis (PLS-DA) indicated that LPS treated microglia could be differentiated from NT microglia and their respective EVs by the component 1 (37.4%), and further by the component 2 (12%) (**Fig. 2B,C**). As shown in **Figure 2D**, further discrimination can be observed in the synchronized 3D plot demonstrating differentiation by three component analysis (component 1: 37.4%, component 2: 16%, component 3: 7.2 %) of treated and non-treated cells and their respective EVs.

Component three variable importance in projection (VIP) scores from PLS-DA revealed PG 45:5;O, CerP 40:2;O2 and SHexCer 40:1;O to be the three lipids most important in differentiating the experimental groups (**Fig. 2E**). The model was evaluated using cross validation to assess predictive ability (Q2) and goodness of fit (R2), while permutation testing with 100 permutations, 3 components was applied to confirm the significance of the model. Model evaluation revealed a Q2 = 0.80893, R2 = 0.92105 and a p-value < 0.01 indicating that PLS-DA can differentiate LPS treated microglia, NT microglia and their respective EVs.

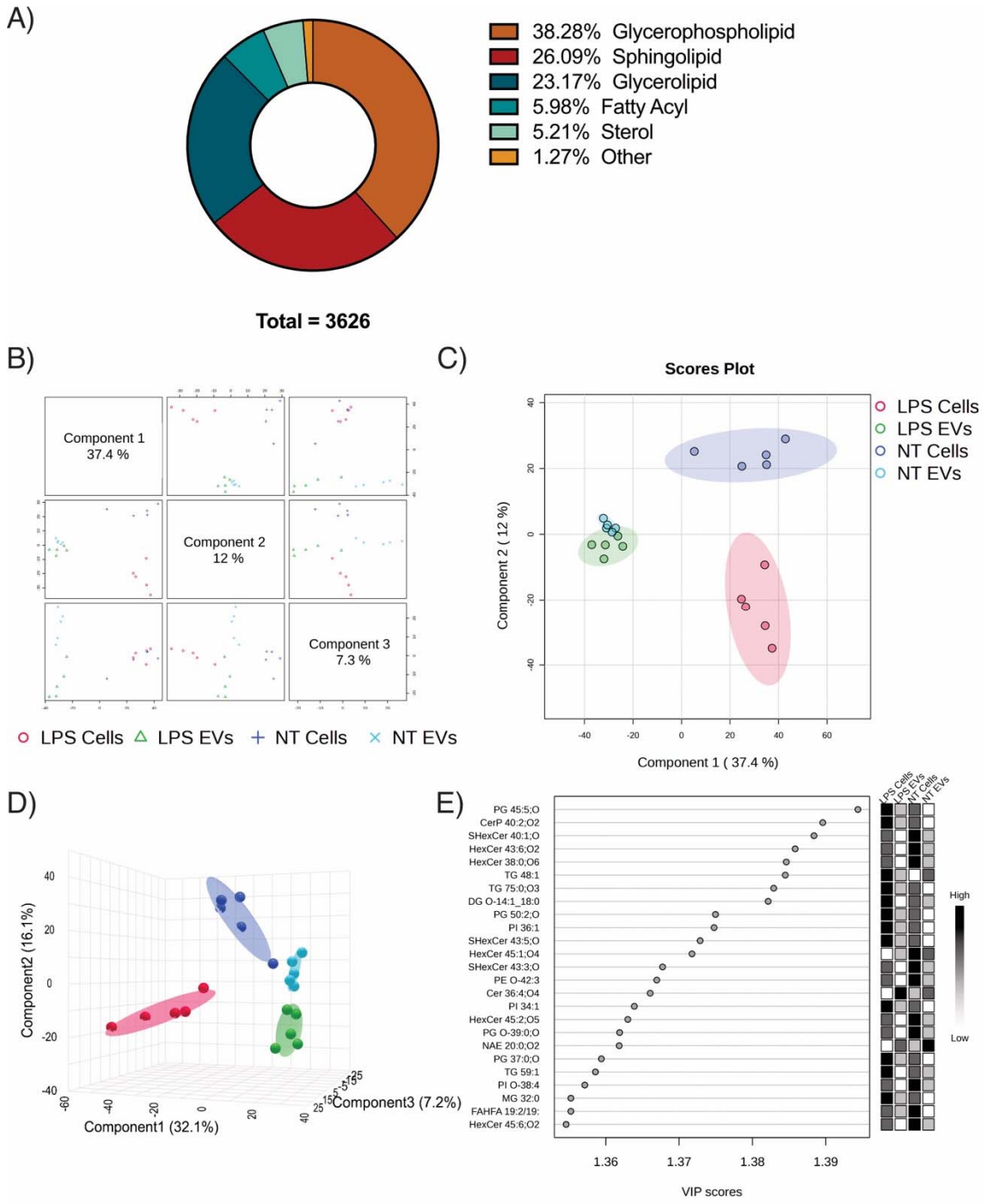

Figure 2. Untargeted lipidomic profiling can differentiate non-treated cells, LPS exposed cells and their respective EVs. A) Visual representation of lipid categories detected in all samples. B) Three component partial least squares discriminant analysis (PLS-DA) overview. C) PLS-DA 2D scores plot shows complete differentiation of cell types with overlap of 95% confidence region between groups of EVs. D) Synchronized 3D plot demonstrating differentiation of treated and non-treated cells and their respective EVs. E) Component three variable importance in projection (VIP) plot showing the 25 most important lipids for

discriminating the sample groups with grey scale-coloured boxes depicting the relative abundance of each lipid in each experimental group.

Next, we aimed to interrogate distinct lipid changes in EV populations and how EVs correlated with their parent cells. First, we utilized an Euclidean heatmap with hierarchical clustering of 120 of the most significant lipid species based on t-test/ANOVA comparison of groups which visualized distinct lipid changes in LPS treated cells and NT cells, as well as the EVs secreted from the LPS treated and NT cells **(Fig. 3A**). To further interrogate differences that may not be apparent in the Euclidean heatmap, we compared the distinct cell groups, and their relation to their respective EVs using volcano plot analysis combining fold change and t-test analysis (absolute fold change ≥ 1.4 and a raw p-value threshold of 0.05). First, we compared NT and LPS cells. A total of 296 significantly decreased and 514 significantly increased lipid species were identified in LPS treated cells (**Fig. 3B**). We then assessed the discrete differences in the abundance of detected lipid species between both cell treatments and their EVs individually. Volcano plot analysis comparing NT and NT EVs identified 859 significantly decreased and 783 significantly increased lipid species in NT EVs (**Fig. 3C**); while, comparing LPS cells relative to LPS EVs revealed 1143 significantly decreased and 822 significantly increased lipid species in LPS EVs (**Fig. 3D**). We then aimed to assess if the overall lipidomic profile of EVs correlated with their parent cells. As visualized in a heatmap (**Fig. 3E**), spearman rank correlation indicated no correlation between groups of EVs and their parent cells. We next considered if there were distinct differences in the lipid profiles of EVs released from LPS treated cells relative to those released from NT cells. Volcano plot analysis identified 167 significantly decreased and 119 significantly increased lipid species in LPS EVs relative to NT EVs (**Fig. 3F**).

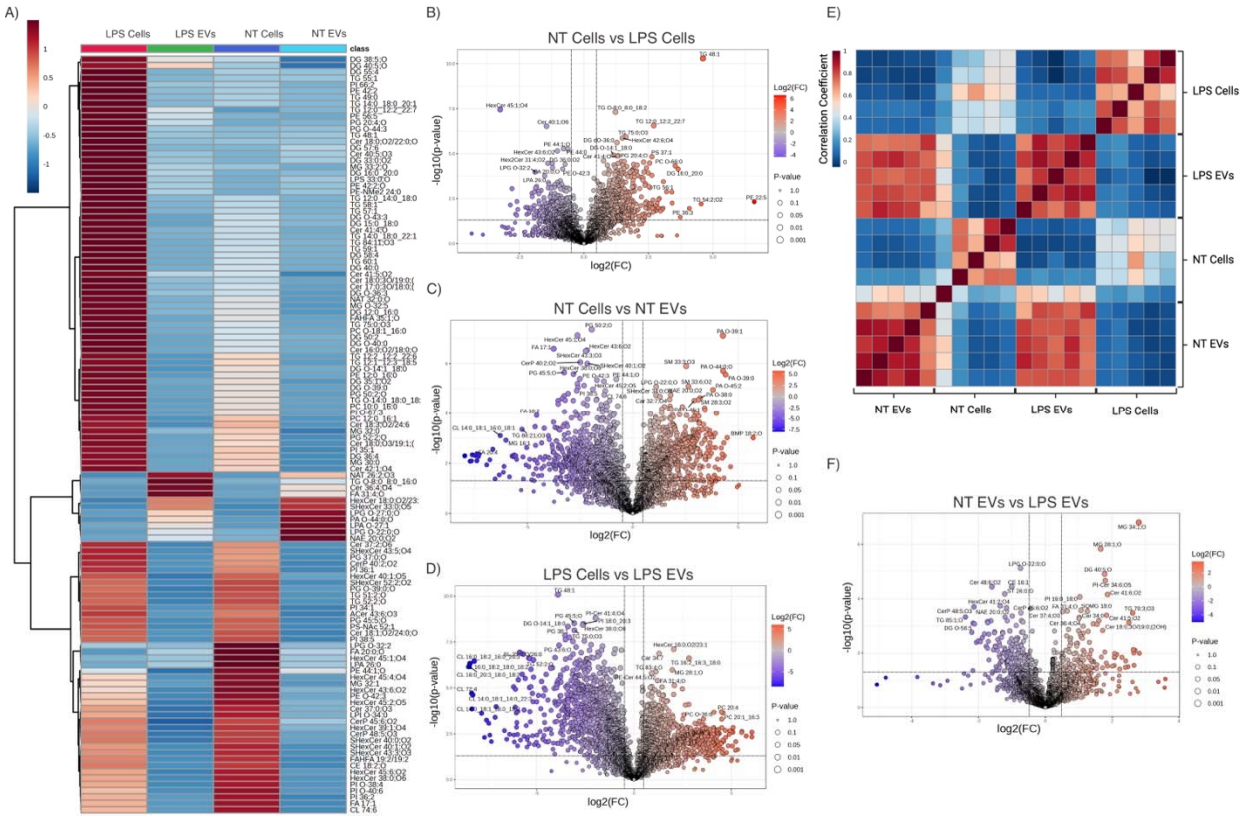

Figure 3. Distinct lipid species differentiate EVs from LPS exposed cells. A) Euclidean heatmap with hierarchical clustering of 120 of the most significant differences based on t-test/ANOVA comparison of groups. B) Volcano plot analysis comparing LPS and NT Cells identified 296 significantly decreased and 514 significantly increased lipid species in LPS treated cells. All volcano plots combine fold change and t-test analysis and represent an absolute fold change ≥ 1.4 and a raw p-value threshold of 0.05. C) Volcano plot analysis comparing NT EVs and NT cells identified 859 significantly decrease and 783 significantly increased lipid species in NT EVs. D) Volcano plot analysis identified 1143 significantly decreased and 822 significantly increased lipid species in LPS EVs relative to LPS cells. E) Spearman rank correlation heatmap. F) Volcano plot analysis identified 167 significantly decreased and 119 significantly increased lipid species in LPS EVs relative to NT EVs. G) Serial t-test analysis of all detected and identified lipid species identified 405 significantly altered lipids between LPS EVs and NT EVs.

We then sought to determine if distinct lipid pathways were activated or suppressed in LPS exposed microglia relative to NT microglia. We conducted BioPAN analysis for reactions involving glycerophospholipids and glycerolipids at the class (**Fig. 4A,E,F**) and species (**Fig. 4. B,C**) level, and for fatty acids (**Fig. 4A,D**). **Table 2**. Summarizes the BioPAN results of all activated and suppressed reactions and the probable genes associated with these changes. Of

note, at the class level for glycerolipids, results revealed an increase in diacylglycerol (DG) and triacylglycerol (TG) lipids. At the class level for glycerophospholipids, BioPAN analysis identified an increase in reactions producing Lyso-PS and LPA species with a decrease in LPC formation.

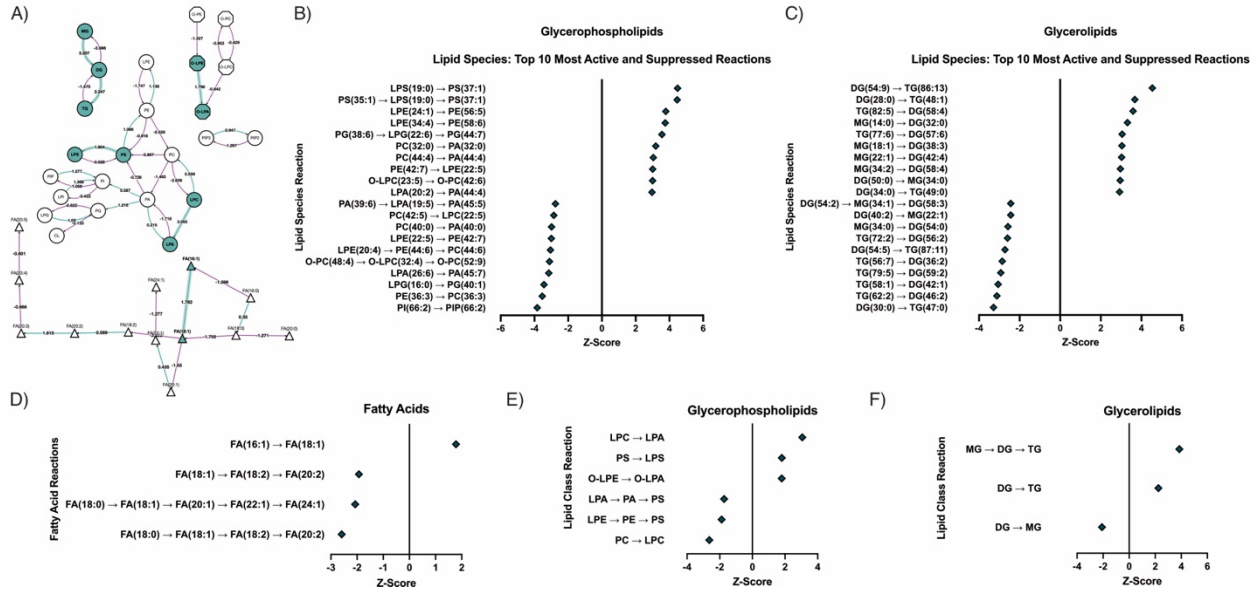

Figure 4. Distinct lipid reactions are activated and suppressed in LPS exposed cells. BioPAN analysis of lipid classes, lipid species and fatty acids revealed distinct reactions are activated and suppressed in LPS treated cells compared to NT cells. A) Diagram of activated reactions in lipid classes and fatty acids. Activated pathways are highlighted in green with respective Z-scores noted in reaction arrows. Negative Z-scores are shown in purple. B) Top 10 activated and suppressed lipid reactions at the species level falling under the glycerophospholipid category. C) Top 10 activated and suppressed lipid reactions at the species level falling under the glycerolipid category. D) Activated and suppressed fatty acid reactions in LPS exposed cells. E) Most activated and suppressed lipid class reactions in the glycerophospholipid category. F) Most activated and suppressed lipid class reactions in the glycerolipid category. *LPS within this figure denotes the lipid class lysophosphatidylserines. See Table 1 For the entire list of lipid subclass abbreviations.

Given distinct lipid reactions are both activated and suppressed in LPS treated cells, we then assessed Cell:EV lipid ratios as a means provide potential insight into cellular EV based lipid clearance. As shown in **Figure 5A**, volcano plot analysis (fold change and t-test combination, absolute fold change ≥ 1.4 and a raw p-value threshold of 0.05) comparing all lipids identified by

LPS Cell:EV and NT Cell:EV ratios identified 179 significantly decreased and 397 significantly increased lipid ratios with LPS exposure. Further visualization of this comparison through t-tests analysis comparing the Cell:EV ratio of all identified lipids in LPS and NT groups identified 582 lipids with significantly altered ratios (**Fig. 5B**). We then interrogated the ratio analysis of distinct lipid species thought to exert neurotoxic effects. The simple ganglioside species GM3 (d18:1/16:0) was among the lipid species significantly increased ($p = 0.0491$, , $t = 2.317$, degrees of freedom (df) = 8) in the Cell:EV ratio of LPS treated cells (**Fig. 5C**). We further interrogated lyso-phosphatidylcholines (LPCs) and oxidized phosphatidylcholines (OxPCs). Two LPCs were identified to have significantly altered ratios in the LPS treated group. LPC 30:4 was found to have a significantly increased ratio ($p < 0.0001$, $t = 7.205$, df = 8) with LPS treatment (**Fig. 5D);** while LPC 22:5 was found to have a significantly decreased ($p = 0.0317$, $U = 2$) ratio with LPS treatment (**Fig. 5E**). Two OxPCs were also found to have altered ratios with LPS treatment. PC 30:0;O was found to have an increased ratio ($p = 0.0360$, $t = 2.517$, df = 8) with LPS treatment (**Fig. 5F**); while PC 43:11;O was shown to have a significantly decreased ($p = 0.0079$, $U = 0$) ratio with LPS treatment (**Fig. 5G**).

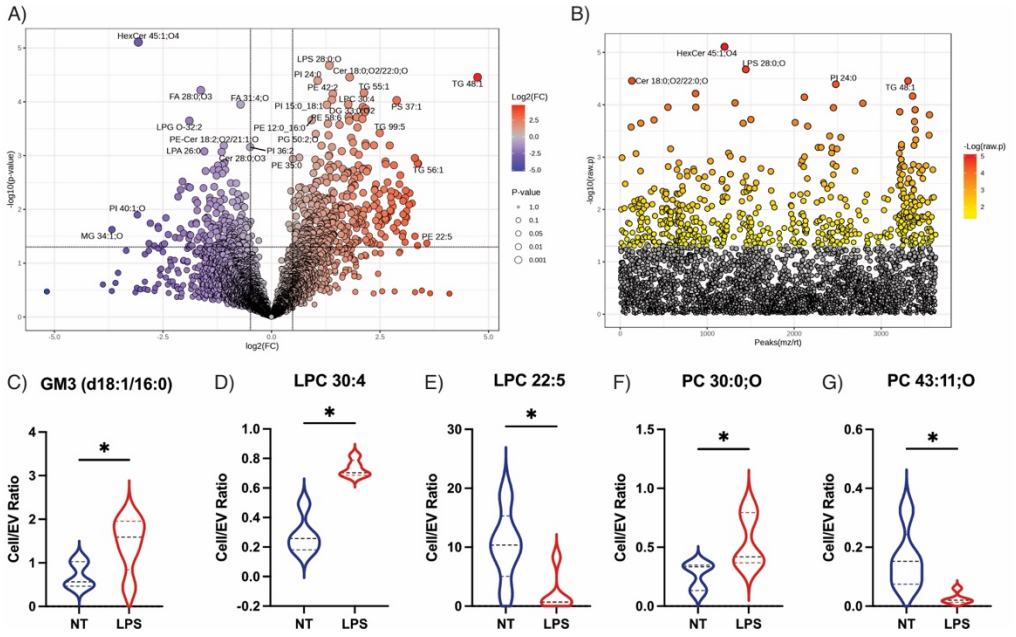

Figure 5. The Cell:EV ratio of distinct lipid species differs between LPS and non-treated cells. A) Volcano plot analysis (fold change and t-test combination, absolute fold change ≥ 1.4 and a raw p-value threshold of 0.05) comparing LPS Cell:EV and NT Cell:EV ratios identified 179 significantly decreased and 397 significantly increased lipid ratios with LPS treatment. B) T-tests comparing the Cell:EV ratio of all identified lipids in LPS and NT groups identified 582 lipids with significantly altered ratios. C) GM3 (d18:1/16:0) was among the lipid species significantly increased ($p = 0.0491$, $t = 2.317$, degrees of freedom (df) = 8) in the Cell:EV ratio of LPS treated cells. D) Two significantly altered lyso-phosphatidylcholines (LPCs) were detected between treatments. LPC 30:4 was found to have a significantly increased ratio ($p < 0.0001$, $t = 7.205$, df = 8) with LPS treatment; while, E) LPC 22:5 was found to have a significantly decreased ($p = 0.0317$, $U = 2$) ratio with LPS treatment. F) Additionally, two OxPCs species were found to have altered ratios with LPS treatment. PC 30:0;O was found to have an increased ratio ($p = 0.0360$, $t = 2.517$, df = 8) with LPS treatment; while, G) PC 43:11;O was shown to have a significantly decreased ($p = 0.0079$, $U = 0$) ratio with LPS treatment.

Discussion

This study marks the first of its kind to interrogate the lipidomic relationship between microglia and their secreted EVs. The significance of this study is three-fold: 1) in a controlled *in vitro* experiment, we reveal that distinct lipidomic changes can differentiate microglia exposed to LPS from NT microglia and their EVs; while also demonstrating that distinct lipids are preserved, and others change with cell activation. Elucidating this relationship validates EV lipids as a potential future lipid-based biomarker capable of serving as a non-invasive window into changes in

microglial function in the CNS. 2) We added to current literature on acute microglial activation with LPS by demonstrating acute pro-inflammatory activation of microglia results in the activation and suppression of distinct lipidomic pathways. This provides mechanistic insight into biological mechanisms and metabolic changes occurring with acute pro-inflammatory activation. Finally, 3) through analyzing the relationships between parent cells and their secreted EVs, we reveal lipid-specific changes and complex relationships within lipid classes in response to pro-inflammatory activation. These results demonstrate that lipid changes occurring with pro-inflammatory activation in microglia and their secreted EVs are highly complex and encourages future research investigating microglial/EV lipid changes with different experimental models and disease profiles. Collectively, this study utilized a controlled in vitro approach to elucidate foundational information on the lipidome of both microglia and their secreted EVs. This validates emerging research into EV lipids as novel and exciting potential biomarkers for neurological disease.

Through an untargeted approach and multi-variate analysis we were able to differentiate LPS-exposed BV-2 microglia, NT microglia and their respective EVs (**Fig. 2B-D**). **Figure 2E** demonstrates the top 25 most important lipids in differentiating these groups based on component 3 of PLS-DA which further differentiated EV groups. Of the top 25 lipids, 10 were noted to contain a ceramide backbone. Exosomes (small EVs) have previously been shown to be ceramide-rich and ceramides have been shown to be responsible for triggering the budding of exosomes into MVBs (Trajkovic *et al.* 2008). Acute LPS exposure in macrophages has also been shown to increase ceramides (MacKichan and DeFranco 1999) and a similar increase was recently observed in microglia (Blank *et al.* 2022). It is possible in this LPS paradigm, BV-2

microglia release smaller EVs possibly including exosomes, which may explain the important role of ceramides. We performed nanoflow cytometry to further characterize the size of EVs released from BV2s and demonstrated BV2s release EVs with an average size of 179.8 +/- 19.6 nm (Supplemental Figure 1A), further supporting this hypothesis. However, more work is needed to determine if this is stimulus, cell type and temporally dependent. We further interrogated the distinct lipid species changing between the experimental groups (**Fig. 3A,B**) and similarly found a prominent enrichment of distinct ceramide species in LPS treated microglia. Our results support ceramides as a critically important lipid for the differentiation of microglial activation phenotypes and their EVs.

From a neurological disease perspective accumulation of DG has also previously been shown in AD and PD brains (Wood *et al.* 2018; Wood *et al.* 2015; Chan *et al.* 2012). DG lipids are known to serve as lipid mediators of immune activation (Brose *et al.* 2004) and are also precursors for major glycerophospholipids and TG lipids (Coleman and Mashek 2011), potentially making both DG and TG lipids highly relevant in microglial activation. We found DG and TG lipids to be upregulated in LPS cells (**Fig. 3A,B**). This was further validated with BioPAN analysis (**Fig. 4A,C,F**) that revealed activated reactions metabolically shifting LPS treated cells towards TG synthesis. This was similarly shown in a recent publication utilizing a whole-cell matrix-assisted laser desorption/ionization (MALDI) MS whole cell fingerprinting workflow (Blank *et al.* 2022). Activated microglia also undergo alterations in mitochondrial function and the tricarboxylic acid cycle that can lead to TG accumulation within lipid droplets (Khatchadourian *et al.* 2012) and LPS treated microglia have been shown to accumulate TG-enriched lipid droplets (Marschallinger *et al.* 2020), further validating our findings. Intriguingly, our results showed that

while specific TG species increased in LPS treated cells, this was not preserved with an equal abundance in EVs. Compared to NT microglia, TG (48:1) was significantly increased in LPS treated cells (**Fig. 3A,B**); however, TG (48:1) was significantly lower in LPS treated EVs compared to LPS cells (**Fig. 3A,D**). This was in keeping with our correlation analysis (**Fig. 3E**) which showed no relationship between the overall lipidomic profile of EVs and their parent cells, and with our comparison between LPS EVs and NT EVs showing TG lipids as one of the top three lipid classes significantly decreased in LPS EVs (**Fig. 3G,H**). Collectively, our results suggest that rather than correlation of overall lipidomic profiles, distinct lipids species are preserved between EVs and their parent cells, while distinct species change based on cellular activation.

Utilizing BioPAN software to analyze glycerophospholipids, we identified an increase in reactions producing Lyso-PS and LPA species with a decrease in LPC formation. LPS stimulation has previously been shown to upregulate LPA production through Autotaxin (ATX), a phospholipase D that converts LPC into LPA (Awada *et al.* 2014). This same pathway demonstrated activation based on our BioPAN analysis (**Fig. 4A**). Lyso-PS has also been shown to function in cellular morphology changes in microglia *in vitro* (Tokizane *et al.* 2017). In contrast to our BioPAN analysis result however, previous work has shown an increase in distinct LPC species with LPS treatment of microglia (Blank *et al.* 2022). It is important to note our overall dataset supports this as distinct LPC species were upregulated in LPS treated cells; however, this serves to highlight the importance of pathway and reaction-based assessment of lipidomic data. Limitations of these results should also be considered, as currently BioPAN

software does not factor in oxidized lipid species which may alter this finding. Future work especially when assessing disease specific paradigms should factor lipid oxidation into analysis.

To deepen our analysis, we examined the Cell:EV ratio of specific lipid species with known neurotoxic properties, including simple gangliosides, LPCs, and OxPCs (Dong *et al.* 2021; Plemel *et al.* 2018; Wang and Whitehead 2020). Previous work has demonstrated GM3 colocalizes with plaques both in animal models (Wang *et al.* 2025; Kaya *et al.* 2018) and in the AD brain (Ollen-Bittle *et al.* 2024a; Michno *et al.* 2024). OxPCs have also been shown to accumulate in MS lesions (Dong *et al.* 2021) and can be converted either through hydrolysis reactions or enzymatic processes to LPCs, which are known to cause demyelination and are even used as a means of inducing spinal cord injury in animal models (Plemel *et al.* 2018). We hypothesized that we may see a decrease in the Cell:EV ratio of these neurotoxic species in LPS treated cells as they take on a proinflammatory phenotype and accumulate lipids, potentially indicating reduced clearance through EVs. While we did see this relationship with GM3 (**Fig. 5C**), of the two LPCs and OxPCs identified to have significant differences with LPS treatment, LPC 30:4 and PC 30:0;O were found to have a significantly increased ratio with LPS treatment, while LPC 22:5 and PC 43:11;O were shown to have a significantly decreased ratios (**Fig. 5D-G**). This suggests a dynamic relationship of these neurotoxic species in which cell activation and lipid class are not the only influences on the Cell:EV ratio. It remains probable physiologically that the type of pro-inflammatory exposure, extracellular environment, genetics and chronicity of pro-inflammatory state all factor into the Cell:EV ratios of distinct lipid species. Future work should consider assessment of these relationships when characterizing cell-specific changes in EV lipids.

Additional limitations and future directions should also be noted. While EV lipids may one day be promising biomarkers for neurological diseases important logistical challenges exist. Analysis of EVs requires collection, isolation, extraction and analysis processes that may take too long to be useful depending on the clinical setting. For instance, with current technology EV lipids would not likely be useful for acutely differentiating stroke subtype in an emergency room setting, until technical advances improve the temporal limitations (Ollen-Bittle *et al.* 2022). Additionally, this study serves as a critical foundation to a plethora of research to come before clinical utility even in more chronic conditions. Future research is needed to determine the effects of differential stimuli, different cell lines and primary cells, and different diseases both in experimental models and samples from human patients. This work provides foundational evidence to continue the pursuit of microglia lipid EV-based biomarkers in neurological disease.

Overall, this study provides the critical foundation requisite for the future study of lipid-based EV biomarkers in neurological diseases. For the first time, we validate that distinct lipid changes can differentiate LPS exposed microglia from NT microglia and their EVs; while demonstrating distinct lipids are preserved between the EVs and their parent cells, and others change with cell activation. Collectively, we validate a workflow for the *in vitro* characterization of EVs and most importantly demonstrate that microglial EV lipidome holds potential as a non-invasive window into functional changes in microglia.

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Data Availability

Data available upon request.

Conflicts of Interest

No conflicts to report.

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References

Awada R., Saulnier-Blache J. S., Grès S., Bourdon E., Rondeau P., Parimisetty A., Orihuela R., Harry G. J., Hellencourt C. L. d' (2014) Autotaxin Downregulates LPS-Induced Microglia Activation and Pro-Inflammatory Cytokines Production. *J. Cell. Biochem.* **115**, 2123–2132.

Bansal R., Winkler S., Bheddah S. (1999) Negative Regulation of Oligodendrocyte Differentiation by Galactosphingolipids. *J. Neurosci.* **19**, 7913.

Bazan N. G. (2005) Lipid signaling in neural plasticity, brain repair, and neuroprotection. *Mol. Neurobiol.* **32**, 89–103.

Blank M., Enzlein T., Hopf C. (2022) LPS-induced lipid alterations in microglia revealed by MALDI mass spectrometry-based cell fingerprinting in neuroinflammation studies. *Sci. Rep.* **12**, 2908.

Brose N., Betz A., Wegmeyer H. (2004) Divergent and convergent signaling by the diacylglycerol second messenger pathway in mammals. *Curr. Opin. Neurobiol.* **14**, 328–340.

Brzozowski J. S., Jankowski H., Bond D. R., McCague S. B., Munro B. R., Predebon M. J., Scarlett C. J., Skelding K. A., Weidenhofer J. (2018) Lipidomic profiling of extracellular vesicles derived from prostate and prostate cancer cell lines. *Lipids Health Dis.* **17**, 211.

Carta A. R., Pisanu A. (2013) Modulating Microglia Activity with PPAR-γ Agonists: A Promising Therapy for Parkinson's Disease? *Neurotox. Res.* **23**, 112–123.

Chan R. B., Oliveira T. G., Cortes E. P., Honig L. S., Duff K. E., Small S. A., Wenk M. R., Shui G., Di Paolo G. (2012) Comparative Lipidomic Analysis of Mouse and Human Brain with Alzheimer Disease*. *J. Biol. Chem.* **287**, 2678–2688.

Chen K., Wang H., Ilyas I., Mahmood A., Hou L. (2023) Microglia and Astrocytes Dysfunction and Key Neuroinflammation-Based Biomarkers in Parkinson's Disease. *Brain Sci.* **13**.

Coleman R. A., Mashek D. G. (2011) Mammalian Triacylglycerol Metabolism: Synthesis, Lipolysis, and Signaling. *Chem. Rev.* **111**, 6359–6386.

Dong Y., D'Mello C., Pinsky W., Lozinski B. M., Kaushik D. K., Ghorbani S., Moezzi D., et al. (2021) Oxidized phosphatidylcholines found in multiple sclerosis lesions mediate neurodegeneration and are neutralized by microglia. *Nat. Neurosci.* **24**, 489–503.

Doyle L. M., Wang M. Z. (2019) Overview of Extracellular Vesicles, Their Origin, Composition, Purpose, and Methods for Exosome Isolation and Analysis. *Cells* **8**.

Dubois B., Padovani A., Scheltens P., Rossi A., Dell'Agnello G., Saykin A. (2016) Timely Diagnosis for Alzheimer's Disease: A Literature Review on Benefits and Challenges. *J. Alzheimer's Dis.* **49**, 617–631.

Dulski J., Heckman M. G., White L. J., Żur-Wyrozumska K., Lund T. C., Wszolek Z. K. (2022) Hematopoietic Stem Cell Transplantation in CSF1R-Related Leukoencephalopathy: Retrospective Study on Predictors of Outcomes. *Pharmaceutics* **14**.

Fyfe J., Casari I., Manfredi M., Falasca M. (2023) Role of lipid signalling in extracellular vesicles-mediated cell-to-cell communication. *Adv. Extracell. Vesicles Mediat. Cell--Cell Commun. Metab.* **73**, 20–26.

Gaud C., C. Sousa B., Nguyen A., Fedorova M., Ni Z., O?Donnell V., Wakelam M., Andrews S., Lopez-Clavijo A. (2021) BioPAN: a web-based tool to explore mammalian lipidome metabolic pathways on LIPID MAPS [version 2; peer review: 3 approved]. *F1000Research* **10**.

GBD 2017 US Neurological Disorders Collaborators (2021) Burden of Neurological Disorders Across the US From 1990-2017: A Global Burden of Disease Study. *JAMA Neurol.* **78**, 165–176.

Hansson O. (2021) Biomarkers for neurodegenerative diseases. *Nat. Med.* **27**, 954–963.

Hansson O., Lehmann S., Otto M., Zetterberg H., Lewczuk P. (2019) Advantages and disadvantages of the use of the CSF Amyloid β (Aβ) 42/40 ratio in the diagnosis of Alzheimer's Disease. *Alzheimers Res. Ther.* **11**, 34.

Hickman S., Izzy S., Sen P., Morsett L., El Khoury J. (2018) Microglia in neurodegeneration. *Nat. Neurosci.* **21**, 1359–1369.

Ioannou M. S., Jackson J., Sheu S.-H., Chang C.-L., Weigel A. V., Liu H., Pasolli H. A., et al. (2019) Neuron-Astrocyte Metabolic Coupling Protects against Activity-Induced Fatty Acid Toxicity. *Cell* **177**, 1522-1535.e14.

Kase C. S., Furlan A. J., Wechsler L. R., Higashida R. T., Rowley H. A., Hart R. G., Molinari G. F., et al. (2001) Cerebral hemorrhage after intra-arterial thrombolysis for ischemic stroke. *Neurology* **57**, 1603.

Kaya I., Zetterberg H., Blennow K., Hanrieder J. (2018) Shedding Light on the Molecular Pathology of Amyloid Plaques in Transgenic Alzheimer's Disease Mice Using Multimodal MALDI Imaging Mass Spectrometry. *ACS Chem. Neurosci.* **9**, 1802–1817.

Khatchadourian A., Bourque S. D., Richard V. R., Titorenko V. I., Maysinger D. (2012) Dynamics and regulation of lipid droplet formation in lipopolysaccharide (LPS)-stimulated microglia. *Biochim. Biophys. Acta BBA - Mol. Cell Biol. Lipids* **1821**, 607–617.

Kopczynski D., Ejsing C. S., McDonald J. G., Bamba T., Baker E. S., Bertrand-Michel J., Brügger B., et al. (2024) The lipidomics reporting checklist a framework for transparency of lipidomic experiments and repurposing resource data. *J. Lipid Res.* **65**.

Lewcock J. W., Schlepckow K., Di Paolo G., Tahirovic S., Monroe K. M., Haass C. (2020) Emerging Microglia Biology Defines Novel Therapeutic Approaches for Alzheimer's Disease. *Neuron* **108**, 801–821.

Liu L., Kawashima M., Sugimoto M., Sonomura K., Pu F., Li W., Takeda M., et al. (2023) Discovery of lipid profiles in plasma-derived extracellular vesicles as biomarkers for breast cancer diagnosis. *Cancer Sci.* **114**, 4020–4031.

MacKichan M. L., DeFranco A. L. (1999) Role of Ceramide in Lipopolysaccharide (LPS)-induced Signaling: LPS INCREASES CERAMIDE RATHER THAN ACTING AS A STRUCTURAL HOMOLOG *. *J. Biol. Chem.* **274**, 1767–1775.

Marschallinger J., Iram T., Zardeneta M., Lee S. E., Lehallier B., Haney M. S., Pluvinage J. V., et al. (2020) Lipid-droplet-accumulating microglia represent a dysfunctional and proinflammatory state in the aging brain. *Nat. Neurosci.* **23**, 194–208.

Michno W., Bowman A., Jha D., Minta K., Ge J., Koutarapu S., Zetterberg H., et al. (2024) Spatial Neurolipidomics at the Single Amyloid-β Plaque Level in Postmortem Human Alzheimer's Disease Brain. *ACS Chem. Neurosci.*

Miller J. R. (2004) The importance of early diagnosis of multiple sclerosis. *J Manag Care Pharm* **10**, S4-11.

Montani L. (2021) Lipids in regulating oligodendrocyte structure and function. *1 Cell Dev. Biol. Bone Marrow Meriem Lamghari2 Role Lipids CNS Cell Physiol. Pathol. ByShyuan Ngo* **112**, 114–122.

Nakamura Y., Si Q. S., Kataoka K. (1999) Lipopolysaccharide-induced microglial activation in culture: temporal profiles of morphological change and release of cytokines and nitric oxide. *Neurosci. Res.* **35**, 95–100.

Ni Z., Fedorova M. (2020) LipidLynxX: a data transfer hub to support integration of large scale lipidomics datasets. *bioRxiv*, 2020.04.09.033894.

Olah M., Menon V., Habib N., Taga M. F., Ma Y., Yung C. J., Cimpean M., et al. (2020) Single cell RNA sequencing of human microglia uncovers a subset associated with Alzheimer's disease. *Nat. Commun.* **11**, 6129.

Ollen-Bittle N., Pejhan S., Pasternak S. H., Keene C. D., Zhang Q., Whitehead S. N. (2024a) Co-registration of MALDI-MSI and histology demonstrates gangliosides co-localize with amyloid beta plaques in Alzheimer's disease. *Acta Neuropathol. (Berl.)* **147**, 105.

Ollen-Bittle N., Roseborough A. D., Wang W., Wu J. D., Whitehead S. N. (2022) Mechanisms and Biomarker Potential of Extracellular Vesicles in Stroke. *Biology* **11**.

Ollen-Bittle N., Roseborough A. D., Wang W., Wu J. D., Whitehead S. N. (2024b) Connecting cellular mechanisms and extracellular vesicle cargo in traumatic brain injury. *Neural Regen. Res.* **19**.

Olsson B., Lautner R., Andreasson U., Öhrfelt A., Portelius E., Bjerke M., Hölttä M., et al. (2016) CSF and blood biomarkers for the diagnosis of Alzheimer's disease: a systematic review and meta-analysis. *Lancet Neurol.* **15**, 673–684.

Palmqvist S., Mattsson N., Hansson O., for the Alzheimer's Disease Neuroimaging Initiative (2016) Cerebrospinal fluid analysis detects cerebral amyloid-β accumulation earlier than positron emission tomography. *Brain* **139**, 1226–1236.

Pang Z., Lu Y., Zhou G., Hui F., Xu L., Viau C., Spigelman A. F., et al. (2024) MetaboAnalyst 6.0: towards a unified platform for metabolomics data processing, analysis and interpretation. *Nucleic Acids Res.* **52**, W398–W406.

Parnetti L., Gaetani L., Eusebi P., Paciotti S., Hansson O., El-Agnaf O., Mollenhauer B., Blennow K., Calabresi P. (2019) CSF and blood biomarkers for Parkinson's disease. *Lancet Neurol.* **18**, 573–586.

Perets N., Oron O., Herman S., Elliott E., Offen D. (2020) Exosomes derived from mesenchymal stem cells improved core symptoms of genetically modified mouse model of autism Shank3B. *Mol. Autism* **11**, 65.

Phan K., He Y., Bhatia S., Pickford R., McDonald G., Mazumder S., Timmins H. C., et al. (2023) Multiple pathways of lipid dysregulation in amyotrophic lateral sclerosis. *Brain Commun.* **5**, fcac340.

Plemel J. R., Michaels N. J., Weishaupt N., Caprariello A. V., Keough M. B., Rogers J. A., Yukseloglu A., et al. (2018) Mechanisms of lysophosphatidylcholine-induced demyelination: A primary lipid disrupting myelinopathy. *Glia* **66**, 327–347.

Podbielska M., O'Keeffe J., Pokryszko-Dragan A. (2021) New Insights into Multiple Sclerosis Mechanisms: Lipids on the Track to Control Inflammation and Neurodegeneration. *Int. J. Mol. Sci.* **22**.

Ramos-Zaldívar H. M., Polakovicova I., Salas-Huenuleo E., Corvalán A. H., Kogan M. J., Yefi C. P., Andia M. E. (2022) Extracellular vesicles through the blood–brain barrier: a review. *Fluids Barriers CNS* **19**, 60.

Raposo G., Stoorvogel W. (2013) Extracellular vesicles: exosomes, microvesicles, and friends. *J. Cell Biol.* **200**, 373–383.

Rasmussen J., Langerman H. and (2019) Alzheimer's Disease – Why We Need Early Diagnosis. *Degener. Neurol. Neuromuscul. Dis.* **9**, 123–130.

Romero-Molina C., Garretti F., Andrews S. J., Marcora E., Goate A. M. (2022) Microglial efferocytosis: Diving into the Alzheimer's disease gene pool. *Neuron* **110**, 3513–3533.

Roseborough A. D., Zhu Y., Zhao L., Laviolette S. R., Pasternak S. H., Whitehead S. N. (2023) Fibrinogen primes the microglial NLRP3 inflammasome and propagates pro-inflammatory signaling via extracellular vesicles: Implications for blood-brain barrier dysfunction. *Neurobiol. Dis.* **177**, 106001.

Su H., Rustam Y. H., Masters C. L., Makalic E., McLean C. A., Hill A. F., Barnham K. J., Reid G. E., Vella L. J. (2021) Characterization of brain-derived extracellular vesicle lipids in Alzheimer's disease. *J. Extracell. Vesicles* **10**, e12089.

Tan Y.-L., Yuan Y., Tian L. (2020) Microglial regional heterogeneity and its role in the brain. *Mol. Psychiatry* **25**, 351–367.

Thompson A. G., Gray E., Heman-Ackah S. M., Mäger I., Talbot K., Andaloussi S. E., Wood M. J., Turner M. R. (2016) Extracellular vesicles in neurodegenerative disease — pathogenesis to biomarkers. *Nat. Rev. Neurol.* **12**, 346–357.

Tirandi A., Sgura C., Carbone F., Montecucco F., Liberale L. (2023) Inflammatory biomarkers of ischemic stroke. *Intern. Emerg. Med.* **18**, 723–732.

Tokizane K., Konishi H., Makide K., Kawana H., Nakamuta S., Kaibuchi K., Ohwada T., Aoki J., Kiyama H. (2017) Phospholipid localization implies microglial morphology and function via Cdc42 in vitro. *Glia* **65**, 740–755.

Trajkovic K., Hsu C., Chiantia S., Rajendran L., Wenzel D., Wieland F., Schwille P., Brügger B., Simons M. (2008) Ceramide Triggers Budding of Exosome Vesicles into Multivesicular Endosomes. *Science* **319**, 1244–1247.

Vrahatis A. G., Skolariki K., Krokidis M. G., Lazaros K., Exarchos T. P., Vlamos P. (2023) Revolutionizing the Early Detection of Alzheimer's Disease through Non-Invasive Biomarkers: The Role of Artificial Intelligence and Deep Learning. *Sensors* **23**.

Wang W., Myers S. J., Ollen-Bittle N., Whitehead S. N. (2025) Elevation of ganglioside degradation pathway drives GM2 and GM3 within amyloid plaques in a transgenic mouse model of Alzheimer's disease. *Neurobiol. Dis.* **205**, 106798.

Wang W. X., Whitehead S. N. (2020) Imaging mass spectrometry allows for neuroanatomic-specific detection of gangliosides in the healthy and diseased brain. *Analyst* **145**, 2473–2481.

Wei J., Wong L. C., Boland S. (2024) Lipids as Emerging Biomarkers in Neurodegenerative Diseases. *Int. J. Mol. Sci.* **25**.

Wood P. L., Cebak J. E., Woltjer R. L. (2018) Diacylglycerols as biomarkers of sustained immune activation in Proteinopathies associated with dementia. *Clin. Chim. Acta* **476**, 107–110.

Wood P. L., Medicherla S., Sheikh N., Terry B., Phillipps A., Kaye J. A., Quinn J. F., Woltjer R. L. (2015) Targeted Lipidomics of Fontal Cortex and Plasma Diacylglycerols (DAG) in Mild Cognitive Impairment and Alzheimer's Disease: Validation of DAG Accumulation Early in the Pathophysiology of Alzheimer's Disease. *J. Alzheimers Dis.* **48**, 537–546.

Yáñez-Mó M., Siljander P. R.-M., Andreu Z., Bedina Zavec A., Borràs F. E., Buzas E. I., Buzas K., et al. (2015) Biological properties of extracellular vesicles and their physiological functions. *J. Extracell. Vesicles* **4**, 27066.

Zhang P.-F., Hu H., Tan L., Yu J.-T. (2021) Microglia Biomarkers in Alzheimer's Disease. *Mol. Neurobiol.* **58**, 3388–3404.

Tables

Category	Main Class	Sub Class	Abbreviation
Fatty Acyls	Fatty Acids and Conjugates	Fatty acids	FA
		Nitrogenated fatty acids (primary amides, N-acyl amides, fatty nitriles and others)	NA
	Fatty acyl glycosides	Fatty acyl glycosides of mono- and disaccharides	FAG
	Fatty alcohols		FOH
	Fatty aldehydes		FAL
	Fatty amides	N-acyl amines (taurines)	NAT
		N-acyl ethanolamines (endocannabinoids)	NAE
	Fatty esters	Fatty acid estolides	FAHFA
		Fatty acyl carnitines	Car
		Fatty acyl CoAs	CoA
		Wax esters and diesters	WE
	Hydrocarbons		HC
Glycerolipids	Diradylglycerols	Diacylglycerols	DG
	Glycosyldiradylglycerols	Glycosyldiacylglycerols	GlcADG
		Glycosyldiacylglycerols (Digalactosyldiacylgylcerols)	DGDG
		Glycosyldiacylglycerols (Monogalactosyldiacylgylcerols)	MGDG
		Glycosyldiacylglycerols (Sulfoquinovosyldiacylglycerols)	SQDG
	Glycosylmonoradylglycerols	Glycosylmonoacylglycerols (Monogalactosylmonoacylgylcerols)	MGMG
		Glycosylmonoacylglycerols (Digalactosylmonoacylgylcerols)	DGMG
		Glycosylmonoacylglycerols (Sulfoquinovosylmonoacylglycerols)	SQMG
	Monoradylglycerols	Monoacylglycerols	MG
	Other Glycerolipids	(hydroxymethyl-choline)	DGCC
		(trimethyl-alanine)	DGTA
		(trimethyl-homoserine)	DGTS
	Triradylglycerols	Triacylglycerols	TG
Cytidine-5'-diphosphate (CDP)	Glycerols	CDP-diacylglycerols	CDP-DG
Glycerophospholipids	Glycerophosphates	Monoacylglycerophosphates (lysophosphatidic acids)	LPA
		Diacylglycerophosphates (Phosphatidic Acids)	PA
	Glycerophosphocholines	Monoacylglycerophosphocholines (lysophosphatidylcholines)	LPC
		Diacylglycerophosphocholines (Phosphatidylcholines)	PC

	Glycerophosphoethanolamines	Diacylglycerophosphoethanolamines	NAPE
		Monoacylglycerophosphoethanolamines (lysophosphatidylethanolamines)	LPE
		Diacylglycerophosphoethanolamines (N-methylethanolamine or N,N-dimethylethanolamine)	PE-NMe
		Diacylglycerophosphoethanolamines (Phosphatidylethanolamines)	PE
	Glycerophosphoglycerols	Diacylglycerophosphomonoradylglycerols	SLBPA
		Monoacylglycerophosphoglycerol (lysophosphatidylglycerol)	LPG
		Monoacylglycerophosphoglycerols (Phosphatidylglycerols)	PG
		Monoacylglycerophosphomonoradylglycerols	BMP
	Glycerophosphoglycerophosphates	Diacylglycerophosphoglycerophosphates	PGP
	Glycerophosphoglycerophosphoglycerols	Monoacylglycerophosphoglycerophosphomonoradylglycerols (Cardiolipins)	CL
	Glycerophosphoinositol monophosphates		PIP
	Glycerophosphoinositolglycans	Diacylglycerophosphoinositolglycans	PIM
		N-acylglycerophosphoinositolglycans	LPIM
	Glycerophosphoinositols	Monoacylglycerophosphoinositols (lysophosphatidylinositols)	LPI
		Diacylglycerophosphoinositols (Phosphatidylinositols)	PI
	Glycerophosphonocholines	Diacylglycerophosphonocholines	PnC
	Glycerophosphonoethanolamines	Diacylglycerophosphonoethanolamines	PnE
	Glycerophosphoserines	Monoacylglycerophosphoserines (lysophosphatidylserines)	Lyso-PS in text
		Triacylglycerophosphoserines	PS-NAc
		Diacylglycerophosphoserines (Phosphatidylserines)	PS
	Glyceropyrophosphates	Diacylglyceropyrophosphates	PPA
	Glycosylglycerophospholipids	Diacylglycosylglycerophospholipids	Glc-GP
	Other Glycerophospholipids		GP
			PE-isoK
			PT
		(sulfate)	PGS
Polyketides			PK
Prenol Lipids			PR
Saccharolipids			SL
Sphingolipids	Acidic glycosphingolipids	Glucuronosphingolipids	GlcCer

		Sulfoglycosphingolipids (sulfatides)	SHexCer
	Amphoteric glycosphingolipids	Sulfohexosyl sphingoid bases	SulfateHexSPB
	Ceramides	Acylceramides	ACer
		Ceramide 1-phosphates	CerP
		N-acylsphingosines (ceramides)	Cer
	Glycosphingolipids	Hexosyl ceramides	HexCer
		Hexosyl ceramides (10 hexosyl groups)	Hex10Cer
		Hexosyl ceramides (11 hexosyl groups)	Hex11Cer
		Hexosyl ceramides (12 hexosyl groups)	Hex12Cer
		Hexosyl ceramides (13 hexosyl groups)	Hex13Cer
		Hexosyl ceramides (14 hexosyl groups)	Hex14Cer
		Hexosyl ceramides (15 hexosyl groups)	Hex15Cer
		Hexosyl ceramides (2 hexosyl groups)	Hex2Cer
		Hexosyl ceramides (20 hexosyl groups)	Hex20Cer
		Hexosyl ceramides (3 hexosyl groups)	Hex3Cer
		Hexosyl ceramides (4 hexosyl groups)	Hex4Cer
		Hexosyl ceramides (5 hexosyl groups)	Hex5Cer
		Hexosyl ceramides (6 hexosyl groups)	Hex6Cer
		Hexosyl ceramides (7 hexosyl groups)	Hex7Cer
		Hexosyl ceramides (8 hexosyl groups)	Hex8Cer
		Hexosyl ceramides (9 hexosyl groups)	Hex9Cer
	Neutral glycosphingolipids	Hexosyl sphingoid bases	HexSPB
	Other Sphingolipids	Sulfoceramides	SCer
	Phosphosphingolipids	Ceramide phosphocholines (sphingomyelins)	SM
		Ceramide phosphoethanolamines	PE-Cer
		Ceramide phosphoinositols	M(IP)2C
		Ceramide phosphoinositols	MIPC
		Ceramide phosphoinositols	PI-Cer
	Sphingoid bases		SPB
		Lysosphingomyelins and lysoglycosphingolipids	LSM
		Sphingoid base-1 phosphates	SPBP
Sterol Lipids	Sterols		ST
		Steryl esters	CE

Table 1. Lipid classifications and abbreviations used in study. The classification and shorthand notation of lipids followed the guidance of LipidMaps (https://www.lipidmaps.org/shorthand_nomenclature), MSDial (http://prime.psc.riken.jp/compms/msdial/lipidnomenclature.html), and Liebisch et al. J. Lipid

Res. 2020, 61, 1–17 (DOI: https://doi.org/10.1194/jlr.S120001025) with the exception of lysophosphatidylserine. Since in the manuscript text LPS to refers to lipopolysaccharide, in-text reference to lysophosphatidylserine is abbreviated Lyso-PS. Please note text within figure 4 showcasing BioPAN results does utilize LPS to denote lysophosphatidylserines.

Glycerophospholipids		
Activated Reactions	**Z-score**	**Predicted Genes**
LPC→LPA	3.055	ENPP2
PS→LPS	1.804	PLA2G2E, PLA2G2A, PLA2G2F
O-LPE→O-LPA	1.796	PLD2
Suppressed Reactions	Z-score	Predicted genes
PC→LPC	2.636	PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
LPE→PE→PS	1.884	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
LPA→PA→PS	1.73	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5, CDS1, PTDSS1
Glycerolipids		
Activated Reactions	**Z-score**	**Predicted genes**
MG→DG→TG	3.857	MGAT, DGAT2
DG→TG	2.247	DGAT2
Suppressed Reactions	Z-score	Predicted genes
DG→MG	2.086	PNPLA2, PNPLA3
Fatty Acids		
Activated Reactions	**Z-score**	**Predicted genes**
FA(16:1) →FA(18:1)	1.782	ELOVL5, ELOVL6
Supressed Reactions	**Z-score**	**Predicted genes**
FA(18:0) →FA(18:1) →FA(18:2) →FA(20:2)	2.591	SCD1, FADS2, ELOVL5
FA(18:0) →FA(18:1) →FA(20:1) →FA(22:1) →FA(24:1)	2.074	SCD1, ELOVL3, ELOVL3, ELOVL3
FA(18:1) →FA(18:2) →FA(20:2)	1.933	FADS2, ELOVL5

Table 2. BioPAN analysis revealed activated and suppressed reactions in LPS treated microglia at the lipid class level. Analysis was conducted by lipid categories including glycerophospholipids, glycerolipids and fatty acids.

Supplemental Material: Lipidomic signatures in microglial extracellular vesicles during acute inflammation: a gateway to neurological biomarkers

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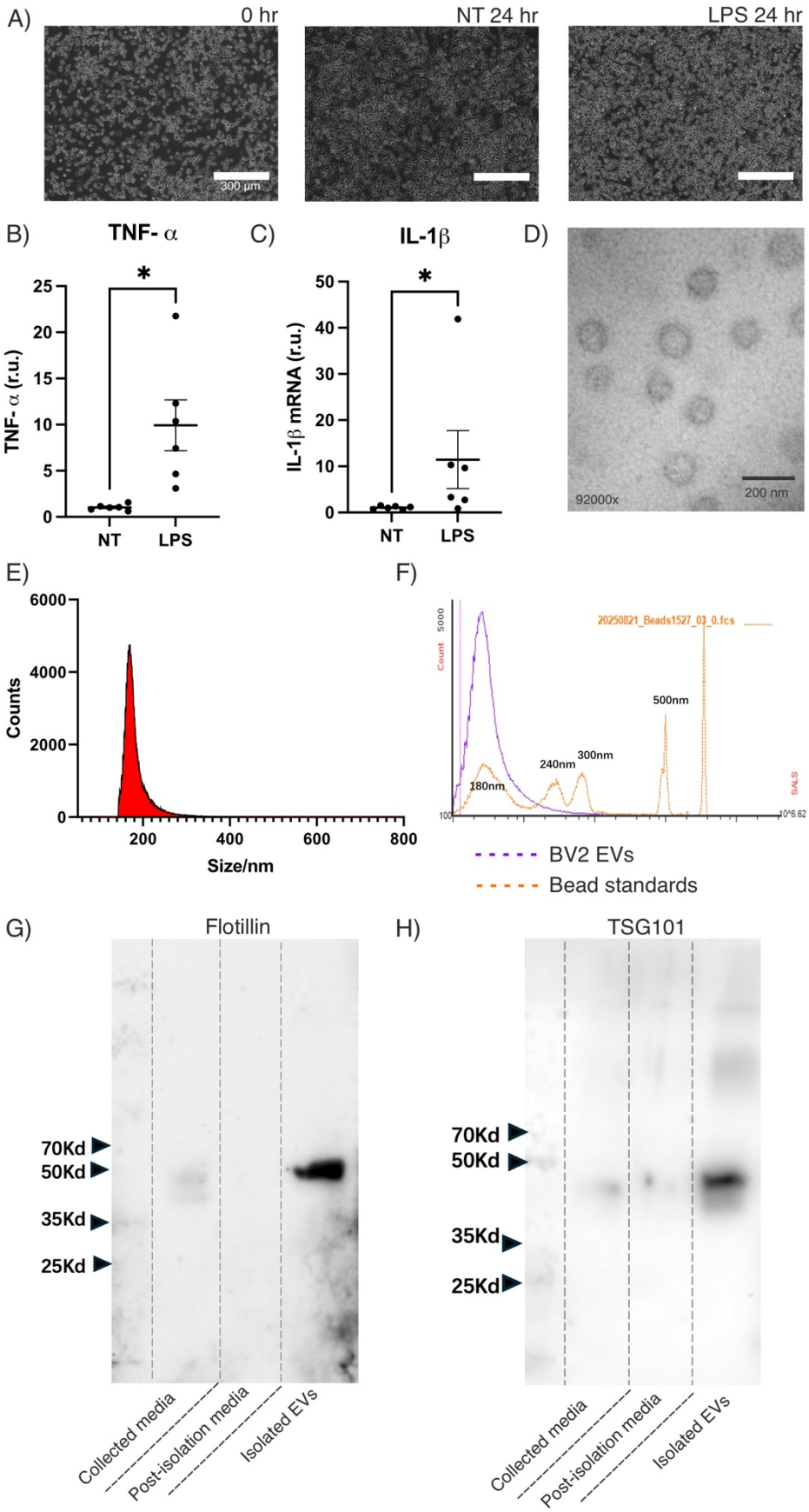
A)
0 hr
NT 24 hr
LPS 24 hr
300 µm
B)
TNF- α
TNF- α (r.u.)
NT
LPS
C)
IL-1β
IL-1β mRNA (r.u.)
NT
LPS
D)
92000x
200 nm
E)
Counts
Size/nm
F)
20250821_Beads1527_03_0.fcs
500nm
300nm
240nm
180nm
BV2 EVs
Bead standards
G)
Flotillin
70Kd
50Kd
35Kd
25Kd
Collected media
Post-isolation media
Isolated EVs
H)
TSG101
70Kd
50Kd
35Kd
25Kd
Collected media
Post-isolation media
Isolated EVs

Supplemental Figure 1. Cell and EV characterization. A) Microscope images of BV2 microglia pretreatment (0 hr), and after 24 hours of either control treatment with just media (NT) or 500 ng/ml LPS. B) Upregulation of TNF-α ($p = 0.0090$, $n = 6$) and, C) IL-1β ($p = 0.0260$, $n = 6$) in LPS treated cells after 24 hours with this protocol. D) Electron microscopy 92000x image of BV2 EVs isolated using this protocol. E) Nanoflow cytometry showing the average size of isolated BV2 EVs is 179.8 +/- 19.6 nm. F) Nanoflow cytometry showing the average size of isolated BV2 EVs relative to bead standards of known size. G) Western blot showing an upregulation of flotillin in isolated BV-2 EVs relative to the initial filtered media and the media post isolation. All samples loaded with the same protein content. H) Western blot showing an upregulation of TSG101 in isolated BV-2 EVs relative to the initial filtered media and the media post isolation.

Note: all Z scores shown as absolute values reflecting either activated or suppressed pathways comparing LPS vs NT.

Glycerophospholipids **Lipid species active reaction** **(LPS vs NT)**		
Activated Reactions	**Z-score**	**Predicted genes**
LPS(19:0)->PS(37:1)	4.486	MBOAT1, LPCAT3, LPCAT4
PS(35:1)->LPS(19:0)->PS(37:1)	4.462	PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4
LPG(18:1)->PG(38:6)->LPG(22:6)->PG(44:7)	4.055	LPGAT1, CRLS1, PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
LPE(24:1)->PE(56:5)	3.786	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPE(34:4)->PE(58:6)	3.751	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PG(38:6)->LPG(22:6)->PG(44:7)	3.556	PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
LPG(18:1)->PG(38:6)->LPG(22:6)->PG(39:7)	3.414	LPGAT1, CRLS1, PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
LPG(18:1)->PG(38:6)->LPG(22:6)->PG(38:7)	3.341	LPGAT1, CRLS1, PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
PC(32:0)->PA(32:0)	3.192	PLD1, PLD2
LPG(18:1)->PG(38:6)->LPG(22:6)->PG(40:8)	3.166	LPGAT1, CRLS1, PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
PC(44:4)->PA(44:4)	3.048	PLD1, PLD2
PE(34:0)->LPE(18:0)->PE(42:2)	3.031	PLA2G4C, MBOAT1, MBOAT2, LPCAT3, LPCAT4
PE(42:7)->LPE(22:5)	3.009	PLA2G4C
O-LPC(23:5)->O-PC(42:6)	3.004	LPCAT1
LPA(20:2)->PA(44:4)	2.97	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
O-LPC(31:3)->O-PC(46:3)	2.952	LPCAT1

PC(39:2)->PA(39:2)	2.814	PLD1, PLD2
PG(38:6)->LPG(22:6)->PG(39:7)	2.771	PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
PIP(66:2)->PI(66:2)	2.734	SYNJ1, SYNJ2, SACM1L, MTMR1, MTMR2, MTMR3, MTMR4, MTMR6, MTMR7, MTMR8, MTMR9, MTMR14, PTEN
PE(44:2)->PC(44:2)	2.706	PEMT
PE(42:5)->PC(42:5)	2.682	PEMT
PG(38:6)->LPG(22:6)->PG(38:7)	2.681	PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
LPA(26:0)->PA(48:1)->LPA(32:1)	2.68	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5, PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F
LPG(18:1)->PG(38:6)->LPG(22:6)->PG(40:7)	2.657	LPGAT1, CRLS1, PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
PE(40:6)->PC(40:6)	2.612	PEMT
LPG(18:1)->PG(38:6)->LPG(22:6)->PG(42:6)	2.57	LPGAT1, CRLS1, PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
LPI(18:0)->PI(33:1)	2.568	MBOAT7
PE(42:0)->PC(42:0)	2.54	PEMT
LPC(18:1)->LPA(18:1)	2.535	ENPP2
PE(34:0)->LPE(16:0)	2.532	PLA2G4C
LPC(16:0)->PC(36:0)	2.52	LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPA(17:0)->PA(32:0)	2.511	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
O-LPC(31:3)->O-PC(48:3)	2.495	LPCAT1
LPC(18:1)->PC(44:1)	2.489	LPCAT1, LPCAT2, LPCAT3, LPCAT4
PG(38:6)->LPG(22:6)->PG(40:8)	2.466	PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
LPC(20:1)->LPA(20:1)->PA(39:2)	2.443	ENPP2, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PS(36:2)->PE(36:2)->LPE(20:1)->PE(46:1)	2.442	PISD, PLA2G4C, MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPI(18:0)->PI(35:1)	2.416	MBOAT7
LPC(20:1)->PC(44:3)->PA(44:3)->LPA(24:3)->PA(48:4)	2.396	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLD1, PLD2, PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
LPC(20:1)->PC(46:1)->LPC(30:0)->PC(49:2)->LPC(33:2)	2.372	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PA(36:2)->PI(36:2)	2.368	CDS1, CDS2, CDIPT
LPG(22:6)->PG(44:7)	2.361	LPGAT1, CRLS1

LPA(19:5)->PA(39:6)	2.353	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PE(28:1)->PC(28:1)	2.307	PEMT
PS(38:0)->PE(38:0)	2.265	PISD
PC(37:1)->PS(37:1)	2.257	PTDSS1
LPC(20:1)->PC(40:6)	2.256	LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPG(18:1)->PG(42:2)	2.254	LPGAT1, CRLS1
LPC(20:1)->LPA(20:1)->PA(39:3)	2.248	ENPP2, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
LPE(16:1)->PE(34:3)	2.233	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPC(18:2)->LPA(18:2)	2.232	ENPP2
PE(42:7)->LPE(22:6)	2.231	PLA2G4C
LPA(20:2)->PA(46:2)	2.216	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PS(42:1)->PE(42:1)->PC(42:1)	2.208	PISD, PEMT
LPE(36:3)->PE(54:3)	2.205	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPA(26:0)->PA(42:0)	2.203	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PE(34:0)->LPE(18:0)->PE(38:5)	2.199	PLA2G4C, MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPG(18:1)->PG(42:3)	2.195	LPGAT1, CRLS1
LPE(36:3)->PE(56:7)	2.19	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPG(18:1)->PG(38:6)->LPG(22:6)->PG(42:9)	2.17	LPGAT1, CRLS1, PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
LPE(24:1)->PE(54:6)	2.156	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPE(18:0)->PE(42:2)	2.152	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPI(18:1)->PI(36:3)	2.14	MBOAT7
LPA(26:0)->PA(44:0)	2.139	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
LPG(18:1)->PG(38:2)	2.098	LPGAT1, CRLS1
LPE(12:0)->PE(36:2)->LPE(20:1)->PE(46:1)	2.089	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PLA2G4C, MBOAT1, MBOAT2, LPCAT3, LPCAT4
PA(35:1)->PI(35:1)	2.061	CDS1, CDS2, CDIPT
LPC(20:3)->LPA(20:3)	2.052	ENPP2
LPC(16:1)->PC(42:1)	2.028	LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPI(18:1)->PI(35:2)	1.98	MBOAT7
PE(38:4)->PC(38:4)	1.972	PEMT
LPC(15:1)->PC(33:3)	1.923	LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPC(16:0)->PC(42:0)	1.913	LPCAT1, LPCAT2, LPCAT3, LPCAT4
PA(35:0)->PG(35:0)	1.899	CDS1, CDS2, PTPMT1
PS(34:1)->PE(34:1)	1.888	PISD

PE(44:0)->PC(44:0)	1.887	PEMT
PS(40:2)->PE(40:2)	1.856	PISD
PG(38:6)->LPG(22:6)->PG(40:7)	1.843	PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
PE(42:3)->LPE(22:1)->PE(54:5)->LPE(38:5)	1.841	PLA2G4C, MBOAT1, MBOAT2, LPCAT3, LPCAT4, PLA2G4C
LPG(18:1)->PG(33:2)	1.838	LPGAT1, CRLS1
PS(35:1)->LPS(19:0)->PS(43:1)	1.824	PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4
LPC(16:0)->PC(33:0)	1.82	LPCAT1, LPCAT2, LPCAT3, LPCAT4
PG(54:4)->LPG(34:1)	1.804	PLA2G4D, PLA2G4F, CRLS1
LPE(34:5)->PE(56:6)	1.786	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PC(30:0)->PA(30:0)->PG(30:0)	1.771	PLD1, PLD2, CDS1, CDS2, PTPMT1
LPC(22:2)->LPA(22:2)->PA(42:5)	1.759	ENPP2, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PE(36:0)->PC(36:0)	1.75	PEMT
PA(35:2)->PI(35:2)	1.746	CDS1, CDS2, CDIPT
LPE(36:3)->PE(56:8)	1.745	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PS(38:2)->LPS(22:1)	1.744	PLA2G2E, PLA2G2A, PLA2G2F
PG(38:6)->LPG(22:6)->PG(42:6)	1.737	PLA2G4D, PLA2G4F, CRLS1, LPGAT1, CRLS1
PA(28:0)->PG(28:0)	1.729	CDS1, CDS2, PTPMT1
PA(44:3)->LPA(24:3)	1.714	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F
LPA(17:0)->PA(41:1)	1.705	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PA(36:1)->PI(36:1)	1.675	CDS1, CDS2, CDIPT
PE(38:1)->PC(38:1)	1.664	PEMT
LPC(32:1)->LPA(32:1)	1.655	ENPP2
LPG(18:1)->PG(38:5)	1.646	LPGAT1, CRLS1
Suppressed Reactions	**Z-score**	**Predicted genes**
PI(66:2)->PIP(66:2)	3.834	PI4KA, PI4K2A, PI4K2B, PIP5K1A, PIP5K1B, SACM1L
PE(36:3)->PC(36:3)	3.54	PEMT
LPG(16:0)->PG(40:1)	3.435	LPGAT1, CRLS1
LPA(26:6)->PA(45:7)	3.151	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
O-PC(48:4)->O-LPC(32:4)->O-PC(52:9)	3.106	PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1
LPE(20:4)->PE(44:6)->PC(44:6)	3.054	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PEMT

LPE(22:5)->PE(42:7)	3	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PC(40:0)->PA(40:0)	2.984	PLD1, PLD2
PC(42:5)->LPC(22:5)	2.85	PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PA(39:6)->LPA(19:5)->PA(45:5)	2.758	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PA(48:4)->LPA(32:3)	2.666	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F
LPE(20:1)->PE(40:6)->PS(40:6)	2.662	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
LPI(17:4)->PI(39:5)	2.652	MBOAT7
LPC(18:0)->PC(42:2)->LPC(20:1)	2.632	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PE(42:2)->PC(42:2)->LPC(20:1)	2.579	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
LPE(16:0)->PE(34:2)->PC(34:2)	2.576	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PEMT
PE(34:3)->PC(34:3)	2.521	PEMT
O-LPC(18:0)->O-PC(42:1)->O-LPC(24:0)	2.519	LPCAT1, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
LPC(18:0)->PC(42:2)->LPC(22:2)	2.481	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PE(42:2)->PC(42:2)->LPC(22:2)	2.427	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
LPE(20:1)->PE(44:3)	2.423	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PE(46:1)->PC(46:1)->LPC(28:1)	2.401	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PE(28:0)->PC(28:0)->PA(28:0)	2.354	PEMT, PLD1, PLD2
LPE(20:3)->PE(40:7)	2.324	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PE(36:2)->PC(36:2)->PS(36:2)	2.321	PEMT, PTDSS1
LPC(18:0)->PC(42:2)->LPC(22:1)->PC(46:2)	2.268	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1, LPCAT2, LPCAT3, LPCAT4
PA(39:6)->LPA(19:5)->PA(43:6)->PS(43:6)	2.262	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5,

		CDS1, PTDSS1
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(40:2)	2.256	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4
LPC(18:0)->PC(42:2)->LPC(26:2)	2.244	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
LPC(20:0)->PC(40:4)->PS(40:4)	2.23	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PTDSS1
PE(42:2)->PC(42:2)->LPC(22:1)->PC(46:2)	2.225	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPA(26:6)->PA(45:8)	2.223	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PC(49:2)->LPC(31:0)	2.22	PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PE(36:2)->PC(36:2)->PA(36:2)->PS(36:2)	2.216	PEMT, PLD1, PLD2, CDS1, PTDSS1
PE(36:2)->PC(36:2)->PA(36:2)->PG(36:2)	2.208	PEMT, PLD1, PLD2, CDS1, CDS2, PTPMT1
PA(42:0)->LPA(26:0)	2.203	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F
PE(42:2)->PC(42:2)->LPC(26:2)	2.191	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PC(50:2)->LPC(32:1)	2.188	PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
LPC(18:0)->PC(42:2)->LPC(26:1)	2.177	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PA(39:6)->LPA(19:5)->PA(41:6)->PS(41:6)	2.172	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5, CDS1, PTDSS1
LPE(16:0)->PE(42:0)	2.132	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PE(42:2)->PC(42:2)->LPC(26:1)	2.124	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PA(39:6)->LPA(19:5)->PA(43:7)	2.088	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F, AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PC(49:3)->LPC(31:3)	2.08	PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(38:1)	2.053	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4

LPE(18:1)->PE(42:3)->LPE(24:1)	2.044	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PLA2G4C
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(35:2)->PE(35:2)->PC(35:2)->PA(35:2)	2.041	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4, PISD, PEMT, PLD1, PLD2
PC(34:1)->PS(34:1)	2.036	PTDSS1
LPE(20:3)->PE(44:5)	2.035	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPA(20:2)->PA(40:7)	2.032	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(38:4)->PE(38:4)	1.986	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4, PISD
LPE(16:0)->PE(35:2)->PC(35:2)->PA(35:2)	1.977	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PEMT, PLD1, PLD2
LPA(24:3)->PA(43:5)	1.96	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
O-LPC(20:0)->O-PC(40:3)	1.936	LPCAT1
LPE(17:0)->PE(37:2)->PS(37:2)	1.935	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
PA(32:0)->PS(32:0)	1.93	CDS1, PTDSS1
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(36:1)	1.927	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4
LPE(16:0)->PE(40:1)->PS(40:1)	1.918	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(36:2)	1.917	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4
LPE(16:0)->PE(38:1)->PS(38:1)	1.916	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
PC(48:0)->PA(48:0)	1.913	PLD1, PLD2
LPE(16:0)->PE(40:2)->PS(40:2)	1.91	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
LPE(16:0)->PE(35:2)->PS(35:2)	1.89	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
LPE(32:1)->PE(52:3)	1.89	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PC(44:0)->PA(44:0)->PI(44:0)	1.886	PLD1, PLD2, CDS1, CDS2, CDIPT
LPI(12:3)->PI(36:5)	1.886	MBOAT7
PC(26:0)->PA(26:0)	1.881	PLD1, PLD2
LPE(16:0)->PE(35:1)->PS(35:1)	1.878	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(35:1)->PE(35:1)	1.877	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4, PISD
LPG(16:0)->PG(36:4)	1.873	LPGAT1, CRLS1
O-LPC(20:0)->O-PC(40:5)	1.871	LPCAT1
LPE(18:2)->PE(44:2)	1.86	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PE(34:2)->PC(34:2)	1.854	PEMT

O-LPC(15:1)->O-PC(39:3)	1.852	LPCAT1
PC(37:2)->PA(37:2)	1.849	PLD1, PLD2
PA(30:0)->PS(30:0)	1.847	CDS1, PTDSS1
LPE(16:0)->PE(36:4)->PC(36:4)	1.831	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PEMT
LPG(24:6)->PG(44:9)	1.818	LPGAT1, CRLS1
PA(32:0)->PG(32:0)	1.81	CDS1, CDS2, PTPMT1
LPE(16:0)->PE(34:0)	1.807	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPA(19:5)->PA(45:5)	1.803	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
O-LPC(32:4)->O-PC(52:9)	1.799	LPCAT1
PE(54:5)->LPE(38:5)->PE(58:9)	1.788	PLA2G4C, MBOAT1, MBOAT2, LPCAT3, LPCAT4
PE(46:1)->PC(46:1)->LPC(30:1)->LPA(30:1)	1.78	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, ENPP2
LPC(18:0)->PC(42:2)->LPC(18:1)->PC(42:3)	1.778	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPE(16:0)->PE(40:2)->PC(40:2)	1.776	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PEMT
LPE(16:0)->PE(36:5)	1.775	MBOAT1, MBOAT2, LPCAT3, LPCAT4
PC(40:0)->PS(40:0)->PE(40:0)	1.77	PTDSS1, PISD
PC(42:5)->LPC(20:4)	1.763	PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F
PA(42:4)->PG(42:4)	1.758	CDS1, CDS2, PTPMT1
PA(32:0)->PI(32:0)	1.754	CDS1, CDS2, CDIPT
LPA(17:0)->PA(37:2)	1.751	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
PC(36:1)->PS(36:1)	1.745	PTDSS1
LPE(18:1)->PE(42:3)->PC(42:3)	1.745	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PEMT
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(38:3)->PE(38:3)	1.744	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4, PISD
LPE(20:0)->PE(40:0)	1.741	MBOAT1, MBOAT2, LPCAT3, LPCAT4
LPC(26:0)->LPA(26:0)	1.74	ENPP2
O-LPC(18:1)->O-PC(42:3)	1.739	LPCAT1
PE(42:2)->PC(42:2)->LPC(18:1)->PC(42:3)	1.734	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPE(18:0)->PE(38:4)->PS(38:4)	1.724	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2

LPC(18:0)->PC(42:2)->LPC(22:1)->PC(42:6)	1.716	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1, LPCAT2, LPCAT3, LPCAT4
O-LPC(18:0)->O-PC(42:2)	1.714	LPCAT1
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(34:1)	1.71	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4
O-LPC(18:0)->O-PC(38:2)	1.702	LPCAT1
PA(52:4)->LPA(32:2)	1.701	PLA2G4A, PLA2G4D, PLA2G4E, PLA2G4F
LPE(16:1)->PE(38:2)->PS(38:2)->LPS(18:1)->PS(37:2)->PE(37:2)->PC(37:2)->PA(37:2)->PG(37:2)	1.701	MBOAT1, MBOAT2, LPCAT3, LPCAT4, PTDSS2, PLA2G2E, PLA2G2A, PLA2G2F, MBOAT1, LPCAT3, LPCAT4, PISD, PEMT, PLD1, PLD2, CDS1, CDS2, PTPMT1
PE(30:1)->PC(30:1)	1.698	PEMT
LPA(28:3)->PA(45:4)	1.694	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
LPC(17:0)->PC(37:1)	1.692	LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPA(24:3)->PA(43:4)	1.677	AGPAT1, AGPAT2, AGPAT3, AGPAT4, AGPAT5
O-LPC(18:0)->O-PC(37:1)	1.677	LPCAT1
PE(42:2)->PC(42:2)->LPC(22:1)->PC(42:6)	1.673	PEMT, PLA2G2E, PLA2G2A, PLA2G2D, PLA2G2F, PLA2G1B, PLA2G4A, PLA2G4B, PLA2G4C, PLA2G4D, PLA2G4E, PLA2G4F, LPCAT1, LPCAT2, LPCAT3, LPCAT4
LPS(22:1)->PS(42:1)	1.664	MBOAT1, LPCAT3, LPCAT4
LPC(20:0)->PC(40:5)->PS(40:5)->PE(40:5)	1.653	LPCAT1, LPCAT2, LPCAT3, LPCAT4, PTDSS1, PISD
O-LPC(18:0)->O-PC(38:3)	1.653	LPCAT1
LPG(16:0)->PG(36:2)	1.645	LPGAT1, CRLS1

Supplemental Table 1. BioPAN analysis of Glycerophospholipids. BioPAN analysis revealed activated and suppressed reactions in LPS treated microglia at the lipid species level.

Glycerolipids		
Activated Reactions	**Z-score**	**Predicted genes**
DG(54:9)->TG(86:13)	4.537	DGAT2
TG(46:0)->DG(28:0)->TG(48:1)	3.763	PNPLA4, PNPLA5, DGAT2
DG(28:0)->TG(48:1)	3.677	DGAT2
TG(82:5)->DG(58:4)	3.59	PNPLA4, PNPLA5

MG(14:0)->DG(30:0)->TG(54:2)	3.582	MGAT, DGAT2
MG(16:0)->DG(40:1)	3.355	MGAT
MG(14:0)->DG(32:0)	3.311	MGAT
DG(51:3)->TG(75:5)->DG(55:4)	3.214	DGAT2, PNPLA4, PNPLA5
MG(14:0)->DG(30:0)->TG(50:3)	3.207	MGAT, DGAT2
MG(16:0)->DG(36:0)	3.132	MGAT
MG(14:0)->DG(34:4)	3.124	MGAT
TG(77:6)->DG(57:6)	3.051	PNPLA4, PNPLA5
MG(18:1)->DG(38:3)	3.043	MGAT
MG(22:1)->DG(42:4)	3.025	MGAT
MG(34:2)->DG(58:4)	2.965	MGAT
DG(50:0)->MG(34:0)	2.956	PNPLA2, PNPLA3
DG(34:0)->TG(49:0)	2.925	DGAT2
MG(14:0)->DG(40:0)	2.903	MGAT
DG(37:1)->TG(57:1)	2.9	DGAT2
DG(34:3)->TG(56:4)	2.88	DGAT2
MG(22:1)->DG(46:3)	2.868	MGAT
DG(51:3)->TG(75:5)->DG(57:5)	2.844	DGAT2, PNPLA4, PNPLA5
MG(32:1)->DG(58:1)	2.826	MGAT
MG(14:0)->DG(30:0)->TG(49:1)->DG(33:1)->TG(57:2)	2.805	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
DG(52:1)->TG(76:2)	2.791	DGAT2
MG(21:1)->DG(45:3)	2.776	MGAT
MG(22:1)->DG(46:2)	2.776	MGAT
TG(48:4)->DG(28:1)	2.764	PNPLA4, PNPLA5
MG(14:0)->DG(30:0)->TG(49:1)->DG(33:1)->TG(51:1)	2.711	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
DG(51:3)->TG(75:5)->DG(55:5)	2.71	DGAT2, PNPLA4, PNPLA5
MG(14:0)->DG(30:0)->TG(50:2)->DG(34:2)->TG(60:2)	2.71	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
MG(14:0)->DG(30:0)->TG(50:2)->DG(34:2)->TG(56:3)->DG(36:0)	2.701	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2, PNPLA4, PNPLA5
MG(14:0)->DG(30:0)->TG(50:2)->DG(26:1)->TG(56:6)	2.698	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
MG(14:0)->DG(30:0)->TG(49:2)	2.673	MGAT, DGAT2
MG(14:0)->DG(30:0)->TG(54:1)	2.652	MGAT, DGAT2
MG(14:0)->DG(30:0)->TG(49:1)->DG(33:1)-	2.627	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2

>TG(59:1)		
MG(22:1)->DG(42:6)->TG(62:11)	2.623	MGAT, DGAT2
MG(25:2)->DG(57:6)	2.58	MGAT
MG(14:0)->DG(30:0)->TG(50:2)->DG(32:1)->TG(58:1)	2.574	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
MG(22:1)->DG(54:5)	2.538	MGAT
DG(51:3)->TG(75:5)->DG(59:5)	2.526	DGAT2, PNPLA4, PNPLA5
MG(30:0)->DG(50:4)	2.521	MGAT
DG(51:3)->TG(75:5)->DG(51:4)	2.507	DGAT2, PNPLA4, PNPLA5
MG(22:1)->DG(48:1)	2.504	MGAT
MG(14:0)->DG(32:2)	2.5	MGAT
MG(14:0)->DG(30:0)->TG(50:2)->DG(34:1)->TG(56:2)	2.469	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
DG(26:1)->TG(56:6)	2.446	DGAT2
MG(14:0)->DG(30:0)->TG(50:2)->DG(34:1)->TG(58:2)	2.445	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
MG(31:0)->DG(51:4)	2.442	MGAT
MG(16:0)->DG(35:1)	2.399	MGAT
TG(82:5)->DG(60:4)	2.397	PNPLA4, PNPLA5
MG(18:1)->DG(50:5)	2.382	MGAT
TG(75:5)->DG(57:4)	2.375	PNPLA4, PNPLA5
DG(37:1)->TG(59:2)	2.356	DGAT2
MG(16:0)->DG(33:0)	2.352	MGAT
MG(32:0)->DG(52:4)	2.339	MGAT
TG(75:5)->DG(55:4)	2.334	PNPLA4, PNPLA5
MG(16:0)->DG(36:3)	2.302	MGAT
MG(20:1)->DG(40:5)	2.292	MGAT
MG(14:0)->DG(30:0)->TG(49:1)->DG(33:1)->TG(53:3)	2.284	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
MG(30:6)->DG(62:10)	2.275	MGAT
TG(77:6)->DG(59:6)	2.264	PNPLA4, PNPLA5
MG(14:0)->DG(30:0)->TG(50:2)->DG(32:1)->TG(52:6)	2.264	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
MG(18:1)->DG(38:5)->TG(58:8)	2.262	MGAT, DGAT2
DG(51:3)->TG(75:5)->DG(53:4)	2.239	DGAT2, PNPLA4, PNPLA5
MG(16:1)->DG(42:1)	2.227	MGAT
MG(34:2)->DG(60:2)	2.211	MGAT

MG(20:1)->DG(40:6)	2.206	MGAT
MG(21:1)->DG(45:2)	2.201	MGAT
DG(30:0)->TG(49:1)	2.199	DGAT2
MG(16:0)->DG(36:4)->TG(56:7)->DG(38:5)->TG(58:8)	2.177	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
DG(30:0)->TG(50:2)	2.168	DGAT2
MG(21:1)->DG(53:5)	2.166	MGAT
MG(16:0)->DG(36:2)	2.16	MGAT
MG(24:2)->DG(56:6)	2.137	MGAT
MG(31:1)->DG(64:7)	2.134	MGAT
MG(14:0)->DG(44:5)	2.132	MGAT
MG(14:0)->DG(36:1)	2.107	MGAT
MG(14:0)->DG(34:2)	2.103	MGAT
MG(14:0)->DG(30:0)->TG(49:1)->DG(33:1)->TG(52:3)	2.099	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2
DG(30:0)->TG(54:2)	2.08	DGAT2
MG(16:0)->DG(35:2)	2.064	MGAT
TG(72:2)->DG(56:1)	2.062	PNPLA4, PNPLA5
MG(14:0)->DG(30:0)->TG(50:2)->DG(32:2)	2.06	MGAT, DGAT2, PNPLA4, PNPLA5
DG(33:1)->TG(57:2)	2.057	DGAT2
DG(24:0)->TG(42:0)	2.057	DGAT2
DG(32:1)->TG(58:1)	2.053	DGAT2
MG(16:0)->DG(36:4)->TG(56:7)->DG(36:3)	2.031	MGAT, DGAT2, PNPLA4, PNPLA5
MG(16:0)->DG(36:4)->TG(56:7)->DG(40:7)	2.021	MGAT, DGAT2, PNPLA4, PNPLA5
DG(34:1)->TG(56:2)	2.016	DGAT2
DG(24:0)->TG(44:2)	1.995	DGAT2
MG(16:0)->DG(40:2)->TG(62:3)->DG(46:3)	1.981	MGAT, DGAT2, PNPLA4, PNPLA5
MG(32:1)->DG(62:6)	1.979	MGAT
TG(77:6)->DG(53:5)	1.972	PNPLA4, PNPLA5
DG(34:1)->TG(58:2)	1.967	DGAT2
MG(18:1)->DG(44:1)	1.953	MGAT
MG(20:1)->DG(52:5)	1.952	MGAT
MG(31:1)->DG(47:2)	1.939	MGAT
MG(21:1)->DG(54:7)	1.934	MGAT
MG(14:0)->DG(30:0)->TG(50:2)->DG(34:2)->TG(54:3)	1.923	MGAT, DGAT2, PNPLA4, PNPLA5, DGAT2

DG(47:1)->TG(79:5)	1.908	DGAT2
DG(34:3)->TG(52:5)	1.904	DGAT2
TG(65:6)->DG(45:3)	1.87	PNPLA4, PNPLA5
DG(33:1)->TG(51:1)	1.868	DGAT2
MG(16:0)->DG(36:4)->TG(56:7)->DG(40:6)	1.861	MGAT, DGAT2, PNPLA4, PNPLA5
MG(20:4)->DG(40:7)->TG(60:11)->DG(42:9)	1.86	MGAT, DGAT2, PNPLA4, PNPLA5
MG(34:3)->DG(58:5)	1.848	MGAT
DG(32:7)->TG(47:8)	1.83	DGAT2
MG(20:1)->DG(40:4)	1.827	MGAT
DG(32:7)->TG(58:7)	1.818	DGAT2
TG(75:5)->DG(57:5)	1.811	PNPLA4, PNPLA5
MG(16:0)->DG(36:4)->TG(56:7)->DG(38:6)	1.81	MGAT, DGAT2, PNPLA4, PNPLA5
MG(18:1)->DG(38:4)	1.796	MGAT
DG(24:0)->TG(42:1)	1.791	DGAT2
MG(14:0)->DG(33:1)->TG(53:1)	1.764	MGAT, DGAT2
TG(74:1)->DG(58:1)	1.751	PNPLA4, PNPLA5
TG(46:0)->DG(26:0)->TG(45:2)	1.739	PNPLA4, PNPLA5, DGAT2
DG(36:4)->TG(56:7)	1.713	DGAT2
MG(14:0)->DG(30:0)->TG(49:1)->DG(33:0)	1.708	MGAT, DGAT2, PNPLA4, PNPLA5
DG(33:1)->TG(59:1)	1.7	DGAT2
DG(51:3)->TG(75:5)->DG(57:4)->TG(90:10)	1.68	DGAT2, PNPLA4, PNPLA5, DGAT2
MG(18:1)->DG(37:2)	1.674	MGAT
DG(24:0)->TG(40:0)	1.663	DGAT2
MG(14:0)->DG(34:1)	1.662	MGAT
MG(20:1)->DG(46:1)	1.661	MGAT
TG(64:3)->DG(48:2)	1.658	PNPLA4, PNPLA5
MG(14:0)->DG(30:1)->TG(56:1)	1.658	MGAT, DGAT2
MG(14:0)->DG(30:1)->TG(60:6)	1.646	MGAT, DGAT2
Suppressed Reactions	**Z-score**	**Predicted genes**
DG(30:0)->TG(47:0)	3.288	DGAT2
TG(62:2)->DG(46:2)	3.119	PNPLA4, PNPLA5
TG(58:1)->DG(42:1)	3.061	PNPLA4, PNPLA5
TG(56:7)->DG(36:4)->MG(20:4)->DG(35:4)	3.024	PNPLA4, PNPLA5, PNPLA2, PNPLA3, MGAT
TG(79:5)->DG(59:2)	2.929	PNPLA4, PNPLA5

TG(56:7)->DG(36:2)	2.858	PNPLA4, PNPLA5
DG(54:5)->TG(87:11)	2.723	DGAT2
TG(72:2)->DG(56:2)	2.597	PNPLA4, PNPLA5
TG(58:1)->DG(40:0)	2.582	PNPLA4, PNPLA5
MG(34:0)->DG(54:0)	2.577	MGAT
DG(28:0)->TG(48:0)	2.451	DGAT2
DG(40:2)->MG(22:1)	2.437	PNPLA2, PNPLA3
DG(54:2)->MG(34:1)->DG(58:3)	2.436	PNPLA2, PNPLA3, MGAT
TG(54:4)->DG(34:3)	2.431	PNPLA4, PNPLA5
TG(56:7)->DG(38:6)	2.404	PNPLA4, PNPLA5
TG(56:7)->DG(36:4)->MG(20:4)->DG(42:5)	2.375	PNPLA4, PNPLA5, PNPLA2, PNPLA3, MGAT
DG(34:4)->TG(49:5)	2.372	DGAT2
MG(30:0)->DG(52:1)->TG(78:1)	2.354	MGAT, DGAT2
TG(56:7)->DG(40:6)	2.315	PNPLA4, PNPLA5
DG(54:7)->MG(30:6)	2.286	PNPLA2, PNPLA3
DG(36:4)->MG(20:4)->DG(35:4)	2.276	PNPLA2, PNPLA3, MGAT
TG(86:13)->DG(66:8)	2.273	PNPLA4, PNPLA5
TG(60:1)->DG(44:1)	2.263	PNPLA4, PNPLA5
DG(34:2)->MG(16:1)->DG(35:3)	2.258	PNPLA2, PNPLA3, MGAT
TG(58:5)->DG(42:4)	2.25	PNPLA4, PNPLA5
TG(50:2)->DG(34:1)	2.232	PNPLA4, PNPLA5
TG(56:7)->DG(38:5)	2.211	PNPLA4, PNPLA5
TG(50:2)->DG(26:1)	2.205	PNPLA4, PNPLA5
MG(32:0)->DG(56:2)	2.202	MGAT
DG(34:2)->MG(16:0)	2.137	PNPLA2, PNPLA3
TG(53:3)->DG(37:2)	2.125	PNPLA4, PNPLA5
TG(58:7)->DG(42:6)	2.124	PNPLA4, PNPLA5
TG(60:2)->DG(44:2)	2.108	PNPLA4, PNPLA5
TG(58:5)->DG(42:5)	2.107	PNPLA4, PNPLA5
TG(54:4)->DG(34:0)	2.062	PNPLA4, PNPLA5
TG(50:2)->DG(32:1)	2.06	PNPLA4, PNPLA5
TG(53:3)->DG(33:3)	2.03	PNPLA4, PNPLA5
TG(56:7)->DG(36:3)	2.022	PNPLA4, PNPLA5
TG(57:2)->DG(41:2)->MG(25:2)->DG(47:3)	2.014	PNPLA4, PNPLA5, PNPLA2, PNPLA3, MGAT
DG(51:1)->MG(33:0)	2.006	PNPLA2, PNPLA3

TG(58:5)->DG(40:5)	1.999	PNPLA4, PNPLA5
TG(76:2)->DG(58:2)	1.997	PNPLA4, PNPLA5
TG(72:2)->DG(52:1)->TG(78:1)	1.975	PNPLA4, PNPLA5, DGAT2
TG(57:1)->DG(41:1)	1.965	PNPLA4, PNPLA5
TG(50:2)->DG(32:0)	1.964	PNPLA4, PNPLA5
DG(30:0)->TG(50:5)	1.939	DGAT2
TG(76:2)->DG(60:2)	1.912	PNPLA4, PNPLA5
TG(60:3)->DG(44:3)	1.894	PNPLA4, PNPLA5
TG(49:1)->DG(33:0)->TG(53:0)	1.889	PNPLA4, PNPLA5, DGAT2
TG(58:3)->DG(42:3)	1.886	PNPLA4, PNPLA5
DG(28:0)->TG(48:4)->DG(30:2)	1.872	DGAT2, PNPLA4, PNPLA5
DG(30:0)->MG(14:0)	1.869	PNPLA2, PNPLA3
DG(56:5)->TG(82:5)	1.865	DGAT2
DG(28:0)->TG(48:5)	1.834	DGAT2
DG(34:2)->MG(18:1)->DG(38:6)	1.833	PNPLA2, PNPLA3, MGAT
DG(34:2)->MG(18:1)->DG(42:3)	1.829	PNPLA2, PNPLA3, MGAT
TG(58:7)->DG(42:7)	1.805	PNPLA4, PNPLA5
TG(62:2)->DG(46:1)	1.803	PNPLA4, PNPLA5
MG(30:0)->DG(50:0)	1.79	MGAT
TG(58:3)->DG(42:2)	1.764	PNPLA4, PNPLA5
TG(58:5)->DG(40:4)	1.742	PNPLA4, PNPLA5
DG(48:1)->MG(32:1)	1.698	PNPLA2, PNPLA3
TG(56:7)->DG(40:7)->TG(60:11)	1.686	PNPLA4, PNPLA5, DGAT2
DG(57:4)->TG(90:10)	1.676	DGAT2
TG(40:1)->DG(24:0)	1.664	PNPLA4, PNPLA5

Supplemental Table 2. BioPAN analysis of Glycerolipids. BioPAN analysis revealed activated and suppressed reactions in LPS treated microglia at the lipid species level.

Lipid	FC	log2(FC)	raw.pval	-log10(p)
TG 48:1	24.44	4.6111	5.0792E-11	10.294
HexCer 45:1;O4	0.10565	-3.2426	3.5647E-08	7.448

TG O-8:0_8:0_18:2	2.3378	1.2251	4.8452E-08	7.3147
TG 12:0_12:2_22:7	6.524	2.7058	2.7466E-07	6.5612
Cer 40:1;O6	0.36671	-1.4473	2.9644E-07	6.5281
TG 75:0;O3	3.0904	1.6278	1.1756E-06	5.9297
HexCer 42:6;O4	2.8107	1.4909	1.3581E-06	5.8671
DG dO-36:0	2.4332	1.2828	2.3996E-06	5.6199
PE 44:1;O	0.57925	-0.78773	5.3329E-06	5.273
PE 44:0	0.64975	-0.62205	5.4784E-06	5.2613
HexCer 43:6;O2	0.49126	-1.0254	7.0532E-06	5.1516
DG O-14:1_18:0	2.2107	1.1445	1.1919E-05	4.9238
PG 20:4;O	2.5054	1.325	1.3005E-05	4.8859
Cer 41:4;O	2.452	1.294	1.3731E-05	4.8623
PS 37:1	6.2131	2.6353	1.4932E-05	4.8259
HexCer 48:1;O4	1.6961	0.76222	2.4994E-05	4.6022
DG O-16:0_18:1	2.7279	1.4478	2.7349E-05	4.5631
PI 66:2	2.9553	1.5633	2.7409E-05	4.5621
PE 56:5	4.9699	2.3132	2.954E-05	4.5296
PC 68:0	5.8519	2.5489	3.3357E-05	4.4768
Hex2Cer 31:4;O2	0.38046	-1.3942	3.4156E-05	4.4665
DG 39:5;O	2.5092	1.3272	3.4747E-05	4.4591
DG 36:0;O2	0.42861	-1.2223	3.5841E-05	4.4456
Hex(4)-HexNAc-Fuc-Cer 42:1;O2	0.60302	-0.72972	3.8797E-05	4.4112
TG 59:1	3.8009	1.9263	3.9446E-05	4.404
TG 75:5	2.2566	1.1741	4.202E-05	4.3765
TG 12:0_14:0_18:0	4.1841	2.0649	4.3158E-05	4.3649
FOH 10:2	1.8766	0.90813	4.3717E-05	4.3593
DG O-43:3	2.8429	1.5074	4.3927E-05	4.3573
PC O-66:0	11.646	3.5418	4.7996E-05	4.3188
Cer 40:5;O3	3.1601	1.66	5.1987E-05	4.2841
PG 50:2;O	2.3218	1.2152	5.721E-05	4.2425
TG 58:1	5.3697	2.4248	6.1434E-05	4.2116
FA 20:0;O	0.43105	-1.2141	6.1679E-05	4.2099
DG 40:0	2.9331	1.5524	6.7574E-05	4.1702
PE O-42:3	0.56591	-0.82135	7.1172E-05	4.1477
Cer 17:0;3O/18:0;(2OH)	3.7721	1.9153	7.1313E-05	4.1468
DG 16:0_20:0	12.538	3.6483	7.169E-05	4.1445
DG 14:0_16:0	1.9517	0.96471	7.8941E-05	4.1027
PE 42:2;O	2.6774	1.4208	8.337E-05	4.079
CerP 52:2;O2	3.6339	1.8615	8.4292E-05	4.0742
DG O-37:3	2.4494	1.2924	8.4645E-05	4.0724

TG 71:0;O3	4.1193	2.0424	8.977E-05	4.0469
TG 51:3;O3	3.663	1.873	9.0679E-05	4.0425
TG 60:1	3.6463	1.8665	9.3235E-05	4.0304
Cer 38:0;O4	2.0219	1.0157	0.00010159	3.9932
PE-NMe2 24:0	2.3733	1.2469	0.00010326	3.986
PG O-44:3	5.0142	2.326	0.00010506	3.9786
LPG O-32:2	0.26962	-1.891	0.00010638	3.9732
Cer 18:0;O2/22:0;O	3.4279	1.7773	0.0001091	3.9622
ACer 71:3;O6	2.3275	1.2188	0.00011042	3.9569
LPA O-27:3	4.039	2.014	0.00011395	3.9433
TG 57:1	5.6202	2.4906	0.00011768	3.9293
PE 58:6	2.9701	1.5705	0.00012381	3.9072
PE 34:1	1.7379	0.79734	0.00012458	3.9046
PE 42:2	2.7406	1.4545	0.00012581	3.9003
MG 33:2;O	1.9488	0.96255	0.00014218	3.8471
DG O-36:3	3.8724	1.9532	0.00014308	3.8444
DG 34:4	2.5113	1.3284	0.0001449	3.8389
LPS 33:0;O	3.1519	1.6562	0.00014598	3.8357
SM 45:5;O2	2.3185	1.2132	0.0001477	3.8306
DG 37:0;O2	2.6932	1.4293	0.00016037	3.7949
DG 57:6	6.2151	2.6358	0.00016131	3.7923
DG 58:4	4.2292	2.0804	0.00016342	3.7867
LPA 26:0	0.3492	-1.5179	0.00017284	3.7623
LPE 22:1	2.5664	1.3597	0.00018766	3.7266
DG 33:0;O2	3.2662	1.7076	0.0001927	3.7151
FA 30:5	3.6134	1.8534	0.00019496	3.7101
TG 49:0	3.9026	1.9645	0.00019978	3.6994
TG 14:0_18:0_22:1	4.6642	2.2216	0.00020468	3.6889
PI 15:0_18:1	2.612	1.3852	0.0002075	3.683
Cer 18:0;3O/19:0;(2OH)	4.8763	2.2858	0.00021737	3.6628
DG 38:5;O	2.456	1.2963	0.0002527	3.5974
FAHFA 35:1;O	2.171	1.1184	0.00028671	3.5426
BMP 19:4;O	2.4485	1.2919	0.00029433	3.5312
DG O-40:0	2.2614	1.1772	0.00029815	3.5256
TG O-18:3_8:0_12:0	4.8821	2.2875	0.0003008	3.5217
LPE 22:5	2.5011	1.3226	0.00030543	3.5151
PC O-18:1_16:0	1.9902	0.99293	0.00031374	3.5034
PE O-18:1_21:2	0.53073	-0.91394	0.00031943	3.4956
PA 32:0	2.796	1.4833	0.00032021	3.4946
TG 55:1	3.7455	1.9051	0.00032152	3.4928
MG O-30:0;O	1.4282	0.51424	0.00033443	3.4757

TG 14:0_18:0_20:1	8.4639	3.0813	0.00036181	3.4415
PC 30:0;O	2.4117	1.2701	0.00036978	3.4321
TG 84:11;O3	2.7757	1.4728	0.0003842	3.4154
DG 15:0_18:0	3.0763	1.6212	0.00038501	3.4145
SHexCer 38:1;O2	0.49042	-1.0279	0.00038764	3.4116
HexCer 43:2;O4	0.3853	-1.3759	0.00040348	3.3942
Cer 41:5;O2	2.6021	1.3797	0.00042337	3.3733
PC 12:0_14:0	2.4645	1.3013	0.00045648	3.3406
DG 55:4	5.2186	2.3837	0.00045691	3.3402
TG 96:8;O	1.9808	0.98608	0.00046132	3.336
MG O-32:5	2.8368	1.5043	0.00046734	3.3304
TG O-14:0_18:0_18:1	2.6528	1.4075	0.00046751	3.3302
TG 60:5;O2	3.7282	1.8985	0.00046815	3.3296
Cer 51:1;O4	1.5153	0.5996	0.00049494	3.3054
SHexCer 38:1;O3	0.55207	-0.85709	0.00050182	3.2995
DG 26:1	0.48897	-1.0322	0.00053588	3.2709
PE-Cer 18:2;O2/21:1;O	0.45732	-1.1287	0.0005379	3.2693
PG 40:4	0.39207	-1.3508	0.00053879	3.2686
DG O-38:0	1.5726	0.65318	0.00054028	3.2674
MG 34:2;O	1.5809	0.66073	0.0005565	3.2545
CE 32:3;O	1.6657	0.73616	0.00056006	3.2518
PC 10:0_16:0	2.5244	1.336	0.00057135	3.2431
TG 99:5	5.1534	2.3655	0.0005742	3.2409
TG O-42:1	1.9678	0.97657	0.00057598	3.2396
DG 12:0_16:0	2.8001	1.4855	0.00058011	3.2365
DG 40:5;O	2.4834	1.3123	0.00059777	3.2235
TG 46:3	2.1411	1.0983	0.00059829	3.2231
Cer 50:2;O3	1.5418	0.62458	0.00061979	3.2078
HexCer 52:4;O3	3.9016	1.9641	0.00063844	3.1949
FA 19:0;O2	2.4467	1.2909	0.00065113	3.1863
PE O-40:3	0.51683	-0.95223	0.00066276	3.1786
NA 18:0;O	0.28148	-1.8289	0.00066432	3.1776
TG 16:1_18:1_18:1	5.725	2.5173	0.0006731	3.1719
MG O-32:0;O	3.7027	1.8886	0.00070429	3.1522
DG 53:3	3.6718	1.8765	0.0007052	3.1517
PC 16:0_20:0	2.1748	1.1209	0.00072584	3.1392
Cer 42:1;O3	0.59463	-0.74993	0.00075369	3.1228
PG 42:4	0.42937	-1.2197	0.00075502	3.122
TG 14:0_18:0_19:1	5.9296	2.5679	0.00077231	3.1122
PE 40:6	0.45276	-1.1432	0.00077799	3.109
LPE 20:4	2.5254	1.3365	0.00078491	3.1052

PA 26:0	0.27297	-1.8732	0.00079701	3.0985
PG 40:1	0.38506	-1.3768	0.00080319	3.0952
DG 41:3	0.41723	-1.2611	0.00080852	3.0923
MGDG 17:0_18:2	0.65489	-0.61067	0.00081995	3.0862
Cer 16:0;O2/18:0;O	2.8217	1.4965	0.00084176	3.0748
NAT 32:0;O	1.9214	0.94217	0.00085676	3.0671
DG 28:1	4.4854	2.1652	0.00087649	3.0573
HBMP 60:2; HBMP 20:0-22:1-18:1; [M+NH4]+	0.1451	-2.7849	0.00088191	3.0546
PIP3 37:6	0.61951	-0.69079	0.00089314	3.0491
HexCer 32:5;O5	0.565	-0.82368	0.00089682	3.0473
TG 79:0;O3	2.9578	1.5645	0.00091049	3.0407
DG O-35:3	2.3635	1.2409	0.00091579	3.0382
TG O-83:15	1.5208	0.6048	0.00092905	3.032
PI 31:4;O	0.53702	-0.89695	0.00093088	3.0311
HexCer 45:2;O5	0.68277	-0.55053	0.00094679	3.0237
PI O-67:3	2.6399	1.4005	0.00095413	3.0204
DG 40:7;O	2.0206	1.0148	0.00096607	3.015
HexCer 54:5;O3	2.6576	1.4101	0.0010078	2.9966
Cer 41:4;O2	1.879	0.90998	0.0010484	2.9795
DG 40:5	1.7495	0.80696	0.0010809	2.9662
TG 52:7;O2	0.31823	-1.6519	0.0011095	2.9549
LPS 18:1	0.59248	-0.75516	0.0011105	2.9545
DG 38:4	2.2454	1.167	0.0011236	2.9494
DG 38:6;O	2.57	1.3618	0.0011392	2.9434
PA 44:4	2.1907	1.1314	0.0011583	2.9362
SM 43:5;O2	1.6902	0.7572	0.0011865	2.9257
TG 12:2_12:2_22:6	2.2487	1.1691	0.0011909	2.9241
TG 16:0_18:1_18:1	3.9146	1.9689	0.001191	2.9241
PA O-54:2	2.1213	1.0849	0.0011959	2.9223
TG O-45:2	0.29715	-1.7507	0.0012006	2.9206
Hex2Cer 40:6;O2	0.62608	-0.67558	0.0012035	2.9196
TG 86:13	1.7398	0.79894	0.0012424	2.9057
TG 56:4	1.9454	0.96005	0.0012466	2.9043
PE 35:0	1.5428	0.62553	0.0012636	2.8984
TG O-75:0;O3	1.9889	0.99196	0.0012658	2.8976
PE-Cer 32:1;O;P	1.8273	0.8697	0.0012664	2.8974
Hex(5)-HexNAc(3)-Cer 34:1;O2	1.5086	0.59321	0.0012751	2.8945
TG 53:1	3.219	1.6866	0.001281	2.8924
DG 26:0	3.6757	1.878	0.0012822	2.892
PG O-39:0	1.6909	0.75779	0.0012871	2.8904

TG 97:6;O2	2.3191	1.2136	0.0012885	2.8899
DG dO-40:2	2.7801	1.4751	0.0012938	2.8881
DG 50:2	3.5189	1.8151	0.0013111	2.8824
TG 56:1	9.2115	3.2034	0.0013114	2.8823
HexCer 48:2;O4	1.6794	0.74796	0.001352	2.869
PG 58:4;O	0.26342	-1.9246	0.0013546	2.8682
TG 14:0_18:0_18:1	10.605	3.4067	0.0013747	2.8618
PC 36:0	2.1311	1.0916	0.0014019	2.8533
SM 44:4;O4	3.2513	1.701	0.0014107	2.8506
Cer 37:6;O2	2.814	1.4926	0.0014715	2.8323
DG 30:2	1.5694	0.65026	0.0015051	2.8224
MG 30:0	1.897	0.92372	0.0015882	2.7991
TG O-61:0;O3	0.4159	-1.2657	0.0015899	2.7986
TG 54:2	3.3383	1.7391	0.0015924	2.798
LPG O-32:0	0.24837	-2.0095	0.0016068	2.794
LPS 32:0;O	0.46045	-1.1189	0.0016187	2.7908
TG 96:18	2.4307	1.2813	0.0016197	2.7906
MG 34:0	3.0996	1.6321	0.0016436	2.7842
PI 64:1	2.416	1.2726	0.0016439	2.7841
HexCer 39:3;O3	2.1564	1.1086	0.0016473	2.7832
MG 32:0	1.6736	0.743	0.0016965	2.7705
HexCer 40:4;O4	2.2266	1.1548	0.001721	2.7642
HexCer 53:5;O6	0.29844	-1.7445	0.0017331	2.7612
TG 12:1_12:3_18:5	1.8711	0.90389	0.0017512	2.7567
PG 52:2;O	1.8945	0.92178	0.0018291	2.7378
DG 39:6;O	1.6647	0.73524	0.0018498	2.7329
HexCer 41:4;O2	2.0556	1.0396	0.0018601	2.7305
TG 98:9;O2	2.2982	1.2005	0.0019077	2.7195
PE 54:2;O	2.7264	1.447	0.0019429	2.7115
DG O-39:0	2.517	1.3317	0.0020039	2.6981
Cer 40:2;O3	2.1981	1.1363	0.0020063	2.6976
DG O-16:0_18:0	3.1244	1.6436	0.0020575	2.6867
LPA O-27:6	3.4164	1.7725	0.0020622	2.6857
HexCer 45:4;O4	0.51293	-0.96317	0.0021201	2.6736
DG 41:6;O	1.6464	0.7193	0.0021365	2.6703
LPC 20:1	0.4879	-1.0353	0.0021372	2.6702
DG 18:1_34:1	2.0067	1.0048	0.0021869	2.6602
PI O-53:3	2.1571	1.1091	0.0021894	2.6597
HBMP 16:1_18:0_18:0	2.3672	1.2432	0.002194	2.6588
Cer 40:6;O3	2.4487	1.292	0.0022269	2.6523
PE 38:5	1.6339	0.70835	0.0022437	2.649

PE O-42:4	0.53367	-0.90599	0.0022442	2.6489
HexCer 41:0;O5	2.1648	1.1142	0.002248	2.6482
TG 56:5	3.1908	1.6739	0.0022983	2.6386
PA 55:0	0.40788	-1.2938	0.0023127	2.6359
TG 98:18	1.8825	0.91266	0.0023204	2.6344
PE 30:1	0.49919	-1.0023	0.0023577	2.6275
PE 12:0_16:0	1.7571	0.8132	0.0023974	2.6203
AHexCer (O-17:3)18:1;2O/20:2;O	3.0137	1.5916	0.0024163	2.6168
TG 84:5;O3	0.25018	-1.999	0.0024732	2.6067
Cer 42:6;O3	1.7607	0.81614	0.002516	2.5993
TG 56:6	4.6844	2.2279	0.002555	2.5926
TG 83:0;O3	2.4007	1.2635	0.0025843	2.5877
DG O-43:4	1.4075	0.4931	0.002592	2.5864
LPC O-22:0	0.40252	-1.3129	0.0026062	2.584
Car 34:5;O	2.6332	1.3968	0.0026244	2.581
DG 16:0_32:2	2.6337	1.3971	0.0026452	2.5775
HexCer 38:0;O6	0.69575	-0.52335	0.0027062	2.5676
PC 30:1;O	1.6704	0.74016	0.0027372	2.5627
DG 60:5	2.5814	1.3682	0.0028175	2.5501
PA 45:7	0.34176	-1.5489	0.0028181	2.55
SL 10:0;O/14:1;O	2.8515	1.5117	0.0028549	2.5444
PI O-18:4_16:1	0.64051	-0.6427	0.0028556	2.5443
PA O-39:4	0.67827	-0.56007	0.0028897	2.5392
TG 82:4;O3	0.46063	-1.1183	0.0028905	2.539
DG 39:2	2.4668	1.3026	0.0029065	2.5366
DG 16:0_20:3	2.2107	1.1445	0.0029171	2.5351
TG 12:3_12:3_18:4	2.5079	1.3265	0.0029288	2.5333
DG 31:2	2.1723	1.1192	0.002932	2.5328
DG O-40:6	2.3082	1.2067	0.0029525	2.5298
Cer 39:6;O2	2.103	1.0724	0.0029572	2.5291
PE 56:5;O	2.4509	1.2933	0.0030023	2.5225
MG 21:1	0.56688	-0.81888	0.0030177	2.5203
HexCer 40:6;O4	2.2865	1.1931	0.0030407	2.517
FA 17:0	0.62559	-0.6767	0.0030411	2.517
PA O-45:1	0.63534	-0.6544	0.0030448	2.5164
CerP 54:6;O5	2.2575	1.1747	0.0031031	2.5082
DG 57:4	7.5881	2.9237	0.0031043	2.508
DG 35:1;O2	2.3517	1.2337	0.003137	2.5035
PC O-22:3_26:0	2.4199	1.2749	0.0031588	2.5005
Cer 49:1;O4	1.8335	0.87462	0.0031851	2.4969

SM 18:1;O2/26:2	0.50648	-0.98142	0.0031924	2.4959
HexCer 35:2;O2	1.4067	0.49228	0.0032402	2.4894
Cer 38:0;O6	1.5608	0.64229	0.0033067	2.4806
PI 14:0_18:2	0.48332	-1.0489	0.0033357	2.4768
DG 40:1	1.9556	0.96764	0.003379	2.4712
DG O-41:4	1.8458	0.88425	0.0034205	2.4659
Car 30:1	0.52302	-0.93507	0.0035484	2.45
DG 42:1	1.8616	0.89651	0.0035661	2.4478
DG 52:4	3.5718	1.8366	0.0035699	2.4473
FA 33:3;O2	2.986	1.5782	0.0035712	2.4472
PC 18:0_20:0	1.6286	0.70366	0.0036253	2.4407
TG 48:2	7.3938	2.8863	0.0036723	2.4351
PC 15:0_16:2	2.3524	1.2341	0.0036833	2.4338
PC 33:3;O	3.055	1.6112	0.0036931	2.4326
TG 14:0_16:0_19:1	6.4056	2.6793	0.0037676	2.4239
DG 40:6;O	1.6628	0.73365	0.0037799	2.4225
Cer 39:0;O3	1.9202	0.94123	0.0037819	2.4223
DG 36:4	1.7791	0.83111	0.0038076	2.4194
LPE 20:0	1.677	0.74584	0.0038759	2.4116
CE 20:5	0.62031	-0.68893	0.003915	2.4073
LPA 26:6	1.5742	0.6546	0.0039167	2.4071
PG 14:0_18:0	3.2299	1.6915	0.0039519	2.4032
SM 16:0;O2/18:0	1.6759	0.74495	0.003978	2.4003
PI-Cer 40:5;O6	2.167	1.1157	0.004013	2.3965
DG O-38:4	1.6076	0.68493	0.0040607	2.3914
DG 53:4	2.8961	1.5341	0.0040846	2.3889
HexCer 18:1;O2/24:1	0.49302	-1.0203	0.00415	2.382
TG 54:5	3.7345	1.9009	0.0042644	2.3701
Cer 44:6;O	0.29858	-1.7438	0.0042672	2.3699
ST 28:3;O4	0.34492	-1.5357	0.004297	2.3668
PE O-18:0_20:3	0.43442	-1.2028	0.0043204	2.3645
MG O-18:0	2.8279	1.4997	0.0043645	2.3601
DG 26:0_18:1	2.3769	1.2491	0.0043669	2.3598
DG 56:8	3.391	1.7617	0.0043762	2.3589
PIP2 62:4	0.51398	-0.96022	0.0043854	2.358
PA O-58:6	3.5171	1.8144	0.004415	2.3551
Cer 40:0;O6	0.58827	-0.76546	0.0044222	2.3544
DG O-44:8	2.3536	1.2348	0.0044443	2.3522
Car 22:3;O2	0.48801	-1.035	0.0044823	2.3485
TG 70:12;O2	0.16551	-2.595	0.0045722	2.3399
DG 54:3	1.5443	0.62698	0.0046078	2.3365

PA 45:6	0.42766	-1.2255	0.0046165	2.3357
MG 32:1	0.56468	-0.82449	0.0046189	2.3355
DG 51:4	3.1818	1.6699	0.004623	2.3351
HexCer 45:2;O4	0.40774	-1.2943	0.0047063	2.3273
TG 44:6;O2	5.322	2.412	0.0047434	2.3239
PE 22:5	97.134	6.6019	0.0047464	2.3236
TG 60:6	2.2986	1.2008	0.0048956	2.3102
PI O-38:5	0.49051	-1.0277	0.0049016	2.3097
DG 18:0_22:6	2.1163	1.0816	0.0049352	2.3067
Cer 43:1;O3	0.41653	-1.2635	0.0049641	2.3042
PG 48:2;O	2.2364	1.1611	0.0049904	2.3019
Hex2Cer 43:0;O2	1.4061	0.49167	0.0050307	2.2984
TG 100:10;O2	2.0203	1.0145	0.0050532	2.2964
PI 14:0_16:0	2.3699	1.2448	0.0051599	2.2874
Cer 41:6;O3	1.5375	0.62054	0.0051803	2.2856
PE 34:3	3.8076	1.9289	0.0052109	2.2831
TG O-97:5	2.9327	1.5522	0.0052449	2.2803
PA O-35:1	0.42123	-1.2473	0.0052541	2.2795
DG 44:8;O	1.6102	0.68726	0.0052877	2.2767
HexCer 35:2;O5	5.4917	2.4573	0.0052937	2.2762
PC O-38:2	0.68314	-0.54975	0.0053758	2.2696
Cer 44:0;O2	0.67449	-0.56813	0.0054176	2.2662
TG 15:0_16:0_17:1	10.686	3.4176	0.0055967	2.2521
DG 50:4	7.1644	2.8408	0.0056392	2.2488
TG 84:6;O2	1.6034	0.68111	0.0056563	2.2475
TG 62:10	2.1101	1.0773	0.00566	2.2472
Cer 42:1;O4	1.8243	0.86738	0.0057237	2.2423
TG 100:17	0.38396	-1.381	0.0057393	2.2411
SM 48:1;3O	1.891	0.91916	0.0057878	2.2375
PE 16:1_20:1	5.1805	2.3731	0.0058664	2.2316
TG 18:1_19:0_21:4	5.8525	2.549	0.0058864	2.2302
DG 28:4;O2	1.7037	0.76863	0.0059564	2.225
FA 17:0;O2	1.9061	0.9306	0.0059918	2.2224
TG 14:0_18:0_18:2	6.1336	2.6167	0.0060193	2.2205
PI O-40:6	0.59266	-0.75473	0.0060221	2.2203
SM 40:1;O6	2.8542	1.5131	0.0060923	2.2152
HexCer 28:0;O4	1.9813	0.98648	0.0061514	2.211
LPI 18:1	0.54395	-0.87846	0.0061652	2.2101
SPBP 16:1;O3	2.0108	1.0077	0.0062184	2.2063
TG 54:2;O2	23.303	4.5425	0.0062263	2.2058
TG 79:0;O2	4.0669	2.0239	0.0063483	2.1973

HexCer 33:2;O6	0.30073	-1.7335	0.0063518	2.1971
HexCer 44:2;O5	0.44794	-1.1586	0.0064044	2.1935
DG 56:1	2.6509	1.4065	0.0064446	2.1908
PC 12:0_16:1	1.8024	0.84996	0.0064577	2.1899
DG 40:1;O2	1.6894	0.75647	0.0064589	2.1898
SHexCer 34:1;O3	0.69048	-0.53433	0.0065913	2.181
WE 24:1	0.40238	-1.3134	0.0066036	2.1802
Cer 17:0;3O/18:1;(2OH)	2.4272	1.2793	0.0066406	2.1778
DG 32:0	2.662	1.4125	0.0066604	2.1765
DG 59:5	3.4037	1.7671	0.0066735	2.1756
DG O-43:5	1.7704	0.82411	0.0066824	2.1751
TG 16:0_19:3_19:3	6.1389	2.618	0.0067588	2.1701
TG 44:2	1.649	0.72161	0.0068741	2.1628
PC 15:0_18:4	1.5699	0.65064	0.0068786	2.1625
FAHFA 33:1;O	1.4615	0.54744	0.0069446	2.1584
SCer 33:0;O	2.5202	1.3336	0.0069597	2.1574
Hex2Cer 40:5;O2	0.70388	-0.50659	0.0070292	2.1531
TG 13:0_14:0_16:0	1.597	0.67532	0.0070881	2.1495
PC O-38:3	0.46619	-1.101	0.0070921	2.1492
Cer 18:0;O3/19:1;(2OH)	2.122	1.0854	0.0071077	2.1483
PC O-18:1_22:1	0.58782	-0.76656	0.0071441	2.1461
PI 40:1;O	0.13887	-2.8482	0.0071691	2.1445
ACer 58:0;O3	2.537	1.3431	0.007174	2.1442
Cer 18:0;O3/21:1;(2OH)	1.8854	0.91487	0.0071963	2.1429
MG 29:3;O	1.8517	0.88884	0.0072111	2.142
SM 44:5;O4	2.3079	1.2066	0.007253	2.1395
Hex2Cer 30:0;O3	1.5723	0.65286	0.007272	2.1383
FA 18:2	0.4273	-1.2267	0.0073307	2.1349
SHexCer 43:4;O3	0.40157	-1.3163	0.0073534	2.1335
PE 30:0	0.67066	-0.57636	0.0073669	2.1327
DG 30:1	2.4186	1.2741	0.0074064	2.1304
PC 10:0_18:1	1.7349	0.79488	0.0074204	2.1296
PI O-63:3	1.915	0.93733	0.0074427	2.1283
PR 20:2;O3	0.26388	-1.9221	0.0075318	2.1231
TG 12:0_14:0_16:0	3.0476	1.6077	0.0075954	2.1194
PI O-55:3	0.596	-0.74663	0.0076749	2.1149
PE 56:8	1.9271	0.9464	0.0076911	2.114
TG 15:0_16:0_16:1	3.6966	1.8862	0.0077176	2.1125
LPC 22:2	0.54759	-0.86882	0.0077337	2.1116
PI 38:10; PI 18:5-20:5; [M-H]-	0.55718	-0.84378	0.0077723	2.1094
TG 16:0_18:1_22:4	4.5994	2.2014	0.0078158	2.107

DG O-40:4	2.3118	1.209	0.0078541	2.1049
PI 35:1	1.7432	0.80171	0.0078604	2.1046
GlcADG 14:0_18:0	1.8275	0.8699	0.0079321	2.1006
Car 22:4;O4	3.0515	1.6095	0.0079677	2.0987
DG 57:5	5.3949	2.4316	0.0079743	2.0983
DG O-47:5	0.43867	-1.1888	0.0080101	2.0964
DG 46:3	2.8319	1.5018	0.008036	2.095
PE 40:1;O	0.33791	-1.5653	0.0080433	2.0946
DG 59:6	6.7765	2.7605	0.0080611	2.0936
NAE 19:0;O	0.40128	-1.3173	0.0081011	2.0915
LPC 18:1	0.58405	-0.77583	0.0083015	2.0808
Cer 34:1;O4	0.64446	-0.63384	0.0083265	2.0795
ST 27:3;F	0.36412	-1.4575	0.0083804	2.0767
PG 56:4;O	0.59111	-0.75851	0.0084912	2.071
PC O-18:1_22:2	0.39621	-1.3357	0.0084969	2.0707
PA O-36:0;O	0.34679	-1.5279	0.0085408	2.0685
HexCer 45:0;O5	2.0318	1.0227	0.0085636	2.0673
DG 44:9	1.7755	0.8282	0.0085959	2.0657
DG 56:2	0.50106	-0.99696	0.0087023	2.0604
DG 53:5	2.7468	1.4578	0.0089129	2.05
Cer 39:5;O2	1.8883	0.9171	0.008992	2.0461
CerP 54:6;O3	0.69633	-0.52216	0.0091159	2.0402
TG 42:0	2.5825	1.3687	0.0091546	2.0384
MG O-20:1	0.36764	-1.4436	0.0093063	2.0312
HexCer 42:1;O5	0.60098	-0.73461	0.0093796	2.0278
TG 12:0_16:0_16:1	5.2791	2.4003	0.0094651	2.0239
HexCer 36:0;O6	0.2203	-2.1824	0.0094949	2.0225
PI 14:0_18:0	2.3548	1.2356	0.0095293	2.0209
PG 14:0_16:0	2.8269	1.4992	0.009546	2.0202
DG 58:5	7.2081	2.8496	0.0095997	2.0177
PA 45:4	0.55721	-0.84371	0.0096123	2.0172
DG O-18:1_20:4	2.4604	1.2989	0.0096822	2.014
HexCer 47:1;O4	0.20916	-2.2573	0.0097499	2.011
HexCer 45:5;O2	0.33956	-1.5583	0.0097676	2.0102
SM 48:4;O3	0.32344	-1.6284	0.00978	2.0097
LPE 20:1	2.4287	1.2802	0.0098005	2.0088
ACer 64:2;O4	2.9815	1.576	0.0099172	2.0036
PE O-40:1	0.52448	-0.93104	0.0099173	2.0036
HexCer 39:0;O5	1.6811	0.7494	0.0099443	2.0024
ST 27:3;O3	2.6207	1.3899	0.0099891	2.0005
TG 88:13;O2	0.24288	-2.0417	0.010012	1.9995

MG 22:1	0.40913	-1.2894	0.010041	1.9982
HexCer 45:6;O6	0.71068	-0.49274	0.010127	1.9945
PC 15:0_18:3	1.7071	0.77154	0.010237	1.9898
TG O-83:5	3.2263	1.6899	0.010319	1.9864
PE-Cer 54:0;O5	1.6091	0.68627	0.010354	1.9849
PC 18:0_26:1	1.9438	0.95889	0.010355	1.9848
LPC O-34:0;O	0.55827	-0.84096	0.010386	1.9836
TG 59:2	5.4327	2.4417	0.010396	1.9831
Hex(8)-Cer 36:1;O2	0.69156	-0.53207	0.010434	1.9816
TG 46:2	6.5173	2.7043	0.010439	1.9814
TG 50:0;O	2.8105	1.4908	0.010482	1.9796
TG 51:1	7.4452	2.8963	0.010496	1.979
TG 14:0_15:0_17:0	1.9058	0.93039	0.010499	1.9788
PE O-18:2_21:1	0.48988	-1.0295	0.010522	1.9779
DG 60:10	6.3051	2.6565	0.010601	1.9746
TG 60:2	5.2668	2.3969	0.010617	1.974
TG 14:0_16:0_16:1	8.3854	3.0679	0.010635	1.9733
PE 40:2	2.9965	1.5833	0.010841	1.9649
PE 36:3	16.98	4.0857	0.011031	1.9574
Cer 40:0;O3	0.38908	-1.3619	0.011037	1.9572
TG 51:3;O2	1.6544	0.72632	0.011099	1.9547
SM 42:2;O4	2.5127	1.3292	0.011147	1.9528
MG 19:0;O	2.8675	1.5198	0.011207	1.9505
DG 54:5	3.3351	1.7377	0.011317	1.9463
DG 33:0;O	0.62271	-0.68336	0.011334	1.9456
HexCer 44:1;O6	0.63314	-0.6594	0.011415	1.9425
Cer 18:0;O3/35:1;(2OH)	3.0636	1.6152	0.011589	1.9359
Cer 46:1;O3	0.22777	-2.1344	0.011856	1.9261
PI-Cer 49:2;O3	0.24186	-2.0478	0.011857	1.926
PA 61:7	0.45429	-1.1383	0.011914	1.924
PC 18:0_24:0	1.929	0.94786	0.011914	1.9239
TG 16:0_18:1_22:6	6.4907	2.6984	0.011968	1.922
GM3(d18:1/16:0)	2.5083	1.3267	0.011969	1.9219
DG 17:0_18:1	2.0932	1.0657	0.011989	1.9212
SM 44:6;O2	1.603	0.68076	0.011994	1.921
SM 18:1;O2/25:1	0.55317	-0.85421	0.012046	1.9192
TG 16:0_18:0_22:2	5.6516	2.4987	0.012105	1.917
DG O-39:4	2.1029	1.0724	0.012117	1.9166
HexCer 50:2;O3	1.6996	0.76517	0.012142	1.9157
TG 81:1;O3	1.6661	0.73646	0.012256	1.9117
TG 49:0;O	0.40695	-1.2971	0.01229	1.9105

LPG 18:1	0.40141	-1.3168	0.012362	1.9079
TG O-52:0;O	1.7616	0.81692	0.012425	1.9057
DG 45:3	1.4894	0.57469	0.012438	1.9052
PC O-18:1_20:2	0.45763	-1.1278	0.012645	1.8981
LPE 20:3	1.7636	0.81852	0.012651	1.8979
Hex(4)-HexNAc(2)-Fuc(2)-Cer 34:1;O2	0.37828	-1.4025	0.012672	1.8972
PC O-42:0	0.16998	-2.5565	0.012777	1.8936
Car 20:4	0.51883	-0.94665	0.012801	1.8928
TG 16:0_18:1_20:1	8.1996	3.0356	0.012894	1.8896
PI 40:3	0.70735	-0.49949	0.012901	1.8894
DG O-38:5	1.7128	0.77637	0.012924	1.8886
CE 20:4	0.44206	-1.1777	0.012959	1.8874
Cer 48:6;O3	0.52242	-0.93671	0.012968	1.8871
TG 33:1;O3	1.8748	0.90672	0.013041	1.8847
PA 41:4	0.57481	-0.79884	0.013049	1.8844
PA 45:5	0.26272	-1.9284	0.013061	1.884
DG 32:2	2.0298	1.0213	0.013101	1.8827
DG 55:5	4.2902	2.101	0.013109	1.8824
TG 70:3;O3	2.0828	1.0586	0.013125	1.8819
FA 24:1	0.38246	-1.3866	0.013132	1.8817
DG 62:10	3.8916	1.9604	0.01315	1.8811
DG 42:4	1.4306	0.5166	0.013255	1.8776
Cer 49:6;O4	1.4586	0.54461	0.013329	1.8752
NAT 20:2;O	3.3353	1.7378	0.013385	1.8734
DG O-35:0;O2	0.55299	-0.85468	0.013477	1.8704
PC 18:0_22:0	1.5503	0.63254	0.013604	1.8663
Cer 21:3;O2/24:2;O	0.31143	-1.683	0.013857	1.8583
TG 95:5;O	1.6543	0.72624	0.013858	1.8583
PE 52:3	0.53609	-0.89946	0.013896	1.8571
TG 45:1;O	0.55365	-0.85296	0.013902	1.8569
LPE 22:6	2.3083	1.2068	0.01392	1.8563
DG 50:5	3.5563	1.8304	0.013936	1.8559
TG 51:4;O2	1.5954	0.6739	0.013963	1.855
PC O-22:3_26:1	3.3278	1.7346	0.013998	1.8539
SHexCer 34:0;O2	0.66295	-0.59303	0.014092	1.851
PI-Cer 39:2;O2	0.42764	-1.2255	0.014147	1.8493
PR 58:14;O3	3.2384	1.6953	0.014176	1.8485
DG 43:3	0.30702	-1.7036	0.014465	1.8397
PA 41:5	0.68871	-0.53803	0.014485	1.8391
HexCer 41:3;O4	1.4878	0.57314	0.014572	1.8365

PA O-44:5	1.8661	0.90006	0.014641	1.8344
NAE 19:2	0.3653	-1.4529	0.01479	1.83
TG 42:1	2.2474	1.1683	0.014793	1.8299
Cer 42:2;O	0.52425	-0.93169	0.014881	1.8274
TG 14:0_16:0_22:6	4.0937	2.0334	0.014898	1.8269
PG 39:4;O	2.2482	1.1688	0.014908	1.8266
TG 58:2	6.5491	2.7113	0.014993	1.8241
PI-Cer 37:1;O2	1.7287	0.78971	0.015032	1.823
HexCer 44:2;O4	1.4737	0.55945	0.015076	1.8217
TG O-14:0_18:0_20:2	1.897	0.92372	0.015143	1.8198
SM 48:5;O2	3.0453	1.6066	0.01516	1.8193
PC 15:0_18:0	1.4867	0.57214	0.01524	1.817
TG 57:2	6.914	2.7895	0.015338	1.8142
TG 84:6;O	0.39076	-1.3557	0.015427	1.8117
MGDG 15:0_18:1	3.54	1.8238	0.015512	1.8093
PIP3 24:0	0.23144	-2.1113	0.01555	1.8083
Cer 38:0;O	2.0094	1.0068	0.015555	1.8081
PC O-52:9	0.28342	-1.819	0.01571	1.8038
MIPC 32:2;O5	0.45546	-1.1346	0.015803	1.8013
DG 56:6	2.4625	1.3001	0.015838	1.8003
TG 16:1_18:0_18:1	7.822	2.9675	0.01584	1.8002
FA 21:2;O	1.8314	0.87298	0.015851	1.7999
PA 40:7	0.65436	-0.61185	0.016002	1.7958
PE 54:5;O	2.1916	1.132	0.016073	1.7939
TG 54:7	3.3356	1.7379	0.016378	1.7857
PR 53:11;O2	0.23179	-2.1091	0.016399	1.7852
DG 52:1	0.65593	-0.60839	0.016415	1.7847
TG 55:2	2.7424	1.4554	0.016508	1.7823
DG 58:6	3.8344	1.939	0.016539	1.7815
SHexCer 40:1;O4	0.47757	-1.0662	0.01656	1.7809
DG 36:2	1.5566	0.63842	0.016608	1.7797
PC O-22:3_24:0	2.4678	1.3032	0.016675	1.7779
PG 56:7;O	1.8845	0.91415	0.016803	1.7746
Cer 41:6;O2	3.1427	1.652	0.0171	1.767
TG 52:5	3.4188	1.7735	0.017178	1.765
DG 60:7	3.3307	1.7358	0.017216	1.7641
TG 56:2	2.5968	1.3767	0.017256	1.7631
CerP 51:3;O2	3.9061	1.9657	0.017466	1.7578
MG O-28:0;O	1.4107	0.49638	0.017507	1.7568
DG 61:8	2.1234	1.0863	0.017561	1.7554
DG 36:3	2.5512	1.3512	0.017682	1.7525

PI 36:5	0.35452	-1.496	0.017858	1.7482
PIP3 35:6	1.7507	0.8079	0.017874	1.7478
TG 58:2;O2	2.9915	1.5809	0.017877	1.7477
PA O-41:6	0.45069	-1.1498	0.017896	1.7472
SPB 20:2;O6	0.49114	-1.0258	0.01804	1.7438
PA 48:4	1.6173	0.69354	0.018045	1.7436
TG O-18:0_14:0_16:1	1.587	0.66626	0.018096	1.7424
TG 17:1_18:0_18:1	6.4015	2.6784	0.018096	1.7424
TG 54:3	2.7608	1.4651	0.018146	1.7412
PE 25:1;O	1.5479	0.63034	0.018234	1.7391
PA 45:8	0.5561	-0.8466	0.018432	1.7344
TG 50:3	3.49	1.8032	0.018441	1.7342
LPE 24:0	0.52396	-0.93247	0.01846	1.7338
PI-Cer 46:0;O3	0.54977	-0.86311	0.018472	1.7335
PI O-38:4	0.66384	-0.5911	0.018577	1.731
PG 44:9	0.48161	-1.0541	0.018636	1.7296
PI-Cer 38:0;O4	0.40085	-1.3189	0.018748	1.727
DG O-39:3	1.4542	0.54023	0.018845	1.7248
HexCer 43:4;O2	0.47786	-1.0653	0.018872	1.7242
HexCer 41:5;O4	0.37579	-1.412	0.018908	1.7233
CerP 52:0;O5	2.5153	1.3307	0.019026	1.7207
Cer 45:6;O3	0.56774	-0.8167	0.019115	1.7186
Hex2Cer 34:1;O3	0.37091	-1.4309	0.019175	1.7173
Cer 44:6;O2	1.8454	0.88394	0.0192	1.7167
TG 86:12;O2	0.31817	-1.6521	0.019238	1.7158
FA 17:1	0.63371	-0.6581	0.019243	1.7157
DG 19:0_18:1	1.8829	0.91292	0.019396	1.7123
CerP 54:1;O5	2.6956	1.4306	0.01942	1.7118
CE 22:5	0.66093	-0.59744	0.019557	1.7087
DG 45:2;O	2.2632	1.1784	0.019592	1.7079
MG 31:0	1.5476	0.63007	0.019601	1.7077
LPC 18:0	2.0223	1.016	0.019632	1.707
DG 16:0_18:2	2.642	1.4016	0.019703	1.7055
Cer 18:0;O3/42:1;(2OH)	2.2075	1.1424	0.019992	1.6991
SM 44:4;O5	2.4991	1.3214	0.020123	1.6963
ACer 56:2;O2	0.68965	-0.53605	0.020174	1.6952
PA 48:0	0.22886	-2.1275	0.02018	1.6951
DG 52:5	2.6761	1.4201	0.020186	1.695
TG 62:2	2.8727	1.5224	0.020241	1.6938
HexCer 39:2;O5	0.29772	-1.748	0.020258	1.6934
Car 34:2;O	2.0079	1.0057	0.020381	1.6908

TG 98:19	2.511	1.3283	0.020405	1.6903
PG 18:1_20:1	0.37484	-1.4157	0.020509	1.6881
PC 34:2	1.6208	0.69668	0.020518	1.6879
PI O-67:6	1.6156	0.69204	0.020567	1.6868
PG 44:7	1.6018	0.67969	0.020579	1.6866
LPE 24:1	0.49337	-1.0192	0.020682	1.6844
Cer 39:4;O	1.4461	0.53215	0.020706	1.6839
PS 20:0_16:2	0.61067	-0.71154	0.020729	1.6834
PI O-65:4	2.2658	1.18	0.02074	1.6832
PC O-40:3	0.51469	-0.95823	0.020978	1.6782
PC 28:0;O	1.7444	0.80274	0.020984	1.6781
SHexCer 32:5;O3	0.64122	-0.64112	0.021212	1.6734
PG 42:2;O	0.62226	-0.6844	0.021293	1.6718
TG 82:1;O3	0.40523	-1.3032	0.021315	1.6713
PC O-14:1_10:0	0.61259	-0.707	0.02137	1.6702
DG O-16:0_20:3	0.40627	-1.2995	0.021751	1.6625
TG 14:0_16:1_18:1	5.1182	2.3556	0.021819	1.6612
PE-Cer 28:2;O2	2.7247	1.4461	0.021835	1.6609
PA O-44:0;O	0.52884	-0.91909	0.021921	1.6591
ST 23:2;O4;S	0.58655	-0.76968	0.022251	1.6527
TG 57:9;O3	0.30375	-1.7191	0.022697	1.644
LPI 30:5	0.58135	-0.78253	0.022697	1.644
SHexCer 43:4;O4	2.6124	1.3854	0.022724	1.6435
PA 43:4	0.67359	-0.57005	0.022768	1.6427
LPS 28:0;O	1.5087	0.59331	0.022806	1.642
MG 18:2;O	0.15982	-2.6455	0.022822	1.6417
TG 52:1;O	2.0466	1.0332	0.022864	1.6408
TG O-85:10	0.52152	-0.93921	0.023118	1.6361
Cer 15:2;2O/38:10	4.8657	2.2826	0.023187	1.6348
Hex2Cer 30:1;O3	0.48536	-1.0429	0.023349	1.6317
DG O-18:1_22:6	1.7685	0.82252	0.023518	1.6286
PI 18:0_22:2	0.70941	-0.49531	0.023548	1.628
PG O-38:0	2.0745	1.0528	0.023653	1.6261
DG 68:9;O	0.61607	-0.69883	0.02377	1.624
LPC 22:5	0.21582	-2.2121	0.023932	1.621
Hex2Cer 30:4;O4	1.976	0.98256	0.024175	1.6166
ST 29:7;O	3.1915	1.6743	0.024319	1.6141
PI-Cer 35:0;O2	1.718	0.78076	0.024364	1.6133
PC O-18:1_24:1	0.40732	-1.2958	0.024529	1.6103
MG 31:1	0.57352	-0.80207	0.024593	1.6092
TG 14:0_18:1_19:1	5.7694	2.5284	0.024778	1.6059

PI 40:10	0.48307	-1.0497	0.024787	1.6058
FAHFA 26:2;O	1.8028	0.85027	0.024874	1.6042
PE 18:1_26:4	0.58901	-0.76363	0.024895	1.6039
PE O-18:2_24:2	0.39115	-1.3542	0.024899	1.6038
TG 15:0_16:1_18:1	2.6021	1.3797	0.02506	1.601
TG 50:4;O2	1.579	0.65905	0.025095	1.6004
HexCer 18:0;O2/20:1	1.4932	0.57843	0.025166	1.5992
PA O-56:5	3.3237	1.7328	0.025184	1.5989
ST 27:3	0.26178	-1.9336	0.0252	1.5986
DG O-35:0	1.8075	0.85397	0.025253	1.5977
DG 64:7	1.961	0.97158	0.025301	1.5969
HexCer 45:5;O5	1.9194	0.94063	0.025398	1.5952
CE 28:1;O	2.1627	1.1129	0.025524	1.593
PG 18:1_20:2	0.45535	-1.1349	0.025604	1.5917
TG 14:0_18:1_18:2	3.9448	1.98	0.025647	1.591
Cer 36:0;O	1.5804	0.66025	0.025777	1.5888
PE-NMe2 36:2	1.5123	0.59676	0.025809	1.5882
CerP 51:6;O2	0.6191	-0.69176	0.025836	1.5878
Cer 45:6;O	0.30564	-1.7101	0.026007	1.5849
TG 45:2	5.7472	2.5229	0.026131	1.5828
TG 58:3;O2	4.6981	2.2321	0.026142	1.5827
FA 24:2	0.39684	-1.3334	0.026186	1.5819
PA 37:8;O	0.53905	-0.89152	0.026215	1.5815
HexCer 39:6;O3	0.54155	-0.88484	0.026216	1.5814
PE O-40:5	0.51456	-0.9586	0.026229	1.5812
DG 58:1	2.2759	1.1864	0.026248	1.5809
DG 15:0_18:1	1.9756	0.98231	0.026621	1.5748
NAE 19:1	0.16461	-2.6028	0.026937	1.5696
DG 41:7;O	1.6092	0.68636	0.027198	1.5655
PC O-68:1	1.7472	0.80501	0.02739	1.5624
PI 18:0_19:2	0.55682	-0.84472	0.0277	1.5575
PA O-37:1	0.47341	-1.0788	0.027733	1.557
PA 40:0	0.67031	-0.5771	0.027745	1.5568
MG O-32:1	0.63483	-0.65556	0.028128	1.5509
PA O-43:1	0.48062	-1.057	0.028286	1.5484
TG 77:1;O3	1.6641	0.73476	0.028306	1.5481
MG O-19:1	0.63363	-0.65828	0.028363	1.5472
ST 28:2;O4	0.33583	-1.5742	0.028465	1.5457
DG 62:11	3.3606	1.7487	0.028512	1.545
PA 30:0	2.4837	1.3125	0.028582	1.5439
TG 52:1	1.4122	0.49794	0.028641	1.543

PI O-16:0_18:2	0.4522	-1.145	0.028823	1.5403
PA O-38:0;O	0.58041	-0.78486	0.029107	1.536
PC O-36:3	2.4391	1.2864	0.029383	1.5319
PI O-38:2	0.30327	-1.7213	0.029597	1.5288
PE 54:5	4.4096	2.1406	0.029633	1.5282
PE 44:3;O	0.44813	-1.158	0.029684	1.5275
MG 34:2	0.56847	-0.81486	0.029744	1.5266
PC 26:0_18:1	1.6997	0.76531	0.029753	1.5265
TG 16:0_18:1_18:2	5.0801	2.3449	0.030098	1.5215
PC 15:0_16:3	1.9887	0.99184	0.030174	1.5204
Cer 44:4;O3	2.3491	1.2321	0.030207	1.5199
CE 26:2	0.41841	-1.257	0.030322	1.5182
ST 30:2;O6;G	0.32968	-1.6009	0.030351	1.5178
SM 40:2;O2	3.6278	1.8591	0.030353	1.5178
TG O-57:3	1.6613	0.73233	0.030369	1.5176
PIP 64:5;O	0.50848	-0.97573	0.030501	1.5157
DG O-18:1_17:1	0.28876	-1.7921	0.030798	1.5115
TG O-55:2	1.9584	0.96969	0.030934	1.5096
HBMP 18:0_20:3_18:0	0.59629	-0.74592	0.0311	1.5072
ST 26:1;O3;G	0.39707	-1.3325	0.031331	1.504
PI 18:0_22:6	1.604	0.6817	0.031377	1.5034
HexCer 44:6;O6	0.70713	-0.49995	0.031472	1.5021
PA 16:1_20:1	0.37809	-1.4032	0.031477	1.502
PC 18:1_20:1	0.61792	-0.69452	0.031479	1.502
LPC 32:1	0.68873	-0.53799	0.031521	1.5014
Cer 36:0;O2	1.7386	0.79795	0.031542	1.5011
TG 12:0_12:3_20:6	1.6606	0.73172	0.031563	1.5008
PE O-18:2_20:1	0.37647	-1.4094	0.031649	1.4996
DG 33:0_18:1	2.3491	1.2321	0.031981	1.4951
GP 32:0	0.57346	-0.80224	0.031981	1.4951
DG 16:0_28:0	2.4833	1.3123	0.03228	1.4911
HexCer 41:2;O4	0.52242	-0.93673	0.032523	1.4878
CerP 41:6;O4	1.5547	0.63667	0.032669	1.4859
CPA 18:1	0.38132	-1.3909	0.032697	1.4855
TG 57:9	1.4962	0.58134	0.032776	1.4844
PC O-42:3	0.42615	-1.2306	0.032885	1.483
PE O-16:0_20:5	0.56541	-0.82262	0.03289	1.4829
PE 38:0	1.5037	0.58851	0.032923	1.4825
NA 40:2;O5;N	0.55195	-0.8574	0.033231	1.4785
FA 20:0	0.67386	-0.56947	0.033314	1.4774
PG 54:6;O	1.494	0.57918	0.033361	1.4768

TG 58:7	2.9719	1.5714	0.033472	1.4753
LPI 34:2	0.51012	-0.97109	0.033552	1.4743
MIPC 34:2;O2	2.039	1.0278	0.033753	1.4717
DG 18:1_20:2	1.792	0.84156	0.034049	1.4679
TG O-38:1	1.4007	0.48612	0.034076	1.4676
PE 16:0_18:2	13.284	3.7316	0.034215	1.4658
DG O-44:9	1.5684	0.64927	0.034303	1.4647
DG 36:1;O2	0.62789	-0.67141	0.034399	1.4635
NAE 17:0	0.57625	-0.79524	0.034765	1.4589
SM 40:4;O2	0.33387	-1.5826	0.034786	1.4586
PC O-18:1_24:2	0.44687	-1.1621	0.035093	1.4548
DG O-48:3	2.1829	1.1262	0.03513	1.4543
PIP2 21:5	0.58192	-0.7811	0.035477	1.45
Cer 45:2;O3	0.30205	-1.7271	0.035683	1.4475
DG 60:6	3.3278	1.7346	0.035713	1.4472
HexCer 42:5;O4	1.5511	0.63329	0.036007	1.4436
TG 56:3;O2	4.4591	2.1567	0.036147	1.4419
FA 18:0;O	0.51768	-0.94987	0.036306	1.44
PE O-18:2_22:1	0.44186	-1.1784	0.036419	1.4387
CL 74:4	0.64246	-0.63833	0.036486	1.4379
Cer 53:6;O	0.49282	-1.0209	0.036511	1.4376
PG 56:3;O	0.68607	-0.54357	0.036523	1.4374
PE 46:1	2.545	1.3477	0.036526	1.4374
PI O-56:3	1.4854	0.57084	0.036588	1.4367
HexCer 30:1;O6	1.416	0.50179	0.036622	1.4363
ACer 56:0;O3	2.2694	1.1823	0.036761	1.4346
LPC 20:0	1.8113	0.857	0.036815	1.434
ST 33:6;O3	0.49022	-1.0285	0.037132	1.4302
PI 54:4;O	0.48308	-1.0497	0.03714	1.4302
PI O-56:2	1.6615	0.73251	0.037269	1.4287
ST 28:3;O3;Cl	0.3683	-1.441	0.037375	1.4274
PG O-54:0;O	0.64237	-0.63853	0.037383	1.4273
PA O-56:7	1.8618	0.89667	0.037482	1.4262
PA 45:9	0.58617	-0.7706	0.037619	1.4246
PE-Cer 38:1;O2	0.69715	-0.52046	0.037628	1.4245
HexCer 54:6;O3	2.2407	1.1639	0.037781	1.4227
DG dO-40:0	1.6469	0.71973	0.03792	1.4211
Hex2Cer 30:0;O4	0.26399	-1.9214	0.038194	1.418
PI O-41:8	0.42003	-1.2514	0.038204	1.4179
DG 50:3	3.1024	1.6334	0.038525	1.4143
TG 16:1_18:1_19:1	5.0963	2.3495	0.03855	1.414

SM 20:0;O2/16:1	1.4452	0.53126	0.038682	1.4125
DG 66:9;O	0.69125	-0.53272	0.038995	1.409
Cer 44:1;O4	1.4904	0.57572	0.039267	1.406
PE 54:6	3.3178	1.7302	0.039467	1.4038
TG 16:0_18:2_20:2	2.5752	1.3647	0.03952	1.4032
DG O-45:5	1.901	0.92678	0.039573	1.4026
LPS O-26:0;O	0.65845	-0.60286	0.039778	1.4004
HexCer 42:6;O3	0.67086	-0.57592	0.03995	1.3985
Cer 21:0;O3/24:1;(2OH)	1.8158	0.86063	0.040037	1.3975
TG 101:6	1.673	0.74243	0.040164	1.3962
SPB 23:3;O3	0.36828	-1.4411	0.040168	1.3961
HexCer 42:3;O2	0.57273	-0.80407	0.040245	1.3953
LPC O-20:4	0.43178	-1.2116	0.040343	1.3942
LPC 33:2	3.238	1.6951	0.040368	1.394
LPC O-29:0;O	0.68482	-0.5462	0.040512	1.3924
TG 85:1;O2	0.34416	-1.5389	0.040896	1.3883
TG 15:0_21:2_22:6	3.6809	1.8801	0.041026	1.3869
Cer 43:0;O2	0.67474	-0.56759	0.041092	1.3862
PC 18:0_22:3	0.64119	-0.64119	0.041316	1.3839
CerP 54:1;O3	0.64086	-0.64192	0.041328	1.3838
DG O-41:5	1.8897	0.91818	0.041379	1.3832
SM 32:6;O5	1.5874	0.66664	0.041463	1.3823
PE O-40:4	0.59586	-0.74695	0.041529	1.3816
SM 42:1;O2	0.46912	-1.092	0.041604	1.3809
TG 14:0_14:3_19:5	2.7075	1.4369	0.041814	1.3787
PC O-20:3_16:0	0.63118	-0.66388	0.042018	1.3766
NAT 33:1;O	1.5604	0.64191	0.042114	1.3756
TG 73:1;O3	1.5727	0.65328	0.042158	1.3751
DG O-56:6	2.2973	1.1999	0.042176	1.3749
TG 16:1_18:0_20:2	5.1042	2.3517	0.042444	1.3722
PIP 38:3	0.48311	-1.0496	0.042662	1.37
TG 14:0_15:0_16:0	1.413	0.49874	0.042721	1.3694
DG 27:0_21:1	2.7603	1.4648	0.04282	1.3684
Cer 45:6;O6	0.68952	-0.53633	0.042926	1.3673
Car 32:4;O	1.8535	0.89025	0.04328	1.3637
DG O-16:1_20:4	1.9815	0.98661	0.044069	1.3559
TG 14:2_14:3_17:3	2.6453	1.4034	0.044451	1.3521
ACer 58:4;O2	0.62833	-0.67041	0.044478	1.3519
Cer 48:6;O2	0.65636	-0.60744	0.044494	1.3517
PA 25:0_18:4	1.4608	0.54675	0.044502	1.3516
SM 14:0;O2/18:2	0.38685	-1.3702	0.044581	1.3509

HC 15:1;O	0.58874	-0.76431	0.044782	1.3489
PA O-39:1	0.57448	-0.79966	0.044843	1.3483
LPE 18:2	2.2334	1.1593	0.044969	1.3471
PI-Cer 35:1;O2	1.7091	0.77325	0.045068	1.3461
TG 72:12;O2	0.54101	-0.88627	0.045439	1.3426
PE 52:5;O	1.7222	0.78422	0.04551	1.3419
PE O-18:2_22:2	0.54309	-0.88073	0.045632	1.3407
LPC 26:0	1.4756	0.56131	0.045757	1.3395
DG 68:10;O	0.6893	-0.5368	0.045778	1.3393
DG 39:0;O2	1.6664	0.73677	0.045781	1.3393
PE O-18:0_22:3	0.44898	-1.1553	0.04597	1.3375
DG 52:3	2.4541	1.2952	0.046037	1.3369
TG 94:4;O2	2.1008	1.0709	0.046231	1.3351
TG 97:7;O3	0.58336	-0.77753	0.046301	1.3344
LPC 32:4	0.69345	-0.52814	0.046611	1.3315
CerP 54:2;O3	0.57025	-0.81034	0.046685	1.3308
PE O-38:3	0.60367	-0.72816	0.046779	1.3299
PE 52:5	1.7686	0.8226	0.04708	1.3272
PG 30:2	0.63594	-0.65303	0.047237	1.3257
TG 85:1;O3	1.6387	0.71253	0.047322	1.3249
Cer 47:6;O2	0.69979	-0.515	0.047373	1.3245
DG 32:0_22:2	2.3101	1.208	0.047457	1.3237
TG 60:3	4.3305	2.1145	0.047513	1.3232
PG 28:2	1.5896	0.66863	0.047609	1.3223
DG 33:3	1.4286	0.51462	0.048218	1.3168
DG 62:6	2.6099	1.384	0.048246	1.3165
PIP 68:8;O	0.48315	-1.0495	0.048617	1.3132
DG 54:7	1.9146	0.93707	0.048676	1.3127
PC 44:7	0.66212	-0.59483	0.048825	1.3114
PE-Cer 42:6;O3	1.993	0.99491	0.048936	1.3104
PC 43:7	0.46591	-1.1019	0.049275	1.3074
Cer 35:1;O2	0.65243	-0.6161	0.049337	1.3068
HexCer 39:3;O5	0.38932	-1.361	0.049459	1.3058

Supplemental Table 3. NT cells vs LPS cells volcano plot extended statistics. Extended statistics corresponding to Figure 3B in main text. Extended statistics include fold change (FC), log 2 fold change (log2(FC)), the raw p value (raw.pval) and the -log10 of the p-value (-log10(p)).

Lipid	FC	log2(FC)	raw.pval	-log10(p)

PG 50:2;O	0.2602	-1.9423	4.382E-08	7.3583
HexCer 45:1;O4	0.16239	-2.6225	7.4671E-08	7.1268
PA O-39:1	19.401	4.2781	7.6723E-08	7.1151
FA 17:1	0.074663	-3.7435	2.5712E-07	6.5899
HexCer 43:6;O2	0.22261	-2.1674	2.9482E-07	6.5304
SHexCer 43:3;O3	0.21309	-2.2305	3.1552E-07	6.501
CerP 40:2;O2	0.17853	-2.4857	8.8025E-07	6.0554
SHexCer 40:1;O2	0.22461	-2.1545	9.9616E-07	6.0017
SM 33:3;O3	5.7943	2.5346	1.2619E-06	5.899
PA O-44:0;O	19.451	4.2818	1.9545E-06	5.709
PG 45:5;O	0.10522	-3.2485	2.2598E-06	5.6459
HexCer 38:0;O6	0.14272	-2.8087	2.603E-06	5.5845
PA O-39:0	21.1	4.3992	2.7401E-06	5.5622
PE O-42:3	0.17582	-2.5078	4.056E-06	5.3919
PE 44:1;O	0.58305	-0.77832	4.1713E-06	5.3797
HexCer 45:6;O2	0.3085	-1.6967	4.5213E-06	5.3447
HexCer 45:2;O5	0.38788	-1.3663	5.0373E-06	5.2978
SHexCer 43:5;O4	0.16224	-2.6238	6.3691E-06	5.1959
PG 52:2;O	0.20194	-2.308	7.4944E-06	5.1253
SM 33:6;O2	6.2375	2.641	7.9609E-06	5.099
LPG O-22:0;O	2.1522	1.1058	8.3102E-06	5.0804
ACer 43:6;O3	0.16509	-2.5987	8.9754E-06	5.0469
PI 38:5	0.26987	-1.8897	1.0532E-05	4.9775
PA O-45:2	13.952	3.8024	1.1134E-05	4.9533
FAHFA 19:2/19:2	0.15838	-2.6586	1.199E-05	4.9212
CL 74:6	0.40511	-1.3036	1.223E-05	4.9126
HexCer 45:4;O4	0.11975	-3.0619	1.5695E-05	4.8042
Cer 37:0;O3	0.39175	-1.352	1.7478E-05	4.7575
NAE 20:0;O2	3.4807	1.7994	1.7755E-05	4.7507
SHexCer 34:0;O4	2.1503	1.1046	1.8412E-05	4.7349
Cer 18:1;O2/24:0;O	0.10466	-3.2563	1.9315E-05	4.7141
Car 32:7;O4	2.4435	1.2889	2.0624E-05	4.6856
PA O-38:0	9.1653	3.1962	2.3337E-05	4.632
PI O-40:6	0.098425	-3.3448	2.4894E-05	4.6039
LPG O-32:2	0.22711	-2.1385	2.5731E-05	4.5895
PI 34:1	0.30784	-1.6998	2.6114E-05	4.5831
Hex(3)-HexNAc-KDN(2)-Cer 36:1;O2	3.3574	1.7474	2.708E-05	4.5674
SM 28:3;O2	8.5957	3.1036	2.7887E-05	4.5546
PG 41:4;O	0.30066	-1.7338	2.811E-05	4.5511
PS-NAc 52:1	0.10868	-3.2018	2.9025E-05	4.5372

PA O-45:1	7.5362	2.9138	2.9772E-05	4.5262
PI O-38:4	0.086125	-3.5374	2.9826E-05	4.5254
PG O-39:0;O	0.14189	-2.8171	2.9859E-05	4.5249
CL 76:9	0.46776	-1.0962	2.9889E-05	4.5245
SHexCer 52:2;O2	0.19918	-2.3278	3.8422E-05	4.4154
PI 36:2	0.41797	-1.2585	3.9329E-05	4.4053
TG O-69:0;O3	0.086432	-3.5323	4.0795E-05	4.3894
LPI O-34:0	0.35437	-1.4967	4.3684E-05	4.3597
PI 36:1	0.22314	-2.164	4.6416E-05	4.3333
PE-Cer 44:1;O4	0.61146	-0.70966	4.9392E-05	4.3063
DG 32:7;O	3.4018	1.7663	5.0428E-05	4.2973
PI-Cer 34:0;O4	0.4297	-1.2186	5.09E-05	4.2933
WE 34:0	2.8312	1.5014	5.2764E-05	4.2777
CerP 40:3;O2	5.114	2.3544	5.2925E-05	4.2763
PA O-37:0	10.612	3.4076	6.0344E-05	4.2194
LPA O-27:1	3.3667	1.7513	6.5104E-05	4.1864
LPG O-27:0;O	3.5217	1.8163	6.5556E-05	4.1834
HexCer 37:3;O6	2.6049	1.3813	6.6266E-05	4.1787
PS 52:0;O	0.33457	-1.5796	6.6828E-05	4.175
HexCer 53:5;O6	0.37242	-1.425	6.6932E-05	4.1744
PC 16:0_18:3	10.713	3.4213	7.3835E-05	4.1317
Cer 44:3;O	0.41695	-1.262	7.5763E-05	4.1205
PA O-45:0	7.5789	2.922	8.5313E-05	4.069
TG 12:2_12:2_22:6	0.10629	-3.2339	8.5552E-05	4.0678
TG 55:8;O	0.15142	-2.7233	8.579E-05	4.0666
PG 55:2	0.3712	-1.4297	8.7262E-05	4.0592
Cer 36:4;O4	2.5949	1.3757	9.2889E-05	4.032
HexCer 44:6;O6	0.48014	-1.0585	9.3118E-05	4.031
MG 32:1	0.22606	-2.1452	9.803E-05	4.0086
PC 2:0_16:4	15.596	3.9631	9.852E-05	4.0065
PA O-43:0	8.2131	3.0379	9.8694E-05	4.0057
CerP 48:5;O3	0.19756	-2.3396	0.0001022	3.9906
MG O-32:0	0.54633	-0.87215	0.00010461	3.9804
WE 23:3	1.795	0.84395	0.00010714	3.97
PC 33:2	3.6676	1.8748	0.00011241	3.9492
PC O-20:3_16:1	4.6315	2.2115	0.00011255	3.9487
NA 18:0;O	0.16348	-2.6128	0.00011746	3.9301
FA 18:2	0.042576	-4.5538	0.00012001	3.9208
PG 40:7	5.8481	2.548	0.0001207	3.9183
SHexCer 40:0;O2	0.52523	-0.92897	0.00012075	3.9181
Car 22:3;O2	0.15687	-2.6724	0.00012264	3.9114

CDP-DG 34:1	8.7497	3.1292	0.00013107	3.8825
PE-Cer 32:3;O5	3.7636	1.9121	0.00013774	3.8609
PA O-43:1	7.4982	2.9065	0.0001384	3.8589
LPE 22:1	2.1223	1.0856	0.00013968	3.8549
CerP 54:6;O3	0.47237	-1.082	0.00013981	3.8544
Cer 34:1;O4	0.37913	-1.3993	0.00015022	3.8233
CerP 32:4;O2	3.3708	1.7531	0.00015062	3.8221
CE 18:2;O	0.13352	-2.9049	0.00015174	3.8189
PG 56:4;O	0.31273	-1.677	0.00015358	3.8137
SHexCer 29:0;O2	2.7725	1.4712	0.0001562	3.8063
LPI 18:0	0.45252	-1.1439	0.00016121	3.7926
CL 71:4	0.17717	-2.4968	0.00016183	3.791
HexCer 35:3;O6	2.1141	1.08	0.00016204	3.7904
PG 53:2	0.35071	-1.5116	0.00016211	3.7902
Cer 46:1;O4	0.37489	-1.4155	0.00016774	3.7754
ST 28:1;O;Hex;FA 16:0	2.5682	1.3608	0.00016904	3.772
SHexCer 33:0;O5	3.4608	1.7911	0.00017106	3.7668
PA O-36:0	7.9312	2.9875	0.00017293	3.7621
CoA 21:6;O2	7.2467	2.8573	0.00017833	3.7488
PA O-44:1	6.6623	2.736	0.00018205	3.7398
HexCer 45:6;O6	0.34161	-1.5496	0.00018759	3.7268
HexCer 43:2;O4	0.35692	-1.4863	0.00019889	3.7014
LPE 20:3	1.8025	0.85004	0.00020714	3.6837
LPA 26:0	0.41846	-1.2568	0.00020908	3.6797
MG 24:2	2.0101	1.0072	0.00021336	3.6709
PI O-67:3	0.074185	-3.7527	0.00022731	3.6434
FA 20:0;O	0.54103	-0.88621	0.00022765	3.6427
PA 40:0;O	8.8718	3.1492	0.00022898	3.6402
PA O-46:1	8.956	3.1628	0.00023242	3.6337
HexCer 39:3;O6	2.3184	1.2131	0.00023768	3.624
Cer 40:1;O6	0.60655	-0.7213	0.00025277	3.5973
SM 18:3;O2/26:2	8.8773	3.1501	0.00025737	3.5894
Cer 39:1;O3	3.7012	1.888	0.00025738	3.5894
SHexCer 43:4;O3	0.11323	-3.1427	0.0002641	3.5782
PI-Cer 41:2;O2	0.10506	-3.2508	0.00028143	3.5506
PC 18:0_20:5	10.194	3.3496	0.00028305	3.5481
MG 32:0	0.22612	-2.1448	0.00028532	3.5447
PG 54:4	0.22964	-2.1226	0.00028679	3.5424
Cer 33:1;O2	0.47807	-1.0647	0.00029355	3.5323
HexCer 43:3;O3	1.4374	0.5235	0.00029542	3.5296
Hex2Cer 43:0;O2	1.8749	0.9068	0.00030613	3.5141

LPC 32:5	3.8998	1.9634	0.00030946	3.5094
HC 25:1	3.7681	1.9138	0.00031002	3.5086
SM 36:3;O6	1.7591	0.8148	0.00031101	3.5072
HC 23:1	3.4014	1.7661	0.00031446	3.5024
PG 37:0;O	0.2021	-2.3069	0.00031925	3.4959
HexCer 18:0;O2/23:1	3.8073	1.9288	0.0003228	3.4911
FA 23:2;O	0.55762	-0.84264	0.00033243	3.4783
PE 34:2	0.11677	-3.0983	0.000336	3.4737
MG 30:0	0.10137	-3.3023	0.00034474	3.4625
PG O-54:0;O	0.29783	-1.7474	0.0003475	3.459
FA 16:1	0.040355	-4.6311	0.00034766	3.4588
PA 37:7;O	5.6331	2.4939	0.00035755	3.4467
NAT 26:2;O3	2.0531	1.0378	0.00036572	3.4369
PE 18:0_20:2	0.32947	-1.6018	0.00036648	3.436
PE O-40:0	2.7418	1.4551	0.00036718	3.4351
LPC 30:4	3.9846	1.9944	0.00036879	3.4332
Cer 18:0;3O/19:0;(2OH)	0.078109	-3.6784	0.00037097	3.4307
HexCer 18:0;O2/22:1	2.3995	1.2627	0.00037107	3.4305
PI 38:4	0.29036	-1.7841	0.00037408	3.427
Hex(3)-HexNAc-NeuAc-Cer 42:1;O2	3.0196	1.5944	0.00038232	3.4176
HexCer 39:1;O4	0.36425	-1.457	0.00038574	3.4137
Cer 18:3;O2/24:6	0.45921	-1.1228	0.00039383	3.4047
TG 100:17	0.084975	-3.5568	0.00039721	3.401
MG 20:4	0.05465	-4.1936	0.0003983	3.3998
PE 38:5	0.53595	-0.89983	0.00040703	3.3904
PA 37:0	3.9105	1.9674	0.00041398	3.383
HexCer 38:4;O4	3.915	1.969	0.0004167	3.3802
TG 44:2	0.53723	-0.89638	0.00042932	3.3672
PI-Cer 39:0;O2	0.27973	-1.8379	0.00043482	3.3617
PC 32:2;O	8.6872	3.1189	0.00044072	3.3558
Cer 18:0;O2/4:0	11.377	3.5081	0.00044119	3.3554
CerP 44:6;O2	1.8178	0.8622	0.00044369	3.3529
TG 88:21;O3	0.02631	-5.2482	0.00044481	3.3518
TG 52:2;O	0.08836	-3.5005	0.00044971	3.3471
SM 36:1;O5	9.8543	3.3007	0.00045374	3.3432
PA 43:6	2.9339	1.5528	0.00046096	3.3363
HexCer 40:1;O5	0.44074	-1.182	0.0004679	3.3298
TG 51:2;O	0.090892	-3.4597	0.00047086	3.3271
PC 50:2	7.2475	2.8575	0.00047526	3.3231
HexCer 41:6;O2	0.1871	-2.4181	0.00048116	3.3177

Hex2Cer 31:4;O2	0.52354	-0.93363	0.00048167	3.3172
SHexCer 32:1;O4	2.6335	1.397	0.00048624	3.3132
PA 42:5	4.0722	2.0258	0.0004868	3.3126
SM 18:0;O2/21:1	7.6726	2.9397	0.00049308	3.3071
PC 68:7;O	12.517	3.6459	0.00049986	3.3012
TG 91:13;O	3.1275	1.645	0.00050107	3.3001
Hex(3)-HexNAc-NeuAc-KDN-Cer 44:2;O2	3.1268	1.6447	0.0005017	3.2996
PE 44:2	0.31361	-1.673	0.0005058	3.296
PA 40:0	3.1191	1.6411	0.00050936	3.293
Hex2Cer 28:0;O4	2.3915	1.2579	0.00051483	3.2883
PI 34:2	0.2186	-2.1936	0.00052138	3.2828
Car 20:4	0.46379	-1.1085	0.00052312	3.2814
LPC 20:3	0.46913	-1.0919	0.00053293	3.2733
PA 44:6	0.15285	-2.7098	0.00054505	3.2636
MG O-29:0;O	2.8848	1.5284	0.00054883	3.2606
NAT 20:3;O3	1.9766	0.983	0.00055139	3.2585
PG 56:3;O	0.38788	-1.3663	0.00056489	3.248
PI 20:0_16:2	0.20234	-2.3051	0.00056553	3.2475
PG 58:4;O	0.17667	-2.5009	0.0005762	3.2394
PC 34:3;O	5.5826	2.481	0.0005764	3.2393
PC 48:7;O	8.7788	3.134	0.00059403	3.2262
HexCer 18:0;O2/24:0;O	3.1776	1.6679	0.00060105	3.2211
SM 33:0;O6	7.3579	2.8793	0.00060571	3.2177
PA 45:4	3.4867	1.8019	0.00060824	3.2159
CoA 24:6	7.8597	2.9745	0.00062242	3.2059
Hex2Cer 32:0;O3	0.12012	-3.0574	0.0006274	3.2025
Neu5Ac)GD1a(d18:1/26:0)	4.2682	2.0936	0.00062797	3.2021
TG 76:11;O3	3.3162	1.7295	0.00064513	3.1904
PC 31:2;O	14.969	3.9039	0.00064524	3.1903
PC 34:0;O	8.2348	3.0417	0.00065899	3.1811
PC 20:1_16:3	12.677	3.6642	0.00067237	3.1724
PE 14:0_16:1	0.40279	-1.3119	0.00068827	3.1622
SM 34:1;O2	12.365	3.6281	0.00069389	3.1587
TG 93:14;O	5.2579	2.3945	0.00070343	3.1528
PA 29:0	8.3507	3.0619	0.00072218	3.1414
LPS O-16:1	3.4654	1.793	0.00072509	3.1396
Cer 48:6;O2	0.26092	-1.9383	0.00073178	3.1356
PI 37:2	0.24614	-2.0224	0.00073497	3.1337
PG O-40:0;O	0.10538	-3.2464	0.00073514	3.1336
DG 40:5;O	0.45596	-1.133	0.00073941	3.1311

SM 40:0;O5	11.192	3.4844	0.00074328	3.1288
CerP 45:6;O2	0.58455	-0.77461	0.0007452	3.1277
Cer 37:2;O6	0.58645	-0.76992	0.00075282	3.1233
LPA O-27:3	1.6934	0.75996	0.00076473	3.1165
TG 75:0;O3	0.2829	-1.8216	0.00076521	3.1162
PC O-16:0_20:4	0.27007	-1.8886	0.00076632	3.1156
DG O-14:1_18:0	0.34276	-1.5447	0.0007689	3.1141
PE 30:3	2.9446	1.5581	0.0007698	3.1136
SM 30:3;O3	5.7285	2.5182	0.00077003	3.1135
CerP 29:3;O5	3.322	1.7321	0.00077964	3.1081
CL 14:0_18:1_16:0_18:1	0.012876	-6.2792	0.00078791	3.1035
TG 51:3;O	0.062481	-4.0004	0.00079918	3.0974
NAE 20:0;O	1.8257	0.86842	0.00080674	3.0933
HexCer 18:2;O2/24:2	2.8115	1.4914	0.00081073	3.0911
SM 43:6;O2	7.9811	2.9966	0.00081361	3.0896
LPI 18:1	0.40905	-1.2897	0.00081676	3.0879
SM 50:2;O3	4.2273	2.0797	0.00081732	3.0876
DG O-30:0	5.2	2.3785	0.00082502	3.0835
SM 44:5;O4	7.2335	2.8547	0.0008562	3.0674
PC 32:5	7.2313	2.8542	0.000862	3.0645
PC 43:11;O	7.2313	2.8542	0.000862	3.0645
PC 45:2	7.2313	2.8542	0.000862	3.0645
PC 48:0	7.2313	2.8542	0.000862	3.0645
SM 44:4;O6	7.2313	2.8542	0.000862	3.0645
PG dO-40:0	0.1811	-2.4652	0.00086846	3.0612
Hex2Cer 29:3;O2	3.0884	1.6269	0.00087202	3.0595
SM 34:1;O5	6.844	2.7748	0.00087598	3.0575
LPG 29:0;O	1.6044	0.68207	0.00087753	3.0567
CL 74:4	0.37443	-1.4172	0.00087918	3.0559
PA 38:0;O	8.5838	3.1016	0.00088033	3.0554
ACer 45:6;O2	0.63899	-0.64614	0.00088381	3.0536
PC O-68:6	14.111	3.8188	0.00088459	3.0533
TG 50:0;O	2.4107	1.2694	0.00088806	3.0516
LPC O-34:0;O	0.35725	-1.485	0.00089855	3.0465
SM 45:5;O5	13.229	3.7256	0.0009107	3.0406
PA O-58:6	6.136	2.6173	0.00091276	3.0396
PIP2 21:5	0.57729	-0.79264	0.00092217	3.0352
SM 42:6;O5	6.147	2.6199	0.00092614	3.0333
SM 44:4;O5	7.0167	2.8108	0.00093386	3.0297
PC O-42:6	6.6791	2.7396	0.00093434	3.0295
SM 18:0;O2/24:2	5.8073	2.5379	0.00093754	3.028

HexCer 42:1;O5	0.43086	-1.2147	0.00094503	3.0246
CL 74:7	0.35994	-1.4742	0.00094722	3.0236
PC 38:6;O	22.257	4.4762	0.00095512	3.0199
BMP 18:2;O	52.335	5.7097	0.00096028	3.0176
LPG O-32:0	0.20315	-2.2994	0.00096269	3.0165
SHexCer 38:0;O2	0.14714	-2.7647	0.00096589	3.0151
SM 48:5;O2	6.5534	2.7122	0.00096698	3.0146
PC 18:0_20:4	5.0508	2.3365	0.00098117	3.0083
CAR 14:1	7.3436	2.8765	0.00099151	3.0037
PA 45:9	7.9751	2.9955	0.0009979	3.0009
PG 40:1	0.39881	-1.3262	0.00099916	3.0004
FAL 17:2	2.9392	1.5554	0.0010043	2.9981
SM 54:4;O3	6.2114	2.6349	0.0010168	2.9928
Cer 41:5;O2	0.24146	-2.0501	0.001023	2.9901
LPC 33:0;O	0.50098	-0.99719	0.0010349	2.9851
HexCer 37:0;O5	1.9127	0.93563	0.0010374	2.9841
PA O-36:2	7.2281	2.8536	0.0010439	2.9814
PE-Cer 36:1;O4	0.4479	-1.1587	0.0010534	2.9774
SM 46:1;O2	7.1645	2.8409	0.0010585	2.9753
HexCer 21:3;O2/24:2	2.4874	1.3146	0.0010625	2.9737
PA O-47:1	5.5223	2.4653	0.0010787	2.9671
PI 16:1_18:1	0.1843	-2.4399	0.0010884	2.9632
PI 39:5	0.1246	-3.0046	0.0010904	2.9624
SM 54:3;O3	5.7862	2.5326	0.0011199	2.9508
SM 15:3;O2/18:2	10.808	3.434	0.0011222	2.9499
PC 12:0_16:1	0.10583	-3.2402	0.0011246	2.949
PA O-54:2	7.1062	2.8291	0.0011331	2.9457
PA 44:10	8.1142	3.0205	0.0011332	2.9457
Cer 52:4;O	0.17056	-2.5517	0.0011338	2.9454
PI 40:7	0.06469	-3.9503	0.001136	2.9446
HexCer 44:5;O2	0.50588	-0.98313	0.0011432	2.9419
SM 42:1;O4	7.3617	2.88	0.0011597	2.9357
Hex2Cer 31:2;O4	0.3727	-1.4239	0.0011712	2.9314
TG 12:2_12:3_13:1	5.429	2.4407	0.0011736	2.9305
HexCer 43:5;O2	0.30122	-1.7311	0.001183	2.927
PA 43:9	10.59	3.4046	0.0011927	2.9235
PC 31:0;O	5.5874	2.4822	0.0011944	2.9229
PI O-38:5	0.37181	-1.4273	0.0012039	2.9194
MG 16:1	0.015547	-6.0072	0.0012067	2.9184
DG 38:5;O	0.37338	-1.4213	0.0012078	2.918
PE O-42:4	0.38304	-1.3844	0.0012268	2.9112

HexCer 43:4;O4	0.47847	-1.0635	0.0012332	2.909
AcylGlcADG 22:5_22:5_20:5	2.3222	1.2155	0.0012451	2.9048
FOH 20:0;O	6.5579	2.7132	0.0012456	2.9046
DG O-16:0_18:1	4.6818	2.2271	0.0012534	2.9019
PC 14:0_18:3	4.2775	2.0968	0.0012576	2.9005
GP 32:0	4.5811	2.1957	0.0012791	2.8931
Cer 17:0;3O/18:0;(2OH)	0.081559	-3.616	0.0012817	2.8922
LPA O-29:4	1.7548	0.81132	0.0012933	2.8883
LPS 22:1	1.7548	0.81132	0.0012933	2.8883
LPS 27:0;O	1.7548	0.81132	0.0012933	2.8883
HexCer 37:5;O3	1.8827	0.91282	0.0013051	2.8844
DG O-36:3	0.082175	-3.6051	0.0013164	2.8806
PE 14:0_18:0	0.21961	-2.187	0.0013169	2.8805
SM 44:6;O6	7.5146	2.9097	0.0013245	2.878
SM 40:6;O6	6.0564	2.5985	0.0013294	2.8763
HexCer 18:1;O2/24:0	3.421	1.7744	0.0013304	2.876
CerP 32:1;O2	7.0141	2.8103	0.0013344	2.8747
DG 29:0;O2	7.094	2.8266	0.0013401	2.8729
HexCer 41:6;O3	0.47681	-1.0685	0.0013542	2.8683
PA O-36:1	7.8909	2.9802	0.0013694	2.8635
HexCer 20:0;O2/16:1	2.4908	1.3166	0.0013922	2.8563
LPI 34:2	0.16639	-2.5873	0.0014062	2.8519
CL 14:0_16:1_16:0_18:2	0.3224	-1.6331	0.0014088	2.8511
SM 45:1;O3	6.056	2.5984	0.0014112	2.8504
LPC 18:1	0.47458	-1.0753	0.0014129	2.8499
PC O-18:1_20:4	0.17885	-2.4832	0.0014329	2.8438
NAE 26:0;O2	4.696	2.2314	0.0014698	2.8327
PI 38:3	0.30859	-1.6962	0.0014707	2.8325
DG 36:3	2.7713	1.4706	0.0014774	2.8305
HexCer 32:6;O3	2.7887	1.4796	0.0014879	2.8274
PC 30:0;O	4.3062	2.1064	0.0014922	2.8262
HexCer 40:6;O4	4.6387	2.2137	0.001493	2.8259
Cer 18:1;O2/26:1;O	0.14211	-2.8149	0.0015077	2.8217
PC 30:2;O	4.8062	2.2649	0.0015133	2.8201
PC 20:2	12.662	3.6624	0.0015157	2.8194
NAT 22:2;O2	1.5959	0.67435	0.0015302	2.8153
SM 33:2;O3	19.982	4.3207	0.0015369	2.8134
CL 70:3	0.050243	-4.3149	0.0015417	2.812
DG 28:4;O2	3.1841	1.6709	0.0015448	2.8111
PE 44:6	0.1855	-2.4305	0.0015449	2.8111
FA 18:0;O5	1.8484	0.88626	0.0015563	2.8079

PA 65:8;O	5.7048	2.5122	0.0015574	2.8076
SM 43:2;O4	3.7736	1.9159	0.001616	2.7916
PC 16:0_18:4	9.6823	3.2753	0.0016162	2.7915
Car 30:1	0.47572	-1.0718	0.0016205	2.7903
SM 36:1;O3	4.6973	2.2318	0.0016367	2.786
FA 17:3;O3	3.5658	1.8342	0.0016528	2.7818
HexCer 40:5;O4	2.2349	1.1602	0.0016755	2.7758
HexCer 44:2;O5	0.30741	-1.7018	0.001683	2.7739
HexCer 32:2;O2	2.0154	1.0111	0.0016836	2.7738
PI 18:1_20:1	0.17877	-2.4838	0.001696	2.7706
PI 38:2	0.31918	-1.6476	0.0017015	2.7692
LPC 32:2	0.24729	-2.0157	0.001707	2.7678
PE 42:0;O	0.47386	-1.0775	0.0017257	2.763
PC O-18:1_21:2	4.5544	2.1873	0.0017301	2.7619
PA 46:2	7.3548	2.8787	0.0017317	2.7615
LPC 34:6	3.1087	1.6363	0.0017461	2.7579
PE-Cer 48:0;O3	1.8512	0.88843	0.0017488	2.7573
PC 46:2	4.952	2.308	0.0017676	2.7526
PA 42:0	6.5671	2.7152	0.0017692	2.7522
PIP3 37:6	0.55914	-0.83872	0.0017841	2.7486
CerP 51:6;O2	0.36329	-1.4608	0.0017849	2.7484
Cer 18:0;O2/23:1;O	0.13662	-2.8718	0.0017864	2.748
PE O-18:1_21:2	0.43375	-1.2051	0.0018049	2.7436
Hex2Cer 18:0;O2/14:1	0.070583	-3.8245	0.0018141	2.7413
PI-Cer 46:0;O3	0.50213	-0.99386	0.0018372	2.7359
PA 51:0	5.0563	2.3381	0.001875	2.727
PC 10:0_16:0	0.16911	-2.564	0.0018857	2.7245
BMP 19:4;O	7.4486	2.897	0.0018985	2.7216
PR 20:2;O3	0.14354	-2.8005	0.0019118	2.7186
PI 14:0_18:0	0.2168	-2.2055	0.0019166	2.7175
Cer 42:6;O3	0.50148	-0.99575	0.0019167	2.7175
PI 20:0_16:1	0.17587	-2.5074	0.0019174	2.7173
CerP 34:2;O5	2.0775	1.0549	0.0019244	2.7157
CerP 40:2;O5	1.7135	0.77698	0.0019261	2.7153
PI O-18:1_22:5	0.16352	-2.6124	0.0019292	2.7146
Cer 18:1;O2/22:0;O	0.088398	-3.4998	0.0019333	2.7137
PI 28:1	2.0794	1.0561	0.0019421	2.7117
FA 20:3	0.041087	-4.6052	0.0019512	2.7097
PC O-14:1_18:1	0.34482	-1.5361	0.0019805	2.7032
PC 33:3;O	6.9738	2.802	0.0019931	2.7005
SM 54:2;O5	4.5443	2.184	0.0019943	2.7002

SPB 22:0;O2	3.0918	1.6284	0.0020228	2.694
PC 32:4	4.2191	2.0769	0.0020726	2.6835
PG 58:8;O	0.46521	-1.1041	0.0020805	2.6818
PI O-20:0_16:1	0.16248	-2.6217	0.0020873	2.6804
PI 24:0	2.8281	1.4998	0.0020966	2.6785
LPI O-23:0	1.8514	0.88858	0.0021031	2.6771
PA 28:0	7.5587	2.9181	0.0021213	2.6734
PA 49:1	7.5587	2.9181	0.0021213	2.6734
PA O-58:10	7.5587	2.9181	0.0021213	2.6734
PA O-44:5	7.5181	2.9104	0.0021292	2.6718
PA 48:1	7.5661	2.9195	0.0021373	2.6701
TG 57:9;O3	0.29547	-1.7589	0.0021387	2.6698
MG 18:1	0.09349	-3.419	0.0021432	2.6689
TG 49:12;O2	2.53	1.3392	0.0021497	2.6676
PC 40:0	7.2937	2.8667	0.0021572	2.6661
MG 27:4;O	0.32843	-1.6064	0.0021574	2.6661
Cer 43:1;O3	0.32316	-1.6297	0.0021583	2.6659
ST 28:3;O	0.26217	-1.9315	0.0021598	2.6656
TG 52:1;O	2.3228	1.2159	0.0021699	2.6636
PC O-18:0_20:5	3.9676	1.9883	0.0021829	2.661
PIP 30:7	0.33702	-1.5691	0.0021843	2.6607
PI 14:0_18:2	0.47933	-1.0609	0.0021936	2.6588
CerP 44:5;O2	0.6791	-0.5583	0.0022062	2.6564
LPC 34:1	0.41521	-1.2681	0.0022466	2.6485
Hex2Cer 32:4;O4	1.8864	0.91565	0.0022526	2.6473
LPC O-20:4	0.087243	-3.5188	0.002256	2.6467
TG 58:1	0.20025	-2.3201	0.002257	2.6465
HexCer 35:4;O6	2.495	1.3191	0.0022577	2.6463
FOH 16:3	2.6374	1.3991	0.002259	2.6461
DG 14:0_18:0	4.3495	2.1209	0.002264	2.6451
HexCer 39:1;O5	1.5227	0.60661	0.0022838	2.6413
PI 20:1_16:2	0.29963	-1.7387	0.0022986	2.6385
PE 40:0	0.3084	-1.6971	0.0022997	2.6383
PC O-36:1	6.5824	2.7186	0.0023017	2.6379
CerP 36:1;O4	0.3288	-1.6047	0.0023091	2.6365
Cer 51:4;O	0.16678	-2.584	0.0023098	2.6364
PA 35:0	11.753	3.5549	0.0023155	2.6353
MG O-32:5	0.14141	-2.8221	0.0023324	2.6322
TG O-10:0_10:0_10:0	3.8806	1.9563	0.0023369	2.6314
PA O-58:0	6.8413	2.7743	0.0023405	2.6307
PG 33:0	2.6297	1.3949	0.0023568	2.6277

Cer 39:1;O4	3.3966	1.7641	0.0023568	2.6277
PE 14:0_16:0	0.26337	-1.9248	0.002358	2.6275
PA O-32:7	13.558	3.7611	0.0023587	2.6273
SM 53:0;O3	4.2127	2.0747	0.0023713	2.625
NAE 20:4	0.030747	-5.0234	0.0023747	2.6244
DG 37:2	4.9739	2.3144	0.0023815	2.6231
SM 40:2;O2	4.0858	2.0306	0.0023947	2.6208
PC O-36:6	15.134	3.9198	0.0023953	2.6206
PA 26:0	2.5735	1.3637	0.0024465	2.6115
PC 44:2	5.1978	2.3779	0.0024529	2.6103
PC 36:1	5.2216	2.3845	0.0024586	2.6093
PA O-49:1	18.305	4.1942	0.002467	2.6078
PA 39:0	2.8393	1.5056	0.002471	2.6071
Hex2Cer 33:0;O5	1.6772	0.74607	0.0024733	2.6067
PE 40:1	0.4902	-1.0286	0.0024742	2.6066
PI O-40:7	0.071771	-3.8005	0.0024755	2.6063
PA 56:0	6.5806	2.7182	0.0024765	2.6062
DG O-39:3	4.3899	2.1342	0.0024866	2.6044
TG 12:0_12:1_16:3	2.3342	1.2229	0.0024914	2.6035
DG 34:0	5.6652	2.5021	0.0025017	2.6018
HexCer 43:6;O3	0.17208	-2.5388	0.0025091	2.6005
GD1a (NeuAc/NeuGc)(d18:1/16:0)	3.5769	1.8387	0.0025149	2.5995
PI 38:6	0.11764	-3.0875	0.002518	2.5989
Cer 18:1;O2/24:1;O	0.088255	-3.5022	0.0025434	2.5946
PA O-40:0;O	8.5159	3.0902	0.0025693	2.5902
PI-Cer 34:0;O6	0.096231	-3.3774	0.0025904	2.5866
HexCer 29:0;O6	1.8594	0.89483	0.0026035	2.5844
SM 32:2;O3	8.149	3.0266	0.0026163	2.5823
GM1a 34:1	3.4727	1.796	0.0026185	2.5819
PE 23:1; PE 2:0-21:1; [M-H]-	2.471	1.3051	0.0026353	2.5792
DG 36:4	0.2132	-2.2297	0.002637	2.5789
LPE 19:3;O	3.0523	1.6099	0.0026498	2.5768
PE 3:0_16:1	1.8396	0.87942	0.0026528	2.5763
HexCer 14:0;O2/18:1	2.3315	1.2213	0.0026748	2.5727
PI 36:3	0.3987	-1.3266	0.002675	2.5727
PA O-42:10	5.8957	2.5597	0.0026818	2.5716
LPA 13:2;O	2.7438	1.4562	0.0026928	2.5698
PA 37:8;O	6.0493	2.5968	0.0027294	2.5639
FA 20:4	0.010092	-6.6307	0.0027757	2.5566
PI-Cer 40:0;O4	0.14289	-2.807	0.0027857	2.5551

PG 38:1	0.20415	-2.2923	0.0027928	2.554
PE 22:5	3.3351	1.7377	0.0027948	2.5537
PA 31:8;O	6	2.585	0.0028041	2.5522
Cer 18:0;O2/24:1;O	0.32159	-1.6367	0.00284	2.5467
HexCer 42:2;O5	0.3358	-1.5743	0.0028402	2.5467
WE 41:1	2.011	1.0079	0.0028575	2.544
Cer 32:1;O2	0.23316	-2.1006	0.0028647	2.5429
LPE 18:0	0.27174	-1.8797	0.0028688	2.5423
CerP 31:3;O6	2.9251	1.5485	0.0028806	2.5405
Cer 16:0;O2/20:1;O	0.20192	-2.3082	0.0028878	2.5394
LPC 20:1	0.35513	-1.4936	0.0029013	2.5374
PC 38:1	2.6988	1.4323	0.0029223	2.5343
PI 18:1_20:3	0.26028	-1.9419	0.0029248	2.5339
PC O-16:0_18:3	12.083	3.5949	0.0029554	2.5294
PA O-37:1	5.7688	2.5283	0.0029619	2.5284
SHexCer 37:0;O4	0.097507	-3.3583	0.0029765	2.5263
HBMP 18:0_20:3_18:0	0.42473	-1.2354	0.0029945	2.5237
PE 21:3	2.3812	1.2517	0.0030008	2.5228
DG 36:2	3.9033	1.9647	0.0030315	2.5183
Cer 18:1;O2/16:0;O	0.1357	-2.8816	0.0030346	2.5179
SM 44:3;O2	3.6563	1.8704	0.0030366	2.5176
HexCer 18:0;O2/26:1	3.4207	1.7743	0.0030442	2.5165
SM 18:0;O2/26:1	5.1782	2.3724	0.0030459	2.5163
CL 14:0_18:2_14:0_18:2	0.29751	-1.749	0.0030484	2.5159
PE 40:6	0.55563	-0.8478	0.0030527	2.5153
HexCer 18:0;O2/25:1	3.5114	1.812	0.003086	2.5106
ST 21:1;O7	2.1813	1.1252	0.0031229	2.5054
CL 69:5	0.31293	-1.6761	0.0031535	2.5012
DG 35:1	2.7801	1.4752	0.0031576	2.5006
HexCer 34:3;O3	0.18771	-2.4134	0.003158	2.5006
PC 28:0;O	6.0017	2.5854	0.0031691	2.4991
LPC 22:6	0.13244	-2.9166	0.0031733	2.4985
PI O-16:0_18:2	0.22188	-2.1722	0.0031748	2.4983
PI 35:2	0.16809	-2.5727	0.0031993	2.4949
PC 40:0;O	4.4889	2.1664	0.0032019	2.4946
Car 34:3	0.34147	-1.5502	0.0032127	2.4931
PI 31:4;O	0.61005	-0.71299	0.0032153	2.4928
PA O-56:5	6.9894	2.8052	0.0032428	2.4891
HexCer 32:5;O2	2.3439	1.2289	0.0032453	2.4887
PE 16:0_18:0	0.2487	-2.0075	0.0032694	2.4855
DG 18:0_16:1	5.448	2.4457	0.0032769	2.4845

ST 24:3;O2	0.14641	-2.7719	0.003308	2.4804
PG 39:1;O	0.12709	-2.9761	0.0033233	2.4784
DG 39:4	2.221	1.1512	0.0033445	2.4757
ST 27:3;F	0.24967	-2.0019	0.0033529	2.4746
LPG 33:5	2.0189	1.0136	0.0033594	2.4737
PG 18:1_20:2	0.19606	-2.3506	0.0033632	2.4732
SHexCer 35:0;O5	2.1747	1.1208	0.0033801	2.4711
SM 44:1;O4	4.1193	2.0424	0.0033854	2.4704
PA O-41:6	4.3322	2.1151	0.0034284	2.4649
PG O-43:4	2.2961	1.1992	0.0034406	2.4634
PIP 65:4;O	0.45832	-1.1256	0.0034594	2.461
Hex2Cer 30:1;O6	2.1766	1.1221	0.003468	2.4599
Cer 44:0;O	0.53023	-0.9153	0.0034736	2.4592
SM 14:3;O2/18:2	9.1126	3.1879	0.0034786	2.4586
Cer 38:1;O3	2.217	1.1486	0.0034817	2.4582
TG 62:10	0.35891	-1.4783	0.0034911	2.457
LPE 34:4	1.6859	0.75351	0.0034982	2.4561
PC 32:1;O	3.0806	1.6232	0.0035031	2.4556
HexCer 39:3;O5	0.10002	-3.3216	0.0035147	2.4541
SM 40:5;O4	6.9963	2.8066	0.0035443	2.4505
TG 16:1_18:1_18:1	1.8293	0.87128	0.0035466	2.4502
PI 52:2;O	0.12495	-3.0006	0.0035857	2.4454
DG 54:9	4.0271	2.0097	0.0035889	2.445
PA O-38:0;O	6.1508	2.6208	0.0035951	2.4443
TG 12:1_12:3_18:5	0.33661	-1.5709	0.0036148	2.4419
PI-Cer 41:4;O4	0.13559	-2.8827	0.0036171	2.4416
PA O-58:5	7.278	2.8635	0.0036176	2.4416
DG 46:5	3.2611	1.7054	0.0036271	2.4404
TG 87:11	1.8927	0.92046	0.003637	2.4393
PG 43:6;O	0.072571	-3.7845	0.0036464	2.4381
PG 55:3	0.58772	-0.76679	0.0036524	2.4374
PE 28:2;O	0.62231	-0.68429	0.0036558	2.437
CerP 53:3;O3	0.075293	-3.7314	0.0036715	2.4352
MG 25:2	3.1579	1.6589	0.003682	2.4339
ST 29:4;O3	0.17928	-2.4797	0.0036956	2.4323
LPC O-33:4	0.1599	-2.6447	0.0037202	2.4294
Cer 20:1;O2/24:1;O	0.12477	-3.0027	0.0037271	2.4286
PC 36:2	3.7827	1.9194	0.0037987	2.4204
PI O-40:5	0.17717	-2.4968	0.0038114	2.4189
TG O-99:10	1.9778	0.98389	0.0038245	2.4174
PE 40:1;O	0.24089	-2.0535	0.0038578	2.4137

PI 35:1	0.17548	-2.5106	0.0039126	2.4075
PA O-39:3	4.9252	2.3002	0.0039263	2.406
SHexCer 38:1;O2	0.51507	-0.95716	0.0039444	2.404
HexCer 36:1;O2	3.476	1.7974	0.0039595	2.4024
SM 18:2;O2/22:2	13.254	3.7284	0.0039603	2.4023
LPC 14:2;O	2.3131	1.2099	0.0039788	2.4002
Cer 18:0;3O/23:1;(2OH)	0.12538	-2.9956	0.0039791	2.4002
PE-Cer 18:2;O2/21:1;O	0.56108	-0.83372	0.003984	2.3997
TG 54:2	0.2685	-1.897	0.0039853	2.3995
PG 17:0_18:1	0.31914	-1.6477	0.0039874	2.3993
HexCer 37:6;O2	0.19283	-2.3746	0.0040001	2.3979
PE 18:1_26:4	0.42488	-1.2349	0.0040144	2.3964
TG 14:0_16:0_16:1	0.3156	-1.6638	0.004022	2.3956
FA 29:4;O	2.1826	1.1261	0.0040357	2.3941
PC O-44:3	0.37797	-1.4037	0.0040359	2.3941
PA O-36:0;O	3.3623	1.7494	0.0040529	2.3922
PC 22:6_22:6	0.37296	-1.4229	0.0040934	2.3879
Cer 37:1;O4	2.6202	1.3897	0.0040993	2.3873
PE 20:0_16:1	0.22073	-2.1796	0.0041091	2.3862
PI 18:1_22:6	0.14942	-2.7425	0.0041166	2.3855
HexCer 45:6;O3	0.14757	-2.7605	0.0041167	2.3855
Cer 18:1;O2/23:0;O	0.15941	-2.6492	0.0041284	2.3842
PA O-42:0;O	11.199	3.4852	0.0041441	2.3826
CL 16:0_18:2_18:0_18:2	0.0059758	-7.3867	0.0041865	2.3781
FA 32:4	4.4072	2.1398	0.0042044	2.3763
PC 18:1	18.975	4.246	0.0042513	2.3715
HexCer 42:5;O2	0.5903	-0.76048	0.0042614	2.3704
TG 16:2_16:3_18:0	6.3921	2.6763	0.0042797	2.3686
FAHFA 14:0/14:0	1.5084	0.593	0.0042914	2.3674
PA 43:4	3.3034	1.7239	0.0042981	2.3667
LPC 31:3	1.7247	0.78631	0.0043034	2.3662
PC 34:3	4.3256	2.1129	0.0043246	2.3641
PC O-18:1_22:1	0.52764	-0.92237	0.004332	2.3633
TG 14:0_18:0_20:1	0.13653	-2.8727	0.004366	2.3599
PE-Cer 32:3;O3	1.96	0.97088	0.0043671	2.3598
TG 12:3_12:3_18:4	0.41692	-1.2622	0.0043671	2.3598
SM 42:1;O2	3.3935	1.7628	0.0043798	2.3585
CE 22:5	0.47704	-1.0678	0.0043968	2.3569
DG O-49:8	2.6552	1.4088	0.0044045	2.3561
CL 16:0_18:2_16:0_20:3	0.0064236	-7.2824	0.0044086	2.3557
PE O-18:5_23:0	0.15928	-2.6503	0.0044091	2.3557

PE O-38:0	0.13002	-2.9432	0.0044162	2.355
Hex2Cer 32:2;O4	0.18882	-2.4049	0.0044177	2.3548
PG O-56:0;O	0.37427	-1.4178	0.0044183	2.3547
TG O-39:0	3.1511	1.6559	0.0044184	2.3547
PIP 31:6	0.3656	-1.4517	0.0044375	2.3529
TG 13:0_14:0_16:0	0.70416	-0.50602	0.0044634	2.3503
Cer 18:2;O2/26:2;O	0.3487	-1.5199	0.0045069	2.3461
DG 32:1;O	2.3691	1.2443	0.004547	2.3423
PG 32:2	0.59333	-0.75311	0.0045472	2.3423
HexCer 54:5;O3	1.5358	0.61902	0.0045596	2.3411
HexCer 42:6;O5	2.7723	1.4711	0.0045651	2.3405
CL 14:0_18:0_14:0_18:3	0.4461	-1.1646	0.0045798	2.3392
SM 44:5;O6	9.162	3.1957	0.0045851	2.3387
SM 40:1;O6	9.0755	3.182	0.0045882	2.3384
HexCer 41:2;O4	0.30314	-1.7219	0.0045915	2.338
Cer 28:0;O3	1.5307	0.61418	0.0046038	2.3369
CL 14:0_18:1_14:0_22:3	0.0051389	-7.6043	0.0046124	2.3361
Cer 16:0;O2/18:1;O	0.1784	-2.4868	0.0046209	2.3353
TG 57:1	0.1825	-2.454	0.0046218	2.3352
DG 43:2;O	5.0002	2.322	0.0046244	2.3349
ST 23:6;O5	1.5104	0.59492	0.0046298	2.3344
DG O-55:5	1.8893	0.91784	0.0046442	2.3331
DG 17:0_18:3	5.3236	2.4124	0.0046632	2.3313
CL 16:1_18:1_18:1_18:1	0.020333	-5.62	0.0046732	2.3304
HexCer 18:0;O2/24:1;O	3.1945	1.6756	0.0046746	2.3303
TG 14:0_18:0_22:1	0.12419	-3.0094	0.0047154	2.3265
Cer 18:0;O3/19:1;(2OH)	0.08057	-3.6336	0.0047243	2.3257
MG O-28:0;O	2.567	1.3601	0.0047372	2.3245
PC 28:2	3.6509	1.8682	0.0047575	2.3226
PE 18:1_24:2	0.45571	-1.1338	0.0047919	2.3195
CL 14:0_18:2_14:0_20:3	0.27623	-1.856	0.0047961	2.3191
ACer 57:5;O3	1.5213	0.60526	0.0048252	2.3165
ACer 59:5;O3	1.5213	0.60526	0.0048252	2.3165
ACer 59:6;O3	1.5213	0.60526	0.0048252	2.3165
Cer 28:3;O2	1.5213	0.60526	0.0048252	2.3165
Cer 28:4;O2	1.5213	0.60526	0.0048252	2.3165
Cer 40:5;O2	1.5213	0.60526	0.0048252	2.3165
Cer 43:5;O3	1.5213	0.60526	0.0048252	2.3165
Cer 43:6;O3	1.5213	0.60526	0.0048252	2.3165
Cer 49:6;O4	1.5213	0.60526	0.0048252	2.3165
CerP 44:5;O6	1.5213	0.60526	0.0048252	2.3165

CerP 50:4;O2	1.5213	0.60526	0.0048252	2.3165
CerP 54:6;O5	1.5213	0.60526	0.0048252	2.3165
HexCer 46:1;O4	1.5213	0.60526	0.0048252	2.3165
HexCer 48:1;O4	1.5213	0.60526	0.0048252	2.3165
HexCer 50:2;O3	1.5213	0.60526	0.0048252	2.3165
SHexCer 40:3;O2	1.5213	0.60526	0.0048252	2.3165
PI 18:1_19:1	0.10568	-3.2422	0.0048776	2.3118
FA 31:4;O	1.4079	0.49351	0.004906	2.3093
NA 42:2;O4;N	0.2282	-2.1317	0.0049178	2.3082
ST 20:2;O2;S	0.63058	-0.66524	0.0049225	2.3078
DG 35:1;O2	0.17137	-2.5448	0.0049281	2.3073
CL 16:0_20:3_18:0_18:2	0.0056767	-7.4607	0.0049473	2.3056
ACer 66:3;O4	1.5067	0.59135	0.0049644	2.3041
LPI 30:5	0.44424	-1.1706	0.0049772	2.303
HexCer 38:3;O2	1.6055	0.68305	0.004986	2.3022
CE 18:1	0.27	-1.889	0.0050006	2.301
DG 40:6	0.13896	-2.8472	0.0050066	2.3005
CL 16:2_18:1_18:1_18:1	0.02145	-5.5429	0.0050166	2.2996
PG 56:7;O	0.15627	-2.6779	0.0050237	2.299
PA 20:1;O2	20.186	4.3353	0.0050442	2.2972
PA 30:0	5.1864	2.3747	0.0050443	2.2972
TG 52:1;O3	1.9308	0.94919	0.0050466	2.297
PC O-36:5	4.1165	2.0414	0.0050545	2.2963
CL 72:4	0.0040163	-7.9599	0.0050593	2.2959
Cer 40:2;O3	1.5148	0.59916	0.0050609	2.2958
DG 41:0;O2	0.5105	-0.97002	0.0050643	2.2955
PI 40:1;O	0.085101	-3.5547	0.0050879	2.2935
GlcADG 12:0_13:0	8.3111	3.055	0.005089	2.2934
Cer 41:4;O2	1.5088	0.59343	0.0051032	2.2922
PA 45:0	3.9901	1.9964	0.0051141	2.2912
HexCer 54:4;O3	1.5642	0.64541	0.0051396	2.2891
CL 16:0_18:2_16:0_18:2	0.019017	-5.7166	0.0051534	2.2879
PG 34:3	1.5996	0.67771	0.0052458	2.2802
PG 34:1	0.20368	-2.2957	0.005255	2.2794
Hex2Cer 36:5;O2	0.13577	-2.8807	0.005267	2.2784
ST 30:4;O5	0.40596	-1.3006	0.0052744	2.2778
SM 30:2;O5	12.425	3.6352	0.0052779	2.2775
PC 48:9;O	10.625	3.4093	0.0052836	2.2771
HexCer 36:0;O6	0.25399	-1.9771	0.0052896	2.2766
CL 70:6	0.36195	-1.4662	0.0053162	2.2744
TG 54:2;O2	3.494	1.8049	0.0053284	2.2734

SHexCer 42:1;O2	0.15915	-2.6516	0.0053299	2.2733
PI 18:1_22:5	0.18147	-2.4622	0.0053304	2.2732
Hex(2)-HexNAc-NeuAc-Cer 40:1;O2	0.32776	-1.6093	0.0053329	2.273
PA 44:0;O	8.9529	3.1624	0.0053482	2.2718
CL 14:0_18:1_16:0_18:2	0.0062917	-7.3123	0.0053692	2.2701
FA 20:2	0.056717	-4.1401	0.0053706	2.27
LPE O-22:0;O	0.33983	-1.5571	0.0053849	2.2688
Hex2Cer 32:1;O4	0.16121	-2.633	0.0054199	2.266
CerP 51:3;O3	0.1678	-2.5752	0.0054231	2.2657
Cer 18:1;O2/22:1;O	0.12704	-2.9767	0.00543	2.2652
PC 43:2;O	3.2742	1.7112	0.0054324	2.265
Cer 42:1;O4	0.21409	-2.2237	0.0054339	2.2649
DG 45:3	1.9892	0.99218	0.0054348	2.2648
CL 16:0_20:3_18:1_18:1	0.019959	-5.6468	0.0054462	2.2639
SM 45:3;O4	4.421	2.1444	0.0054493	2.2637
DG O-42:0;O2	2.5052	1.3249	0.0054806	2.2612
CL 14:0_18:0_18:0_22:4	0.020638	-5.5985	0.0055064	2.2591
PI 18:0_22:6	0.18333	-2.4474	0.0055083	2.259
DG O-33:0	3.569	1.8355	0.0055693	2.2542
TG O-73:0;O3	0.02715	-5.2029	0.0056148	2.2507
PA O-42:5	0.29679	-1.7525	0.0056862	2.2452
DG O-44:3	2.9654	1.5682	0.0057087	2.2435
PI O-67:5	0.12866	-2.9583	0.0057195	2.2426
PA O-50:6	2.1785	1.1233	0.0057241	2.2423
PE-Cer 40:0;O6	2.9072	1.5396	0.0057533	2.2401
PG 15:0_18:1	0.4207	-1.2491	0.0057861	2.2376
PE 32:2;O	0.32626	-1.6159	0.0057938	2.237
FA 20:1	0.047797	-4.3869	0.0057992	2.2366
PI-Cer 49:2;O3	0.25556	-1.9683	0.005817	2.2353
FA 24:2	0.19421	-2.3643	0.0058175	2.2353
PG 58:9;O	0.13063	-2.9364	0.0058281	2.2345
HBMP 16:0_18:1_18:1	0.089271	-3.4857	0.0058468	2.2331
DG 12:0_16:0	0.16201	-2.6259	0.0058605	2.2321
MG 16:0	0.06256	-3.9986	0.0058736	2.2311
DG 39:4;O	4.0292	2.0105	0.0058921	2.2297
PC 16:0_18:1	0.35161	-1.508	0.005917	2.2279
NAE 17:0	0.4499	-1.1523	0.005922	2.2275
PG 42:6;O	0.22111	-2.1772	0.0059367	2.2265
FA 20:0;O3	1.9982	0.9987	0.0059392	2.2263
DG 44:8;O	1.4239	0.50981	0.0059582	2.2249

TG O-14:0_18:0_18:1	0.11131	-3.1673	0.005963	2.2245
DG 39:6;O	1.5017	0.58662	0.0059981	2.222
Cer 44:1;O5	0.58233	-0.78009	0.0060044	2.2215
DG 61:2;O	2.4252	1.2781	0.0060461	2.2185
PI 18:1_20:4	0.17571	-2.5087	0.0060547	2.2179
Hex(2)-HexNeuAc(3)-Cer 34:1;O2	2.2034	1.1397	0.0060747	2.2165
PC 12:0_16:0	0.30521	-1.7121	0.006078	2.2162
CL 69:4	0.22412	-2.1577	0.0060935	2.2151
DG 23:2	3.072	1.6192	0.0061558	2.2107
DG 30:2	3.072	1.6192	0.0061558	2.2107
DG 33:3	3.072	1.6192	0.0061558	2.2107
DG 54:7	3.072	1.6192	0.0061558	2.2107
SQDG 36:0	3.072	1.6192	0.0061558	2.2107
DG 36:1	3.072	1.6192	0.0061558	2.2107
DG 38:0;O2	3.0596	1.6133	0.0062127	2.2067
LPC 22:5	0.1086	-3.2029	0.0062147	2.2066
DG 40:2;O	2.3599	1.2387	0.0062346	2.2052
TG O-35:1	0.27772	-1.8483	0.0062481	2.2042
DG O-16:1_18:1	0.064826	-3.9473	0.0062801	2.202
DG 18:1_34:1	3.0447	1.6063	0.0062891	2.2014
PC 20:4	18.958	4.2447	0.0063055	2.2003
PC 45:2;O	3.2596	1.7047	0.006322	2.1991
PE-Cer 36:3;O2	0.48	-1.0589	0.0063511	2.1972
DG 40:1;O	3.2595	1.7046	0.0063973	2.194
Hex(4)-HexNAc(2)-Fuc(2)-Cer 34:1;O2	0.32185	-1.6355	0.0063995	2.1939
SQDG 31:0	3.2389	1.6955	0.006415	2.1928
TG 70:12;O2	0.21382	-2.2255	0.0064157	2.1928
DG 40:6;O2	1.7757	0.82842	0.0064435	2.1909
LPG 18:1	0.40865	-1.2911	0.0065026	2.1869
AcylGlcADG 22:4_22:6_20:5	6.082	2.6046	0.0065028	2.1869
PC 34:1	3.8533	1.9461	0.0065204	2.1857
ACer 42:6;O3	1.4887	0.57403	0.006528	2.1852
PC 14:0_18:0	6.1863	2.6291	0.0065287	2.1852
CL 71:6	0.4443	-1.1704	0.0065565	2.1833
DG 61:8	2.9955	1.5828	0.006567	2.1826
DG 62:10	3.0279	1.5983	0.0065873	2.1813
PE 52:5	1.7026	0.76778	0.0065922	2.181
CerP 43:5;O2	0.60095	-0.73468	0.0065976	2.1806
WE 38:3	2.9863	1.5784	0.0066041	2.1802
ST 28:1;O	0.24806	-2.0113	0.0066131	2.1796

Cer 19:1;O2/24:1;O	0.11276	-3.1486	0.0066138	2.1795
HexCer 35:1;O2	1.4874	0.57275	0.0066295	2.1785
PG 44:9	0.37827	-1.4025	0.0066358	2.1781
PC 38:1;O	3.3097	1.7267	0.0066919	2.1744
PG O-36:2	0.23446	-2.0926	0.0066931	2.1744
PE 16:0_18:1	0.2447	-2.0309	0.0066935	2.1743
PC 44:0	6.4906	2.6984	0.006706	2.1735
SM 40:1;O4	3.9967	1.9988	0.0067529	2.1705
PG 18:0_20:3;O3	0.16038	-2.6405	0.00679	2.1681
PA O-47:3	10.698	3.4193	0.0067988	2.1676
ST 28:2;O	0.17728	-2.4959	0.0068095	2.1669
DG 64:7	2.9498	1.5606	0.0068517	2.1642
PC 23:1;O	3.8661	1.9509	0.006861	2.1636
Hex2Cer 30:1;O3	0.37295	-1.423	0.0068791	2.1625
ST 43:3;O2	0.076573	-3.707	0.0068862	2.162
TG 98:19	4.4313	2.1477	0.0068935	2.1616
PA 23:2;O3	16.138	4.0123	0.0069105	2.1605
DG 44:7;O	2.1521	1.1058	0.0069361	2.1589
CL 14:0_18:0_14:0_20:4	0.033886	-4.8832	0.0069824	2.156
PC 44:3	3.0701	1.6183	0.0069832	2.1559
PIP 67:5;O	0.36106	-1.4697	0.0070244	2.1534
PI 18:0_20:1	0.24238	-2.0447	0.0070261	2.1533
PA O-35:1	3.4506	1.7868	0.0070333	2.1528
ST 29:3;O4	2.227	1.1551	0.0070651	2.1509
CL 16:0_18:2_16:0_22:4	0.022058	-5.5025	0.0070746	2.1503
CerP 46:2;O3	0.11514	-3.1185	0.0070766	2.1502
PIP3 33:8	4.1047	2.0373	0.0070781	2.1501
LPC 16:0	0.49247	-1.0219	0.0070793	2.15
FAHFA 26:2;O	2.924	1.548	0.0070934	2.1491
Hex(8)-Cer 36:1;O2	0.63903	-0.64604	0.0071066	2.1483
DG O-38:0	2.9139	1.543	0.0071148	2.1478
PA 42:0;O	11.119	3.4749	0.0071316	2.1468
PA 44:5	0.34476	-1.5363	0.0071397	2.1463
PE O-20:3_27:0	0.053356	-4.2282	0.0071611	2.145
PG 45:6;O	0.1237	-3.0151	0.0071674	2.1446
Hex2Cer 34:3;O3	0.12489	-3.0012	0.0071759	2.1441
DG 31:2	2.9527	1.562	0.0071877	2.1434
DGTS 2:0_15:0	3.0983	1.6315	0.0071947	2.143
DG 56:5	2.9032	1.5376	0.0072031	2.1425
PI O-18:0_22:5	0.15664	-2.6745	0.0072683	2.1386
CerP 48:5;O4	0.58449	-0.77476	0.0072694	2.1385

CL 14:0_18:1_16:1_18:1	0.039536	-4.6607	0.0072704	2.1384
CL 14:0_18:1_18:0_18:2	0.0091654	-6.7696	0.0073053	2.1364
Cer 44:6;O	0.37541	-1.4135	0.0073122	2.136
LPC 26:1	0.40373	-1.3085	0.0073609	2.1331
LPC 16:3;O	2.3833	1.253	0.0073722	2.1324
TG 66:11	0.11659	-3.1005	0.0074027	2.1306
TG 14:0_15:0_17:0	0.24684	-2.0183	0.0074413	2.1283
CE 26:2	0.2445	-2.0321	0.0074731	2.1265
PE 23:6	2.4449	1.2898	0.0074863	2.1257
TG 60:1	0.29517	-1.7604	0.0075157	2.124
SM 38:0;O4	8.1135	3.0203	0.0076005	2.1192
PE 50:7	1.5102	0.59472	0.0076062	2.1188
TG 59:1	0.31563	-1.6637	0.0076288	2.1175
PE-Cer 28:2;O2	0.56711	-0.8183	0.007667	2.1154
Cer 44:1;O2	0.26517	-1.915	0.0076686	2.1153
Car 34:7	1.7107	0.77462	0.0076793	2.1147
CL 14:0_18:0_14:0_22:5	0.041933	-4.5758	0.0076857	2.1143
MIPC 42:3;O2	0.1529	-2.7094	0.007793	2.1083
Car 34:2	0.14286	-2.8073	0.0078331	2.1061
FOH 10:2	2.8401	1.5059	0.0078637	2.1044
CerP 52:0;O5	1.4868	0.57225	0.0078823	2.1033
FA 17:0	0.69597	-0.52291	0.007888	2.103
PI 18:0_20:3	0.16997	-2.5566	0.0079203	2.1013
TG 40:6;O	1.6987	0.76444	0.0079334	2.1005
DG O-54:3	2.8284	1.5	0.0079408	2.1001
Car 20:5;O4	1.7193	0.78186	0.0079534	2.0994
SHexCer 54:2;O2	0.11398	-3.1331	0.0079748	2.0983
CL 16:0_18:2_16:0_20:4	0.0059682	-7.3885	0.0079767	2.0982
CerP 52:2;O2	1.4863	0.57168	0.00798	2.098
WE 25:1	3.1537	1.6571	0.0079834	2.0978
PA 45:6	4.1897	2.0668	0.0079838	2.0978
CE 30:1;O	0.51446	-0.95888	0.0079956	2.0972
HexCer 37:5;O2	0.39794	-1.3294	0.0080106	2.0963
CL 16:0_18:2_16:0_18:3	0.0049923	-7.6461	0.0081023	2.0914
MG 27:2;O	2.4284	1.28	0.0081174	2.0906
DG O-56:8	2.7901	1.4803	0.0081276	2.09
TG 40:0	2.5896	1.3727	0.0081962	2.0864
PG O-89:0;O8	3.5146	1.8134	0.0082152	2.0854
PG O-45:0	0.70759	-0.49902	0.0082212	2.0851
HexCer 45:5;O5	3.1386	1.6501	0.0082841	2.0818
TG 12:0_16:0_16:1	0.49458	-1.0157	0.0083078	2.0805

CL 14:0_18:2_16:0_18:2	0.0048034	-7.7017	0.0083105	2.0804
DG 16:0_18:3	2.8882	1.5302	0.0083358	2.0791
PG 40:3	0.44574	-1.1657	0.008386	2.0764
TG 12:0_14:0_18:0	0.44599	-1.1649	0.0084149	2.0749
PG 39:4;O	0.13439	-2.8955	0.0084192	2.0747
PE O-18:0_24:2	0.1398	-2.8385	0.0084662	2.0723
DG 62:11	2.7553	1.4622	0.0084813	2.0715
PG 50:3;O	0.10379	-3.2683	0.0085059	2.0703
PC O-14:1_10:0	0.5449	-0.87593	0.0085903	2.066
WE 22:0;O4	3.0735	1.6199	0.0086025	2.0654
PI O-18:1_16:0	0.078503	-3.6711	0.0086026	2.0654
HexCer 45:3;O5	0.24272	-2.0427	0.0086184	2.0646
DG 32:7	4.32	2.111	0.0086382	2.0636
PE O-42:0	0.27601	-1.8572	0.008709	2.06
LPC O-31:3	0.3965	-1.3346	0.0087782	2.0566
DG 66:8	2.7596	1.4644	0.0087784	2.0566
PE 18:0_22:6	0.2499	-2.0006	0.0088157	2.0547
HexCer 40:6;O2	0.13815	-2.8557	0.0088229	2.0544
PI-Cer 51:2;O2	0.20625	-2.2775	0.0088252	2.0543
TG 14:0_18:0_19:1	0.36374	-1.459	0.0088267	2.0542
CerP 54:5;O3	0.10211	-3.2918	0.008829	2.0541
CerP 49:4;O2	0.11854	-3.0765	0.0088841	2.0514
SHexCer 38:1;O4	0.23824	-2.0695	0.0089134	2.05
SLBPA 42:0	2.3882	1.2559	0.0089301	2.0491
DG O-41:4	2.7037	1.4349	0.0089328	2.049
PA 41:6	3.0326	1.6006	0.008939	2.0487
FA 30:5	2.0198	1.0142	0.0089875	2.0464
Hex2Cer 33:2;O4	0.13556	-2.883	0.0090163	2.045
ST 27:3	0.083893	-3.5753	0.0090267	2.0445
SPBP 16:1;O3	1.6108	0.68777	0.0090355	2.044
PI-Cer 41:3;O4	0.26823	-1.8984	0.0090419	2.0437
SM 38:3;O2	3.5967	1.8467	0.0090742	2.0422
Cer 20:0;O2/16:1;O	0.17021	-2.5546	0.0090982	2.041
PR 59:14;O4	0.18321	-2.4485	0.009124	2.0398
PC 20:0_16:2	3.7432	1.9043	0.0091425	2.0389
LPI 18:1; [M-H]-	0.14911	-2.7456	0.0091577	2.0382
SM 44:2;O4	4.8379	2.2744	0.0091804	2.0371
PG 39:0	0.23738	-2.0747	0.0091822	2.0371
PC 42:3	2.7475	1.4581	0.0091998	2.0362
ST 28:3;O3;Cl	0.14542	-2.7817	0.0092071	2.0359
CL 75:6	0.42562	-1.2324	0.0093161	2.0308

DG 34:4	2.7292	1.4485	0.0093515	2.0291
Cer 18:0;O3/21:1;(2OH)	0.19102	-2.3882	0.0093718	2.0282
HexCer 43:1;O5	0.51472	-0.95815	0.0094138	2.0262
NAE 19:2	0.37757	-1.4052	0.0094201	2.0259
CerP 14:0;O2/10:0	0.25739	-1.958	0.0094528	2.0244
HexCer 31:0;O6	1.5438	0.62652	0.009458	2.0242
CerP 47:2;O2	0.26458	-1.9182	0.0095402	2.0204
PC O-66:0	3.6285	1.8594	0.0095501	2.02
LPA O-31:2	1.5489	0.6312	0.0095654	2.0193
HexCer 45:0;O5	1.458	0.54395	0.0096242	2.0166
PC 14:0_16:0	3.3821	1.7579	0.0096491	2.0155
SM 44:6;O2	4.4825	2.1643	0.0097331	2.0117
PI O-63:3	0.25712	-1.9595	0.0097558	2.0107
PE 44:1	0.42617	-1.2305	0.0097911	2.0092
PE 24:0_20:4	0.61294	-0.70618	0.0098707	2.0057
DG O-38:4	2.6615	1.4122	0.0099413	2.0026
HBMP 14:0_18:1_22:2	0.23738	-2.0747	0.0099857	2.0006
TG 84:5;O3	0.40958	-1.2878	0.01004	1.9983
TG 14:2_14:2_16:5	0.43808	-1.1907	0.010089	1.9962
LPC 30:0;O	0.57577	-0.79643	0.010095	1.9959
DG 60:4	3.0883	1.6268	0.010109	1.9953
MG O-18:1	0.043734	-4.5151	0.010111	1.9952
HexCer 41:3;O5	0.31522	-1.6656	0.010112	1.9952
DG 30:0;O2	3.9965	1.9987	0.010115	1.9951
HexCer 41:1;O4	0.39845	-1.3275	0.010116	1.995
ST 24:2;O2	0.07326	-3.7708	0.010138	1.9941
GD1b d42:1	2.7258	1.4467	0.010138	1.994
PC 16:0_26:0	2.4123	1.2704	0.01014	1.994
PIP 66:2	0.31327	-1.6745	0.010181	1.9922
FAHFA 19:0/19:2	1.6804	0.74882	0.010202	1.9913
DG 40:4;O	1.503	0.58781	0.010207	1.9911
Cer 35:1;O2	0.5517	-0.85803	0.010213	1.9909
DG O-45:7	2.5949	1.3757	0.010225	1.9904
HexCer 40:1;O4	0.36871	-1.4394	0.010232	1.9901
CL 74:5	0.4183	-1.2574	0.010256	1.989
WE 19:5	3.6661	1.8742	0.01026	1.9889
Cer 44:1;O4	0.34214	-1.5473	0.010296	1.9874
PIP3 47:9	2.2196	1.1503	0.010314	1.9866
LPE 20:1	1.4392	0.52523	0.010356	1.9848
PIP 68:8;O	0.32511	-1.621	0.010412	1.9825
TG 97:11;O3	0.44296	-1.1748	0.010417	1.9823

PE 30:1	0.61261	-0.70695	0.010429	1.9818
MGDG 17:0_18:2	2.2205	1.1509	0.01043	1.9817
PI 15:0_18:1	1.4251	0.51107	0.010503	1.9787
LPA 18:1	0.23082	-2.1152	0.010513	1.9783
FOH 16:0	1.5112	0.59567	0.010525	1.9778
TG 15:0_16:0_17:1	0.16897	-2.5652	0.01054	1.9772
NAT 26:3;O3	1.4578	0.54378	0.010549	1.9768
HBMP 14:0_18:1_22:1	0.13693	-2.8685	0.010559	1.9764
Cer 34:2;O2	0.26599	-1.9106	0.010605	1.9745
PI O-18:1_20:4	0.14093	-2.8269	0.010609	1.9743
PA 44:0	6.1874	2.6293	0.010655	1.9724
TG 46:1;O	0.14898	-2.7468	0.010675	1.9717
Cer 38:0;O6	1.5956	0.67413	0.010681	1.9714
HexCer 18:2;O2/26:2	2.9659	1.5685	0.010707	1.9703
DG 20:5;O2	3.5819	1.8407	0.010708	1.9703
PC O-18:1_20:2	0.43371	-1.2052	0.010748	1.9687
PE-Cer 34:1;O;P	0.64735	-0.62738	0.010753	1.9685
PI 40:6	0.063514	-3.9768	0.010755	1.9684
SLBPA 54:3	0.12582	-2.9906	0.010763	1.9681
FA 32:0;O4	4.3564	2.1231	0.010765	1.968
LPI O-16:0	1.9269	0.94631	0.010782	1.9673
PE 28:0	0.43093	-1.2145	0.010824	1.9656
PC O-42:2	3.9271	1.9734	0.010834	1.9652
FAHFA 35:1;O	0.49208	-1.023	0.010843	1.9649
FA 17:0;O2	0.57123	-0.80786	0.01087	1.9638
HexCer 42:6;O4	1.8507	0.88809	0.010879	1.9634
SHexCer 28:1;O2	2.1639	1.1136	0.010897	1.9627
LPC 18:1;O	2.1766	1.1221	0.010919	1.9618
NAE 33:5;O	7.5972	2.9255	0.010964	1.96
HexCer 18:0;O2/20:1	1.9536	0.96611	0.010993	1.9589
CerP 30:2;O5	1.4692	0.55498	0.011002	1.9585
NAT 19:2	1.5264	0.61016	0.01103	1.9574
NAT 33:1;O	1.5264	0.61016	0.01103	1.9574
Cer 18:2;O2/24:1;O	0.11463	-3.125	0.011067	1.956
PA 16:1_20:1	0.29051	-1.7834	0.011184	1.9514
PI-Cer 39:2;O2	0.40031	-1.3208	0.011186	1.9513
LPG 31:1	0.46986	-1.0897	0.011209	1.9504
PC O-16:1_20:1	2.6399	1.4005	0.011213	1.9503
PC 44:6	2.2093	1.1436	0.011216	1.9502
TG 14:0_18:0_18:1	0.16214	-2.6247	0.011217	1.9501
PR 53:11;O2	0.17095	-2.5483	0.011223	1.9499

ST 30:2;O6;G	0.20256	-2.3035	0.011257	1.9486
PI O-65:4	0.096327	-3.3759	0.011272	1.948
PG 42:4	0.39992	-1.3222	0.011312	1.9465
PC O-18:1_22:2	0.42886	-1.2214	0.011319	1.9462
DG 53:4	2.5336	1.3412	0.011358	1.9447
PG 18:1_20:1	0.30095	-1.7324	0.011371	1.9442
HexCer 18:1;O2/22:0	1.917	0.93884	0.011374	1.9441
DG 15:0_18:1	0.15457	-2.6937	0.01142	1.9423
PC 43:7	2.7746	1.4723	0.011426	1.9421
NAE 33:0;O3	1.5144	0.59872	0.01144	1.9416
PE 18:0_16:1	0.26946	-1.8918	0.011482	1.94
GalNAc-GD1a(d18:1/16:0)	3.1317	1.647	0.011483	1.9399
Cer 45:6;O3	0.50003	-0.99992	0.01151	1.9389
PI-Cer 37:2;O2	0.49848	-1.0044	0.011524	1.9384
FA 24:1	0.36343	-1.4603	0.011536	1.9379
CL 16:0_18:1_18:0_18:2	0.0082505	-6.9213	0.011568	1.9368
PI 16:0_18:1	2.06	1.0426	0.011578	1.9364
SHexCer 52:1;O2	0.092363	-3.4365	0.011579	1.9363
DG O-18:1_20:5	0.090717	-3.4625	0.011583	1.9362
DG dO-36:0	2.4983	1.321	0.011588	1.936
Hex2Cer 28:1;O5	2.095	1.0669	0.011637	1.9342
DG 18:0_30:0	0.083829	-3.5764	0.01164	1.934
PI-Cer 38:0;O4	0.34427	-1.5384	0.011657	1.9334
CL 14:0_18:1_18:1_18:1	0.030061	-5.056	0.01166	1.9333
Cer 21:0;O3/24:1;(2OH)	0.073551	-3.7651	0.011669	1.933
PE 5:0_18:5	2.9307	1.5512	0.011693	1.9321
Hex2Cer 44:6;O2	0.50813	-0.97674	0.011752	1.9299
HexCer 41:5;O4	0.30761	-1.7008	0.011762	1.9295
PC O-18:1_14:0	0.43705	-1.1941	0.011807	1.9279
FA 22:1	0.15803	-2.6617	0.011846	1.9264
DG 52:4	2.4459	1.2904	0.011871	1.9255
SPB 18:1;O3	1.826	0.86872	0.011888	1.9249
LPC 20:4	0.47812	-1.0646	0.011894	1.9247
PC 46:1	4.6002	2.2017	0.011918	1.9238
PG 14:1_18:1	0.34476	-1.5363	0.012015	1.9203
CL 16:0_18:3_16:0_18:3	0.29878	-1.7428	0.012067	1.9184
CE 22:2	0.14915	-2.7451	0.012075	1.9181
CE 20:5	2.1331	1.093	0.012081	1.9179
DG O-43:3	0.60331	-0.72902	0.012083	1.9178
SM 38:3;O6	7.3743	2.8825	0.012085	1.9178
SM 50:3;O3	2.5891	1.3725	0.012092	1.9175

DG 42:4;O	2.3591	1.2382	0.012097	1.9173
DG O-18:2_22:5	0.11934	-3.0669	0.0121	1.9172
PA 61:7	3.0948	1.6299	0.012112	1.9168
PA 41:4	6.6539	2.7342	0.01213	1.9161
SHexCer 40:1;O4	0.45853	-1.1249	0.01228	1.9108
SM 20:0;O2/16:2	3.0601	1.6136	0.012296	1.9102
Cer 17:0;3O/18:1;(2OH)	0.077663	-3.6866	0.012299	1.9101
LPI 12:3	3.2083	1.6818	0.012311	1.9097
LPI 11:3	2.2464	1.1676	0.012335	1.9089
Cer 19:0;O2/24:2;O	0.15212	-2.7167	0.012361	1.9079
DG O-18:2_20:4	0.12213	-3.0335	0.012377	1.9074
DG 36:0;O2	3.6505	1.8681	0.012438	1.9052
SM 18:2;O2/24:2	9.0146	3.1723	0.012477	1.9039
ACer 58:0;O3	0.081194	-3.6225	0.012483	1.9037
PI 36:5	0.30784	-1.6998	0.012577	1.9004
PC 32:0	2.9451	1.5583	0.012609	1.8993
PC 30:0	5.0786	2.3444	0.012617	1.899
PA O-35:9	12.051	3.5911	0.012693	1.8964
PA 18:1_20:1	0.11841	-3.0781	0.012743	1.8947
LPC 16:0;O	2.1543	1.1072	0.012805	1.8926
PE-Cer 42:6;O4	0.1822	-2.4564	0.012807	1.8926
PA 40:4	0.42536	-1.2333	0.012831	1.8917
PI 18:0_20:2	0.16716	-2.5807	0.012969	1.8871
DG 40:7;O	0.49711	-1.0084	0.012987	1.8865
TG 14:0_16:0_18:4	2.2635	1.1785	0.012991	1.8864
Cer 18:1;3O/23:1;(2OH)	0.11199	-3.1585	0.013007	1.8858
SHexCer 32:5;O3	0.54003	-0.88888	0.013012	1.8857
SL 22:0;O/22:3	0.054219	-4.2051	0.01309	1.883
PC O-18:1_24:2	0.30834	-1.6974	0.013138	1.8815
CerP 50:2;O2	1.4651	0.55098	0.013144	1.8813
PI-Cer 38:3;O4	0.097376	-3.3603	0.01325	1.8778
HexCer 43:4;O2	0.47296	-1.0802	0.01325	1.8778
Cer 49:1;O4	1.5398	0.62273	0.013278	1.8769
ST 23:2;O3;G	0.19119	-2.387	0.013285	1.8766
PC 34:2	5.3496	2.4194	0.013306	1.8759
CL 16:0_18:2_16:0_22:5	0.014592	-6.0986	0.013343	1.8747
PA 55:0	2.9452	1.5584	0.013362	1.8741
Cer 43:6;O	0.4281	-1.224	0.013376	1.8737
SM 32:2;O2	9.1811	3.1987	0.013378	1.8736
PS 20:0_16:2	1.9538	0.96626	0.013381	1.8735
DG 14:0_16:0	2.1371	1.0956	0.013405	1.8727

PG 14:0_18:2	0.36959	-1.436	0.013462	1.8709
DG O-42:1	2.7864	1.4784	0.013467	1.8707
HexCer 49:2;O5	0.55631	-0.84604	0.013473	1.8706
HBMP 16:1_18:1_18:1	0.31255	-1.6778	0.013485	1.8701
TG 54:7	1.6621	0.73297	0.01353	1.8687
PA 41:1	9.8308	3.2973	0.013592	1.8667
PIP 62:4;O	0.3886	-1.3636	0.013607	1.8663
ST 27:4;O2	0.11114	-3.1696	0.013613	1.8661
SM 45:5;O4	6.9978	2.8069	0.013672	1.8642
ST 27:1;O4;Hex	0.15604	-2.68	0.013677	1.864
SL 25:0;O/26:0	0.032966	-4.9229	0.01371	1.863
DG 16:1_20:1	24.879	4.6368	0.013711	1.8629
PI-Cer 39:2;O3	1.4098	0.49544	0.013723	1.8626
DG O-43:5	2.4845	1.3129	0.013784	1.8606
CL 74:10	0.36795	-1.4424	0.013804	1.86
ST 31:5;O7	0.16665	-2.5851	0.013853	1.8585
PI 42:2	0.43875	-1.1885	0.013888	1.8574
TG O-45:2	0.5141	-0.95988	0.013913	1.8566
ST 28:7;O;Hex	0.3827	-1.3857	0.014078	1.8514
Cer 44:1;O3	0.075808	-3.7215	0.014087	1.8512
CL 72:7	0.41058	-1.2843	0.014101	1.8508
HexCer 39:6;O6	1.9217	0.94241	0.014139	1.8496
TG 100:16;O3	0.52742	-0.92296	0.014191	1.848
CL 73:9	0.46818	-1.0949	0.0143	1.8447
PC 31:1	14.955	3.9026	0.014301	1.8446
TG 46:2;O	0.38874	-1.3631	0.014315	1.8442
TG 51:3	1.7502	0.80755	0.014321	1.844
MG 18:2;O	0.094722	-3.4002	0.014344	1.8433
TG 54:5	1.9706	0.97862	0.014354	1.843
PI-Cer 36:2;O2	0.3542	-1.4973	0.014361	1.8428
TG 48:0;O3	2.4393	1.2865	0.014362	1.8428
CerP 44:4;O5	1.4379	0.52395	0.014374	1.8424
MG O-20:1	0.42657	-1.2291	0.014381	1.8422
Hex(3)-HexNAc(2)-NeuAc(2)-Cer 42:2;O2	2.756	1.4626	0.014437	1.8405
DG 39:4;O2	2.2111	1.1447	0.014473	1.8395
TG 56:1	0.27355	-1.8701	0.014497	1.8387
CL 69:3	0.41233	-1.2781	0.014502	1.8386
DG O-62:7	2.4044	1.2657	0.014518	1.8381
Hex2Cer 31:1;O3	1.4612	0.54717	0.014524	1.8379
DG 38:6;O2	4.3595	2.1242	0.014539	1.8375

PE 18:0_20:3	0.32451	-1.6237	0.014543	1.8373
Cer 18:1;O3/21:1;(2OH)	0.17105	-2.5475	0.01463	1.8348
DG 18:0_32:0	0.14592	-2.7767	0.014644	1.8343
Cer 39:5;O2	1.4194	0.50524	0.014645	1.8343
SM 18:0;O2/25:1	7.2049	2.849	0.014678	1.8333
HexCer 38:2;O5	0.61671	-0.69735	0.01468	1.8333
FA 18:1	0.52525	-0.92892	0.014739	1.8315
LPE O-18:2	0.28395	-1.8163	0.01487	1.8277
DG O-39:0	0.22813	-2.1321	0.014903	1.8267
PIP 64:5;O	0.45021	-1.1513	0.014911	1.8265
Cer 18:1;O2/23:1;O	0.10255	-3.2857	0.014915	1.8264
PI 18:0_20:4	0.18337	-2.4472	0.014991	1.8242
SPB 22:2;O3	4.3804	2.1311	0.01509	1.8213
Hex(3)-HexNAc-NeuAc(2)-Cer 42:2;O2	1.9917	0.99404	0.015173	1.8189
PC 38:5	3.115	1.6392	0.015232	1.8172
PI-Cer 34:1;O6	1.8221	0.86557	0.015252	1.8167
PE-Cer 54:0;O3	0.66552	-0.58744	0.015313	1.815
PC 25:1;O	2.7871	1.4788	0.015362	1.8136
TG 48:1	1.8579	0.89364	0.015404	1.8124
DG 35:4	2.471	1.3051	0.015505	1.8095
MG O-16:0;O	0.60973	-0.71375	0.015505	1.8095
DG 24:0;O2	2.2281	1.1558	0.015516	1.8092
CE 20:1	0.14956	-2.7412	0.015529	1.8089
TG 16:0_17:1_18:1	1.7352	0.79509	0.015582	1.8074
PI O-38:2	0.20426	-2.2915	0.015677	1.8047
Cer 46:1;O3	0.27155	-1.8807	0.01571	1.8038
DG 58:4	0.217	-2.2042	0.01572	1.8035
HexCer 38:0;O2	1.433	0.51908	0.015772	1.8021
CE 16:0	2.8006	1.4858	0.015778	1.802
SPB 23:3;O3	0.31353	-1.6733	0.015783	1.8018
DG 44:10	0.30127	-1.7309	0.015813	1.801
LPC 20:2;O	2.0811	1.0573	0.015814	1.8009
HexCer 44:1;O6	0.6437	-0.63555	0.015864	1.7996
PA 39:6	5.7382	2.5206	0.015882	1.7991
DG O-16:2_18:0	0.07806	-3.6793	0.015897	1.7987
HexCer 36:5;O2	0.39177	-1.3519	0.016002	1.7958
LPC O-24:5	2.2638	1.1787	0.016023	1.7953
TG 14:1_14:3_19:5	0.31481	-1.6675	0.016034	1.795
PIP 67:4;O	0.49008	-1.0289	0.016038	1.7949
CL 71:5	0.20016	-2.3208	0.016062	1.7942

MGDG 20:3_20:3	2.9502	1.5608	0.016069	1.794
PI 54:4;O	0.37701	-1.4073	0.016135	1.7922
PR 45:6;O	0.050078	-4.3197	0.01614	1.7921
PI O-55:3	0.56927	-0.81282	0.016162	1.7915
PA O-58:8	3.3654	1.7508	0.016203	1.7904
HexCer 48:2;O4	1.4352	0.52124	0.016218	1.79
TG 75:2;O3	0.041716	-4.5833	0.016322	1.7872
TG 55:2;O	1.4724	0.55816	0.016382	1.7856
SM 16:0;O2/18:1	8.9584	3.1632	0.0164	1.7852
NAT 32:0;O	0.56731	-0.81779	0.016414	1.7848
PC 32:1	3.2204	1.6872	0.016418	1.7847
Car 34:2;O	0.19818	-2.3351	0.016428	1.7844
ST 30:4;O	0.3872	-1.3688	0.016467	1.7834
HexCer 16:0;O2/18:1	2.4755	1.3077	0.016523	1.7819
SHexCer 43:3;O4	0.13682	-2.8697	0.016529	1.7818
SM 54:0;O3	2.3131	1.2099	0.016577	1.7805
DG O-38:1	2.4592	1.2982	0.0166	1.7799
PA 39:3	0.54796	-0.86785	0.01661	1.7796
LPC 32:0;O	0.67741	-0.5619	0.016676	1.7779
SHexCer 42:0;O2	0.24989	-2.0006	0.016723	1.7767
PA 41:8	3.2137	1.6842	0.01677	1.7755
Cer 44:6;O2	0.56339	-0.82778	0.016778	1.7753
TG 16:0_18:0_22:2	0.12494	-3.0007	0.016809	1.7745
Cer 18:0;O2/26:1;O	0.65126	-0.6187	0.016899	1.7721
Car 33:6;O4	1.4474	0.53349	0.016924	1.7715
PE 3:0_18:4	2.4594	1.2983	0.016954	1.7707
PG 44:7	1.5744	0.65477	0.016978	1.7701
DG 56:8	2.3989	1.2624	0.016978	1.7701
TG 15:0_16:0_17:0	0.30156	-1.7295	0.017076	1.7676
HexCer 43:4;O5	0.35496	-1.4943	0.017092	1.7672
DG 39:5;O	1.4857	0.57113	0.017104	1.7669
PIP3 24:0	0.2474	-2.0151	0.017129	1.7663
DG 44:3	1.6436	0.71686	0.017157	1.7656
HexCer 36:1;O5	0.20028	-2.3199	0.017181	1.7649
PS 19:0_18:2	0.079451	-3.6538	0.017231	1.7637
PG 18:1_19:1	0.24635	-2.0212	0.017335	1.7611
CE 25:6	0.45847	-1.1251	0.017363	1.7604
Hex(3)-HexNAc-NeuAc(2)-Cer 36:1;O2	3.397	1.7643	0.017371	1.7602
PA 40:7	2.0797	1.0564	0.017385	1.7598
PI 38:1	0.41672	-1.2628	0.017395	1.7596

ST 27:6;O2	0.17971	-2.4763	0.017511	1.7567
Car 20:4;O2	1.7405	0.79947	0.01763	1.7538
PE 18:1_20:4	0.57661	-0.79432	0.017667	1.7528
HexCer 33:2;O6	0.42709	-1.2274	0.017676	1.7526
LPE 16:1	0.46927	-1.0915	0.017683	1.7525
PC O-18:1_24:1	0.37178	-1.4275	0.017705	1.7519
DG O-43:6	2.3565	1.2366	0.017774	1.7502
PI O-18:1_22:6	0.49977	-1.0007	0.017801	1.7495
DG O-16:1_18:0	0.065517	-3.932	0.017853	1.7483
SM 18:3;O2/25:1	16.972	4.0851	0.017887	1.7475
FAHFA 33:1;O	2.2927	1.1971	0.017964	1.7456
HexCer 40:5;O2	0.47617	-1.0705	0.01801	1.7445
FA 24:0;O3	1.667	0.73727	0.018033	1.7439
PC O-38:1	4.3353	2.1161	0.018234	1.7391
MGDG O-11:0_16:0	4.4584	2.1565	0.018239	1.739
FA 16:3;O4	1.4333	0.5193	0.018254	1.7386
PI 18:0_22:5	0.3018	-1.7283	0.018335	1.7367
TG 14:0_16:1_18:1	0.48494	-1.0441	0.018345	1.7365
CL 76:10	0.40835	-1.2921	0.018356	1.7362
DG 60:5	2.1808	1.1249	0.018409	1.735
TG 16:0_18:1_20:1	0.16577	-2.5927	0.01842	1.7347
MG 22:1	0.47492	-1.0742	0.018456	1.7339
MG 34:1	0.15654	-2.6754	0.018605	1.7304
HexCer 35:3;O2	0.55576	-0.84748	0.018763	1.7267
Hex2Cer 34:4;O3	0.17944	-2.4784	0.01877	1.7265
MGDG 27:0_21:1	2.2562	1.1739	0.018786	1.7262
PI 40:2	0.40155	-1.3163	0.018812	1.7256
Cer 43:2;O3	0.13721	-2.8656	0.018867	1.7243
PE 18:1_22:5	0.28979	-1.7869	0.018887	1.7238
PS 18:0_22:5	2.1656	1.1148	0.018933	1.7228
Cer 18:1;O2/20:0;O	0.22086	-2.1788	0.018989	1.7215
DG O-31:0;O2	2.4943	1.3186	0.01899	1.7215
GlcADG 13:0_13:0	3.0452	1.6066	0.019067	1.7197
PI 18:0_19:2	0.55073	-0.86058	0.019104	1.7189
PE 12:0_18:1	0.38995	-1.3586	0.019117	1.7186
PG 56:8;O	0.19946	-2.3258	0.019196	1.7168
Car 34:5;O	0.23604	-2.0829	0.019212	1.7164
DG 40:1;O2	2.7442	1.4564	0.019334	1.7137
TG O-8:0_8:0_16:0	2.0268	1.0192	0.019354	1.7132
LPI O-11:0	3.0564	1.6118	0.019418	1.7118
DG O-18:1_22:5	0.18256	-2.4536	0.019418	1.7118

PG O-45:8	0.50847	-0.97577	0.019479	1.7104
TG 81:6;O3	2.0111	1.008	0.01948	1.7104
Cer 47:6;O3	0.29596	-1.7565	0.019486	1.7103
HBMP 14:0_20:2_20:2	0.64497	-0.63269	0.019498	1.71
SPB 20:0;O2	2.4273	1.2793	0.019699	1.7056
PG 41:3;O	0.47381	-1.0776	0.019982	1.6994
PC O-18:1_24:4	4.4726	2.1611	0.020066	1.6975
PE 18:1_24:1	0.33324	-1.5854	0.020102	1.6968
PIP3 46:10	1.5742	0.65457	0.020251	1.6936
PE O-14:0_22:6	1.6099	0.68694	0.020258	1.6934
TG 46:3	1.728	0.78913	0.020325	1.692
TG 14:0_16:0_22:6	1.7283	0.78935	0.020326	1.6919
PIP 62:3;O	0.4552	-1.1354	0.020417	1.69
SHexCer 30:1;O3	2.0163	1.0117	0.020468	1.6889
PG 44:0	0.66856	-0.58086	0.020491	1.6884
Cer 35:0;O4	1.4288	0.51485	0.020537	1.6875
TG 51:3;O3	1.6923	0.75895	0.0206	1.6861
LPC 16:1	0.21507	-2.2171	0.020651	1.6851
TG 101:6	1.6889	0.75606	0.020685	1.6843
TG 50:2;O	1.6889	0.75606	0.020685	1.6843
TG 52:2	1.6889	0.75606	0.020685	1.6843
TG 55:4	1.6889	0.75606	0.020685	1.6843
TG 58:8	1.6889	0.75606	0.020685	1.6843
TG 60:6	1.6889	0.75606	0.020685	1.6843
TG 64:3	1.6889	0.75606	0.020685	1.6843
TG 74:1	1.6889	0.75606	0.020685	1.6843
TG 82:14;O3	1.6889	0.75606	0.020685	1.6843
TG 95:8;O2	1.6889	0.75606	0.020685	1.6843
TG O-55:2	1.6889	0.75606	0.020685	1.6843
TG O-57:3	1.6889	0.75606	0.020685	1.6843
TG O-75:0;O3	1.6889	0.75606	0.020685	1.6843
LPS O-26:0;O	0.61148	-0.70963	0.020693	1.6842
PS 18:0_22:0	0.49416	-1.017	0.020717	1.6837
PI O-36:1	0.095767	-3.3843	0.020752	1.6829
TG 86:13	1.6858	0.7534	0.020773	1.6825
TG 56:4	1.6856	0.75329	0.020777	1.6824
ST 30:1;O5;T	0.17003	-2.5561	0.020794	1.6821
GM1(d18:1/24:0)	2.4276	1.2795	0.020856	1.6808
SHexCer 36:0;O3	1.5656	0.64672	0.02088	1.6803
LPA O-30:3	1.4487	0.53479	0.020951	1.6788
DG 30:1	0.18927	-2.4015	0.020991	1.678

DG 49:3	1.8215	0.86515	0.021022	1.6773
TG 77:6	1.6775	0.7463	0.021057	1.6766
PS 21:0_22:6	0.10017	-3.3195	0.021077	1.6762
HexCer 47:1;O4	0.30666	-1.7053	0.021109	1.6755
TG 75:5	1.6804	0.74882	0.021171	1.6743
TG 51:4;O2	1.6781	0.74686	0.021261	1.6724
PI 37:4	0.17491	-2.5153	0.021298	1.6717
PI-Cer 35:0;O4	0.50366	-0.98949	0.02131	1.6714
PA O-44:3	0.17125	-2.5458	0.021314	1.6713
SQMG 18:0	0.59266	-0.75472	0.021343	1.6707
TG 60:2	0.24612	-2.0226	0.021347	1.6707
PI O-36:2	0.14034	-2.833	0.021372	1.6702
Cer 18:1;O2/24:0	0.41373	-1.2732	0.021461	1.6683
SHexCer 31:4;O2	0.23949	-2.062	0.021466	1.6683
SCer 32:1;O	2.4263	1.2787	0.021512	1.6673
ST 23:3;O3	0.23768	-2.0729	0.021579	1.666
TG 99:11	1.6608	0.73185	0.021593	1.6657
TG 70:13;O2	1.6692	0.73912	0.021603	1.6655
TG O-52:0;O	1.6646	0.73515	0.021657	1.6644
TG 14:0_18:3_22:2	1.8973	0.92392	0.021734	1.6629
TG 50:1	1.6628	0.73357	0.021759	1.6624
PA 16:0_20:1	0.46011	-1.12	0.021803	1.6615
DG 18:1_24:1	0.21786	-2.1985	0.021855	1.6604
TG O-18:0_14:0_16:1	1.661	0.73205	0.021861	1.6603
LPE 24:0	0.54615	-0.87263	0.021861	1.6603
TG 86:12;O2	0.34394	-1.5398	0.021867	1.6602
PE O-18:0_22:2	0.307	-1.7037	0.021868	1.6602
TG 59:2	0.21845	-2.1946	0.021876	1.66
PG 33:0;O	0.49069	-1.0271	0.021891	1.6597
DG 51:3	1.9613	0.97183	0.021891	1.6597
PE 18:0_22:1	0.3168	-1.6583	0.021959	1.6584
LPE O-33:6	1.443	0.52911	0.02214	1.6548
TG 46:2;O2	0.19759	-2.3394	0.022159	1.6544
PIP 54:3	0.41232	-1.2782	0.022258	1.6525
TG 49:0	0.70167	-0.51114	0.022343	1.6509
CL 73:4	0.28272	-1.8226	0.022353	1.6507
PI O-38:6	0.41161	-1.2807	0.022463	1.6485
TG 56:5	1.6482	0.72086	0.022474	1.6483
TG O-18:2_14:0_22:1	1.639	0.71281	0.022492	1.648
TG 52:7;O2	0.56231	-0.83056	0.022595	1.646
HexCer 37:3;O2	0.37341	-1.4212	0.022604	1.6458

Cer 45:6;O2	0.66782	-0.58248	0.022637	1.6452
TG 51:1	0.68537	-0.54505	0.022651	1.6449
PC O-18:5_15:1	6.1263	2.615	0.022772	1.6426
CL 16:0_20:5_18:0_18:2	0.014256	-6.1323	0.022782	1.6424
PIP 54:4	0.34311	-1.5433	0.0228	1.6421
PI O-20:0_16:2	0.096363	-3.3754	0.022839	1.6413
HexCer 45:1;O3	2.0074	1.0054	0.022898	1.6402
PI O-41:8	0.32841	-1.6064	0.022899	1.6402
PI-Cer 45:2;O2	1.6448	0.71794	0.022948	1.6392
TG 93:16;O2	1.632	0.70665	0.023005	1.6382
PC 42:1	2.8975	1.5348	0.023013	1.638
HexCer 37:0;O4	0.7076	-0.49899	0.023087	1.6366
LPE O-16:1	0.38352	-1.3826	0.023122	1.636
PG 22:0_22:2	1.5811	0.6609	0.023149	1.6355
LPC 22:2	0.59858	-0.74038	0.023153	1.6354
PE 18:0_22:5	0.2245	-2.1552	0.023348	1.6317
HexCer 38:6;O2	0.40773	-1.2943	0.023359	1.6315
ST 28:3;O3;G	0.22928	-2.1248	0.023406	1.6307
PG 14:0_18:1	0.17993	-2.4745	0.023755	1.6242
TG 93:9;O3	1.6339	0.70835	0.02389	1.6218
TG O-83:9	1.6218	0.69757	0.023914	1.6213
TG 16:0_19:3_19:3	1.6196	0.69566	0.023975	1.6202
DG 32:9	3.3381	1.739	0.023985	1.6201
DG 56:1	0.1501	-2.736	0.024093	1.6181
PC O-38:3	3.2075	1.6815	0.024156	1.617
MIPC 50:3;O4	0.51908	-0.94596	0.024189	1.6164
ST 29:3;O3	0.56242	-0.83028	0.024247	1.6154
DG 18:1_30:1	2.3328	1.2221	0.024278	1.6148
PE 26:5;O	0.46355	-1.1092	0.024308	1.6143
PE O-40:1	0.62072	-0.68798	0.02441	1.6124
HexCer 18:1;O2/5:0	1.5442	0.62687	0.024438	1.6119
SM 42:2;O2	6.5192	2.7047	0.02449	1.611
DG O-37:0	2.2433	1.1656	0.024544	1.61
LPA 16:1	0.6198	-0.69013	0.024607	1.6089
DG 37:2;O2	0.3981	-1.3288	0.024645	1.6083
PC O-16:0_12:0	0.55546	-0.84825	0.024733	1.6067
TG 12:1_12:3_20:6	0.56072	-0.83466	0.024787	1.6058
PI-Cer 53:3;O2	0.36342	-1.4603	0.024863	1.6044
Glc-GP 38:4	3.0548	1.6111	0.024974	1.6025
DG O-16:1_20:4	0.24311	-2.0403	0.024993	1.6022
TG 56:6	1.6038	0.68152	0.02504	1.6014

PI 30:1	0.37565	-1.4125	0.025169	1.5991
PS 14:0_20:0	0.20494	-2.2867	0.02519	1.5988
MIPC 50:4;O2	0.29438	-1.7642	0.025213	1.5984
MGDG 23:0_18:5	2.5161	1.3312	0.025291	1.597
PE 16:0_20:4	0.25911	-1.9484	0.025309	1.5967
DG O-18:2_20:0	0.12934	-2.9507	0.025344	1.5961
TG 98:18	1.5943	0.67288	0.025544	1.5927
DG O-60:10	2.2859	1.1928	0.025607	1.5916
LPS 28:0;O	1.6555	0.72723	0.025615	1.5915
PI-Cer 36:1;O4	0.40557	-1.302	0.02562	1.5914
CerP 19:0;O2/2:0	0.32064	-1.641	0.025667	1.5906
Cer 18:0;O2/20:1;O	0.30785	-1.6997	0.025672	1.5905
HexCer 19:0;O2/24:2	2.175	1.121	0.025748	1.5893
FA 19:1	0.3293	-1.6025	0.02595	1.5859
PIP 68:7;O	0.4001	-1.3216	0.026022	1.5847
HexCer 42:5;O4	0.39128	-1.3537	0.026028	1.5846
HexCer 18:1;O2/16:0	2.2042	1.1403	0.026198	1.5817
CL 70:7	0.50332	-0.99044	0.026401	1.5784
Cer 45:6;O	0.32736	-1.6111	0.026405	1.5783
PC 38:7	2.0978	1.0688	0.026572	1.5756
ST 25:5;O2	0.22465	-2.1542	0.026603	1.5751
TG 74:6;O2	0.44081	-1.1818	0.026731	1.573
PE O-14:0_17:0	0.3573	-1.4848	0.026819	1.5716
TG 12:2_12:2_20:5	0.46104	-1.117	0.026821	1.5715
PI-Cer 33:1;O3	1.6178	0.69406	0.026829	1.5714
PE 18:0_26:2	0.34038	-1.5548	0.026846	1.5711
DG 17:0_18:1	0.32772	-1.6095	0.026977	1.569
TG 95:10;O3	1.5786	0.65866	0.027094	1.5671
PC 18:1_20:3	0.51305	-0.96284	0.027164	1.566
Cer 18:0;O3/35:1;(2OH)	0.038385	-4.7033	0.027214	1.5652
PI O-65:2	0.37891	-1.4001	0.027258	1.5645
Hex2Cer 28:3;O5	1.6351	0.70942	0.027318	1.5636
TG 82:5	1.6118	0.68869	0.027347	1.5631
Cer 44:0;O3	0.38439	-1.3794	0.027351	1.563
LPI O-32:0	0.18557	-2.43	0.027371	1.5627
CL 70:8	0.36546	-1.4522	0.027396	1.5623
MG 31:1	0.59714	-0.74385	0.027498	1.5607
SM 38:3;O3	2.2067	1.1419	0.027552	1.5598
DG 39:2	2.2737	1.1851	0.027578	1.5594
Car 30:6;O2	2.1034	1.0727	0.027655	1.5582
ST 28:2;O4	0.33765	-1.5664	0.027851	1.5552

TG 80:2	1.6997	0.76524	0.027952	1.5536
CL 73:7	0.5882	-0.76562	0.028223	1.5494
PE 28:1	0.54823	-0.86715	0.028224	1.5494
TG 58:2;O2	1.8843	0.91399	0.028343	1.5475
ST 27:4;O	0.26243	-1.93	0.028348	1.5475
PA 48:0	2.1047	1.0736	0.028374	1.5471
PG 21:1_21:1	1.5228	0.6067	0.028384	1.5469
DG O-20:1	9.3121	3.2191	0.028436	1.5461
Cer 21:3;O2/24:2;O	0.35464	-1.4956	0.028493	1.5453
PC O-18:0_24:0	4.6423	2.2149	0.028563	1.5442
Cer 37:0;O6	0.50776	-0.97778	0.028636	1.5431
LPA O-27:7	2.377	1.2491	0.028651	1.5429
PG 42:3	0.34551	-1.5332	0.028652	1.5428
Cer 17:0;O2/18:1;O	0.50252	-0.99274	0.028692	1.5422
PI O-53:3	2.4507	1.2932	0.028727	1.5417
TG 50:6;O	0.35301	-1.5022	0.028756	1.5413
PE 42:4	0.19479	-2.36	0.02879	1.5408
CerP 54:6;O4	0.57853	-0.78954	0.028838	1.54
PE 18:1_22:1	0.44964	-1.1532	0.028901	1.5391
GlcADG 14:0_18:0	0.34665	-1.5285	0.028951	1.5383
PC O-16:0_18:1	3.5576	1.8309	0.028966	1.5381
TG 79:5	1.6015	0.67946	0.028981	1.5379
CL 16:0_18:1_16:0_18:1	0.012452	-6.3275	0.0292	1.5346
MIPC 48:3;O4	0.535	-0.9024	0.029256	1.5338
TG O-41:1	2.2974	1.2	0.029486	1.5304
PS 18:0_20:0	0.34001	-1.5563	0.029488	1.5304
TG 17:1_18:0_18:1	0.37223	-1.4257	0.029513	1.53
CerP 44:0;O5	0.61498	-0.70139	0.029554	1.5294
SM 32:7;O2	14.64	3.8718	0.029765	1.5263
TG 60:5;O2	1.5699	0.65067	0.029885	1.5246
SL 18:0;O/20:1	0.12503	-2.9996	0.029964	1.5234
FAHFA 48:3;O	2.5146	1.3303	0.03	1.5229
ST 44:4;O2	0.36341	-1.4603	0.030019	1.5226
TG 94:12;O	0.54837	-0.86679	0.030145	1.5208
DG 36:0	0.050436	-4.3094	0.030425	1.5168
TG 88:13;O2	0.39685	-1.3333	0.030431	1.5167
DG 38:5	0.62298	-0.68273	0.03048	1.516
DG 52:2	0.55285	-0.85504	0.030581	1.5145
PC 32:2	2.2876	1.1938	0.030607	1.5142
SM 34:0;O3	7.6184	2.9295	0.030651	1.5136
LPA 20:1	0.43471	-1.2019	0.030704	1.5128

TG 12:0_12:3_22:7	0.15347	-2.7039	0.030711	1.5127
PR 58:14;O3	0.30206	-1.7271	0.030939	1.5095
PI 42:5	0.42181	-1.2453	0.031001	1.5086
Cer 40:1;O3	1.9678	0.9766	0.031106	1.5072
SM 43:4;O5	4.0665	2.0238	0.031165	1.5063
CL 78:10	0.50146	-0.99578	0.031189	1.506
PE 44:3	0.49454	-1.0158	0.031229	1.5054
PE-Cer 44:0;O3	0.62081	-0.68776	0.031279	1.5047
DG O-20:0_16:2	0.04497	-4.4749	0.031519	1.5014
LPC 14:0	0.3433	-1.5425	0.031611	1.5002
SM 20:0;O2/16:1	11.992	3.584	0.03169	1.4991
PC O-18:1_20:1	0.39402	-1.3437	0.031753	1.4982
LPE 24:1	0.54938	-0.86413	0.031839	1.497
PI 16:0_20:4	0.12242	-3.0301	0.031869	1.4966
DG O-43:4	2.0616	1.0438	0.031933	1.4958
DG 42:4	2.2869	1.1934	0.032044	1.4942
TG 97:6;O2	1.5409	0.62375	0.032105	1.4934
PC 48:7	2.3105	1.2082	0.032119	1.4932
DG O-38:5	2.3592	1.2383	0.0322	1.4921
PE 44:3;O	0.46793	-1.0956	0.032333	1.4903
DG 32:0	2.1515	1.1053	0.032376	1.4898
PIP3 38:10	1.8154	0.86029	0.03244	1.4889
DG 42:9;O2	3.6335	1.8614	0.032502	1.4881
Car 32:5;O	2.1411	1.0983	0.032666	1.4859
TG O-81:0;O3	2.3757	1.2484	0.032766	1.4846
DG O-46:7	2.6186	1.3888	0.032892	1.4829
HexCer 34:5;O2	0.45905	-1.1233	0.032892	1.4829
Car 22:4;O3	0.41181	-1.28	0.032921	1.4825
SM 40:6;O2	4.0941	2.0335	0.033103	1.4801
Cer 42:2;O	0.54874	-0.86581	0.033141	1.4796
DG 46:1	1.4075	0.49314	0.033251	1.4782
CerP 54:1;O5	1.4303	0.51628	0.033375	1.4766
DG 42:5	0.2737	-1.8694	0.03348	1.4752
Cer 18:0;O3/42:1;(2OH)	0.22091	-2.1785	0.033531	1.4746
PS 32:0; PS 14:0-18:0; [M-H]-	2.2118	1.1452	0.033584	1.4739
CL 73:6	0.54793	-0.86793	0.033599	1.4737
PG O-38:0	1.7878	0.83822	0.03372	1.4721
LPC 26:4	1.5764	0.65666	0.033778	1.4714
DG 40:0	0.48448	-1.0455	0.033823	1.4708
TG 73:0;O3	1.5751	0.65549	0.03383	1.4707
SM 39:0;O2	6.0338	2.5931	0.034151	1.4666

HexCer 38:0;O4	1.7211	0.78337	0.034179	1.4662
LPI O-32:2	0.31845	-1.6508	0.03425	1.4653
ST 25:4;O3;T	0.214	-2.2243	0.034429	1.4631
PG 45:8;O	0.11258	-3.151	0.034461	1.4627
HBMP 16:1_18:1_18:0	0.20036	-2.3193	0.03449	1.4623
DG O-40:0	0.57742	-0.79231	0.03449	1.4623
PA 45:7	2.8242	1.4979	0.034735	1.4592
PC O-20:3_16:4	6.5221	2.7053	0.034803	1.4584
Cer 42:0;O3	0.37305	-1.4226	0.034805	1.4584
CL 71:3	0.30173	-1.7286	0.034829	1.4581
CL 16:0_18:2_16:0_20:5	0.017459	-5.8399	0.034836	1.458
TG 58:7	1.5872	0.66647	0.034881	1.4574
DG 58:5	0.2735	-1.8704	0.034883	1.4574
PS 37:1	2.7478	1.4583	0.034893	1.4573
SL 19:0;O/17:0	0.09283	-3.4293	0.03496	1.4564
DG 43:3;O	2.0556	1.0396	0.034962	1.4564
DG 58:6	2.0282	1.0202	0.035093	1.4548
Cer 38:0;O5	0.19983	-2.3232	0.035179	1.4537
Hex2Cer 38:6;O3	0.13861	-2.8509	0.035182	1.4537
LPI O-29:0	0.44416	-1.1708	0.035182	1.4537
MIPC 37:6;O3	2.0762	1.0539	0.035205	1.4534
Hex(4)-HexNAc-Fuc-NeuAc-Cer 42:1;O2	2.1157	1.0811	0.035356	1.4515
NAE 19:1	0.21914	-2.1901	0.035388	1.4511
LPS 32:0;O	0.57012	-0.81067	0.035442	1.4505
PG 30:2	0.6481	-0.6257	0.035659	1.4478
HexCer 40:4;O2	0.5942	-0.75097	0.03567	1.4477
ST 24:2;O6	0.58997	-0.76128	0.035692	1.4474
Hex2Cer 34:1;O3	0.4535	-1.1408	0.03591	1.4448
Cer 41:4;O	0.63557	-0.65387	0.035936	1.4445
PC O-40:1	3.4931	1.8045	0.035942	1.4444
TG 68:8;O2	0.48837	-1.034	0.036062	1.4429
DG 58:1	0.1384	-2.853	0.036089	1.4426
Cer 48:6;O3	0.64534	-0.63186	0.036099	1.4425
PC 28:4;O	15.033	3.9101	0.036263	1.4405
Cer 40:0;O3	0.52527	-0.92887	0.036498	1.4377
ST 25:1;O;Hex	0.47048	-1.0878	0.036512	1.4376
LPC 26:0;O	0.65254	-0.61587	0.036566	1.4369
SM 36:4;O4	14.046	3.8121	0.036617	1.4363
CL 76:8	0.58348	-0.77725	0.036828	1.4338
PI 40:5	0.081736	-3.6129	0.036869	1.4333

TG 76:4;O	0.57037	-0.81004	0.037273	1.4286
DG O-18:1_20:4	0.29412	-1.7655	0.037341	1.4278
PA O-23:4	0.59921	-0.73886	0.037349	1.4277
PE 36:3	2.5162	1.3312	0.037468	1.4263
DG 18:0_28:0	0.12278	-3.0259	0.037481	1.4262
DG 16:0_18:2	0.2781	-1.8464	0.037487	1.4261
PA 21:6	1.4624	0.5483	0.037528	1.4256
SM 44:4;O4	1.7747	0.82758	0.037599	1.4248
PC O-18:4_15:1	1.5073	0.59198	0.037651	1.4242
PIP 66:6;O	0.59064	-0.75965	0.037652	1.4242
PC 16:0_20:4	0.17896	-2.4823	0.037706	1.4236
CL 73:5	0.31025	-1.6885	0.03787	1.4217
HexCer 44:2;O4	1.425	0.51098	0.037994	1.4203
TG 82:10;O2	0.28441	-1.814	0.038045	1.4197
PS 17:0_21:0	0.30392	-1.7182	0.038207	1.4179
TG O-80:0;O2	12.018	3.5871	0.038271	1.4171
NAT 20:2;O	1.7673	0.82157	0.038274	1.4171
PE O-17:1_22:5	2.0946	1.0666	0.038463	1.415
TG 84:6;O2	1.5284	0.61206	0.038517	1.4143
DG O-20:2_16:0	0.21092	-2.2452	0.03855	1.414
SM 43:5;O4	20.05	4.3255	0.038603	1.4134
Cer 45:2;O3	0.32471	-1.6228	0.038613	1.4133
TG 84:11;O3	0.63766	-0.64914	0.038644	1.4129
PS 40:5	2.6727	1.4183	0.038679	1.4125
DG O-18:0_22:1	0.14529	-2.783	0.038761	1.4116
FA 19:2	0.36363	-1.4594	0.038852	1.4106
TG 91:14	1.4354	0.52144	0.038894	1.4101
HexCer 39:6;O3	0.48812	-1.0347	0.038985	1.4091
SM 40:4;O2	2.0482	1.0343	0.039069	1.4082
Hex2Cer 32:1;O3	0.44652	-1.1632	0.039094	1.4079
DG O-20:2_16:1	0.093574	-3.4178	0.039197	1.4067
TG 15:0_21:2_22:6	1.6316	0.70629	0.03932	1.4054
Cer 31:4;O	2.204	1.1401	0.039357	1.405
PC 30:1	2.4273	1.2793	0.039386	1.4047
PI 39:2	0.48632	-1.04	0.039389	1.4046
CL 72:9	0.31483	-1.6673	0.039517	1.4032
ST 23:0;O3	0.31499	-1.6666	0.039762	1.4005
HexCer 38:5;O2	0.43579	-1.1983	0.039823	1.3999
TG 12:2_12:2_22:7	0.21882	-2.1922	0.039845	1.3996
DG 52:5	1.9227	0.94311	0.040024	1.3977
TG O-71:0;O3	1.5375	0.62056	0.040108	1.3968

PIP 60:3;O	0.38627	-1.3723	0.040139	1.3964
TG 16:0_18:2_20:2	1.5719	0.65254	0.040407	1.3935
TG 84:11;O2	0.093327	-3.4216	0.040419	1.3934
Cer 43:5;O	0.59443	-0.75042	0.040469	1.3929
TG 50:4;O2	1.8459	0.88429	0.040471	1.3929
SHexCer 43:2;O2	1.7321	0.79253	0.040611	1.3914
PC 10:0_18:1	0.40253	-1.3128	0.040673	1.3907
Cer 41:5;O	0.54138	-0.88529	0.040815	1.3892
DG 15:0_18:0	0.53419	-0.90457	0.040925	1.388
PC 20:2_16:3	4.9713	2.3136	0.040925	1.388
SM 34:0;O4	6.0214	2.5901	0.041082	1.3864
SM 52:3;O5	16.985	4.0862	0.041366	1.3834
TG 14:1_20:0_20:0	2.7445	1.4566	0.041477	1.3822
HexCer 45:5;O2	0.53304	-0.90768	0.041652	1.3804
PC 36:5	4.4167	2.143	0.041683	1.38
LPA 30:1	2.2459	1.1673	0.041755	1.3793
CL 16:0_18:2_16:0_22:6	0.010887	-6.5213	0.041781	1.379
PS 40:2	2.5514	1.3513	0.041834	1.3785
PI O-40:0;O	1.6349	0.70923	0.04189	1.3779
ST 28:2;O;HexNAc	0.46463	-1.1058	0.041973	1.377
NA 41:2;O4;N	1.5699	0.65063	0.042076	1.376
PC 14:0_16:3	5.4616	2.4493	0.042117	1.3755
TG 16:1_18:0_18:1	0.2929	-1.7715	0.042144	1.3753
CerP 44:4;O3	0.027552	-5.1817	0.042151	1.3752
DG O-36:0;O	0.094055	-3.4104	0.04251	1.3715
PE 17:1_18:1	0.34398	-1.5396	0.042524	1.3714
MIPC 31:1;O4	0.55445	-0.85088	0.042598	1.3706
HexCer 32:0;O5	0.3167	-1.6588	0.042741	1.3692
LPG O-33:4	0.57489	-0.79865	0.042843	1.3681
SM 41:0;O2	9.6097	3.2645	0.042862	1.3679
DG O-18:1_24:1	0.12453	-3.0054	0.04292	1.3673
SM 36:0;O4	4.3556	2.1229	0.043012	1.3664
PC 27:2;O	1.6105	0.6875	0.043132	1.3652
Hex2Cer 29:0;O3	1.6414	0.71493	0.043404	1.3625
PI O-34:0;O	0.16125	-2.6326	0.043441	1.3621
Cer 16:0;O2/18:0;O	0.4138	-1.273	0.043603	1.3605
FA 17:3;O4	1.6602	0.73133	0.043666	1.3599
LPC 18:2	0.51233	-0.96487	0.043668	1.3598
DG O-40:4	0.37639	-1.4097	0.043884	1.3577
WE 40:4	0.49272	-1.0212	0.044008	1.3565
CL 72:3	0.39117	-1.3541	0.044075	1.3558

PE O-18:0_22:0	0.5196	-0.94452	0.044116	1.3554
DG 59:5	0.61883	-0.6924	0.044281	1.3538
DG 57:4	0.45228	-1.1447	0.044347	1.3531
SM 18:0;O2/20:1	7.6886	2.9427	0.044358	1.353
Cer 43:2;O4	3.4481	1.7858	0.044407	1.3525
DG 18:0_22:6	3.226	1.6898	0.044437	1.3523
PE 18:0_22:2	0.45428	-1.1383	0.044479	1.3518
PC 14:0_18:1	5.2606	2.3952	0.044595	1.3507
PI-Cer 34:1;O2	0.63613	-0.6526	0.044596	1.3507
PR 35:0;O4	0.416	-1.2654	0.044608	1.3506
TG 16:1_18:1_22:1	0.21448	-2.2211	0.044635	1.3503
CL 14:0_18:1_14:0_18:1	0.533	-0.90779	0.044666	1.35
PE 20:1_16:2	0.52888	-0.91898	0.044754	1.3492
TG 96:9;O2	1.8748	0.90671	0.045013	1.3467
ACer 56:2;O2	0.58684	-0.76895	0.045017	1.3466
TG 79:0;O3	1.4998	0.58481	0.045026	1.3465
DG 58:8	3.6825	1.8807	0.045134	1.3455
TG 60:11	1.5067	0.59135	0.04523	1.3446
Cer 41:1;O3	0.036177	-4.7888	0.045289	1.344
ST 27:2;O;Hex	0.51776	-0.94963	0.045357	1.3434
TG 16:0_18:1_22:4	1.5207	0.60476	0.045377	1.3432
TG 85:1;O3	1.5203	0.60438	0.045516	1.3418
PC 40:1	6.696	2.7433	0.045522	1.3418
SL 18:0;O/21:0;O	0.3822	-1.3876	0.045538	1.3416
PIP 52:3	0.52888	-0.91898	0.045549	1.3415
LPG 24:6	1.578	0.65812	0.045785	1.3393
SM 33:2;O2	10.111	3.3379	0.045802	1.3391
LPC 33:4	1.5685	0.6494	0.045818	1.339
MG 33:0	0.20596	-2.2796	0.045914	1.3381
FA 20:5	0.22503	-2.1518	0.045931	1.3379
Hex2Cer 31:0;O4	1.5513	0.63352	0.046053	1.3367
PEtOH 18:1_20:5	2.3972	1.2614	0.046076	1.3365
LPE O-18:1	0.53952	-0.89025	0.046178	1.3356
PI-Cer 43:2;O2	1.4988	0.58379	0.046226	1.3351
TG 82:0;O	1.9199	0.94102	0.046253	1.3349
TG 92:10	1.5465	0.62904	0.046253	1.3349
SM 18:0;O2/22:1	5.0623	2.3398	0.04629	1.3345
MG O-34:2	1.648	0.72068	0.04635	1.3339
DG 18:0_22:1	3.6016	1.8486	0.046366	1.3338
DG O-40:5	0.33483	-1.5785	0.04637	1.3338
SM 18:0;O2/23:1	7.2969	2.8673	0.046377	1.3337

PE O-28:4_28:7	1.7691	0.82304	0.046632	1.3313
LPA 24:0;O	0.17135	-2.545	0.046691	1.3308
TG 87:12;O2	1.5068	0.59151	0.046694	1.3307
LPE O-20:1	0.38865	-1.3634	0.046819	1.3296
PIP2 62:4	0.70188	-0.5107	0.046834	1.3294
PG 42:2;O	0.67048	-0.57673	0.046837	1.3294
TG 94:13;O3	1.4583	0.54426	0.046887	1.3289
TG O-51:1	1.5287	0.61231	0.046904	1.3288
LPG 33:1	0.37945	-1.398	0.046973	1.3281
PC 18:0_21:1	0.70775	-0.49869	0.047138	1.3266
ST 28:3;O3;F2	0.16171	-2.6285	0.047155	1.3265
DG 60:10	3.2699	1.7092	0.047206	1.326
TG 67:11;O	0.6436	-0.63577	0.047288	1.3253
DG 45:5	1.7742	0.82717	0.047359	1.3246
LPA O-28:4	1.7002	0.76573	0.047362	1.3246
Hex2Cer 42:2;O2	0.40118	-1.3177	0.047529	1.323
CerP 42:5;O2	2.2078	1.1426	0.047668	1.3218
DG O-39:0;O2	3.388	1.7604	0.047671	1.3217
NAE 19:3	0.47908	-1.0617	0.047686	1.3216
FA 18:0;O3	0.40465	-1.3053	0.047871	1.3199
PI 18:0_22:3	1.7184	0.7811	0.048009	1.3187
Car 32:4;O4	0.44783	-1.159	0.048101	1.3178
PE 17:0_18:1	0.36332	-1.4607	0.048132	1.3176
SM 43:5;O2	8.5618	3.0979	0.048272	1.3163
DG 50:2	0.27118	-1.8827	0.048294	1.3161
DG 41:1	0.17685	-2.4994	0.048328	1.3158
DG 17:1_18:1	0.38342	-1.383	0.048332	1.3158
PC O-18:0_15:1	0.54392	-0.87852	0.048337	1.3157
ST 18:3;O2;GlcA	0.30775	-1.7002	0.048415	1.315
DG 32:1	1.7851	0.83599	0.048476	1.3145
LPA 14:2;O	2.0138	1.0099	0.048518	1.3141
TG 50:1;O3	1.4021	0.48756	0.048579	1.3135
ST 29:3;O2	0.18904	-2.4033	0.048764	1.3119
PIP 64:2;O	0.33024	-1.5984	0.048794	1.3116
TG 100:10;O2	1.4701	0.55592	0.048806	1.3115
TG 14:0_16:0_19:1	0.6306	-0.66519	0.048857	1.3111
NA 18:2;O3;N;Fe	1.8224	0.86584	0.048945	1.3103
LPC 33:2	0.49432	-1.0165	0.04906	1.3093
PA 39:4	0.42408	-1.2376	0.04913	1.3086
LPI O-27:0	0.22949	-2.1235	0.04915	1.3085
CE 20:3;O	0.44213	-1.1774	0.04916	1.3084

DG 27:0_21:1	0.078031	-3.6798	0.049171	1.3083
MG 20:1	0.3498	-1.5154	0.049383	1.3064
SM 42:2;O4	13.404	3.7446	0.049426	1.306
PC O-14:0_18:3	13.313	3.7347	0.049468	1.3057
PI 39:4	0.6172	-0.69619	0.049484	1.3055
TG 83:0;O	0.43024	-1.2168	0.049503	1.3054
DG 19:0_18:1	0.41932	-1.2539	0.049527	1.3052
TG 41:1;O	0.039154	-4.6747	0.049561	1.3049
ST 28:3;O4	0.41249	-1.2776	0.049728	1.3034
DG O-18:1_17:0	0.16332	-2.6143	0.049798	1.3028
DG O-46:10	3.0601	1.6136	0.049807	1.3027
LPA O-19:5	1.6476	0.72041	0.049899	1.3019

Supplemental Table 4. NT cells vs NT EVs volcano plot extended statistics. Extended statistics corresponding to Figure 3C in main text. Extended statistics include fold change (FC), log 2 fold change (log2(FC)), the raw p value (raw.pval) and the -log10 of the p-value (-log10(p)).

Lipid	FC	log2(FC)	raw.pval	-log10(p)
TG 48:1	0.066755	-3.905	8.2173E-11	10.085
PI-Cer 41:4;O4	0.25439	-1.9749	1.5687E-09	8.8045
PG 45:5;O	0.11922	-3.0682	2.9967E-09	8.5234
PI 18:0_20:3	0.16457	-2.6032	3.2657E-09	8.486
HexCer 38:0;O6	0.16199	-2.626	3.6587E-09	8.4367
DG O-14:1_18:0	0.095247	-3.3922	4.5692E-09	8.3402
TG 75:0;O3	0.11978	-3.0615	7.3047E-09	8.1364
PG 38:1	0.085865	-3.5418	1.4084E-08	7.8513
PI-Cer 34:0;O6	0.1003	-3.3177	1.7724E-08	7.7514
Hex2Cer 36:5;O2	0.087015	-3.5226	2.3324E-08	7.6322
PG 37:0;O	0.17074	-2.5501	2.7375E-08	7.5626
Hex2Cer 34:3;O3	0.11379	-3.1355	2.9306E-08	7.533
PI 36:1	0.21684	-2.2053	4.4695E-08	7.3497
PG 43:6;O	0.069332	-3.8503	4.7982E-08	7.3189
PE 40:0	0.32609	-1.6166	5.4012E-08	7.2675
Hex2Cer 32:0;O3	0.12715	-2.9754	5.9592E-08	7.2248
HexCer 18:0;O2/23:1	4.1034	2.0368	7.6799E-08	7.1146
LPC 33:0;O	0.51249	-0.96441	7.7315E-08	7.1117
PI 20:1_16:2	0.3145	-1.6689	8.8667E-08	7.0522
PI-Cer 51:3;O4	0.6393	-0.64543	8.8799E-08	7.0516
HexCer 43:6;O2	0.20534	-2.2839	9.0059E-08	7.0455

SHexCer 40:1;O2	0.27641	-1.8551	1.1535E-07	6.938
CL 16:0_18:2_16:0_22:5	0.017185	-5.8627	1.1564E-07	6.9369
Hex2Cer 32:2;O4	0.15247	-2.7134	1.2101E-07	6.9172
Cer 37:2;O6	0.49223	-1.0226	1.3333E-07	6.8751
Car 34:7	2.4415	1.2877	1.3445E-07	6.8714
SL 25:0;O/26:0	0.019286	-5.6963	1.4272E-07	6.8455
PI O-40:7	0.11472	-3.1238	1.4358E-07	6.8429
Cer 44:1;O4	0.2907	-1.7824	1.5543E-07	6.8085
HexCer 43:5;O2	0.27462	-1.8645	1.9362E-07	6.7131
HexCer 41:6;O2	0.21758	-2.2004	2.188E-07	6.6599
SHexCer 37:0;O4	0.10309	-3.278	2.2194E-07	6.6538
GlcADG 14:0_18:0	0.060406	-4.0492	2.244E-07	6.649
PI-Cer 40:0;O4	0.23627	-2.0815	2.3451E-07	6.6298
CL 16:0_18:2_16:0_22:4	0.023627	-5.4034	2.3774E-07	6.6239
TG 16:2_16:3_18:0	7.0607	2.8198	2.451E-07	6.6107
TG 51:2;O	0.024661	-5.3416	2.5419E-07	6.5948
Cer 42:1;O4	0.18448	-2.4385	2.5728E-07	6.5896
PI O-38:4	0.08751	-3.5144	2.7139E-07	6.5664
PI 18:1_20:1	0.18783	-2.4125	2.7337E-07	6.5632
TG O-14:0_18:0_18:1	0.027998	-5.1585	2.9852E-07	6.525
DG 40:6	0.14364	-2.7995	3.1359E-07	6.5036
CL 16:0_18:2_16:0_20:3	0.0034004	-8.2001	3.4782E-07	6.4586
DG 36:4	0.17931	-2.4794	3.5266E-07	6.4526
PI 18:1_19:1	0.12968	-2.947	3.9008E-07	6.4088
PI-Cer 41:3;O4	0.34708	-1.5267	4.0898E-07	6.3883
HexCer 45:6;O3	0.16553	-2.5948	4.2068E-07	6.376
CerP 40:2;O2	0.17962	-2.477	4.2709E-07	6.3695
PI 38:6	0.18729	-2.4166	4.4674E-07	6.3499
HexCer 39:1;O4	0.19767	-2.3388	4.5968E-07	6.3375
LPC 32:2	0.19967	-2.3243	4.6954E-07	6.3283
PI 18:0_22:6	0.12247	-3.0295	4.7028E-07	6.3276
CL 16:0_18:2_18:0_18:2	0.0029123	-8.4236	4.7548E-07	6.3229
TG 73:1;O2	0.15186	-2.7192	5.2105E-07	6.2831
PI 20:0_16:2	0.2003	-2.3197	5.218E-07	6.2825
CerP 51:3;O3	0.17628	-2.504	6.4515E-07	6.1903
CL 16:0_20:3_18:0_18:2	0.0028487	-8.4555	6.8399E-07	6.1649
Cer 41:4;O	0.28184	-1.827	7.5228E-07	6.1236
TG 12:1_12:3_18:5	0.16464	-2.6026	7.5588E-07	6.1215
PI O-40:6	0.13844	-2.8527	7.9509E-07	6.0996
PC 12:0_16:1	0.054758	-4.1908	8.0222E-07	6.0957
PE 24:0_20:4	0.61516	-0.70097	8.3221E-07	6.0798

HexCer 42:2;O5	0.33754	-1.5669	8.4711E-07	6.0721
Hex2Cer 18:0;O2/14:1	0.091396	-3.4517	8.5101E-07	6.0701
CerP 48:5;O3	0.051715	-4.2733	8.5478E-07	6.0681
PE 12:0_16:0	0.33739	-1.5675	8.6885E-07	6.0611
PR 52:2;O4	0.20453	-2.2896	8.821E-07	6.0545
Cer 48:6;O2	0.13091	-2.9333	9.2688E-07	6.033
HexCer 35:3;O2	0.41225	-1.2784	9.7528E-07	6.0109
TG 52:2;O	0.025611	-5.2871	9.757E-07	6.0107
HexCer 43:2;O5	0.49077	-1.0269	1.0021E-06	5.9991
DG 40:0	0.16979	-2.5582	1.0026E-06	5.9989
HexCer 43:6;O3	0.081058	-3.6249	1.055E-06	5.9768
MG 28:1;O	3.8968	1.9623	1.0591E-06	5.9751
PI 38:3	0.37775	-1.4045	1.0708E-06	5.9703
HexCer 40:6;O2	0.11399	-3.133	1.1412E-06	5.9426
PE 14:0_16:0	0.17289	-2.5321	1.2008E-06	5.9205
PI 35:1	0.19079	-2.3899	1.2696E-06	5.8963
TG 83:4;O	2.1609	1.1116	1.3298E-06	5.8762
CL 74:7	0.45183	-1.1461	1.3961E-06	5.8551
PI 66:2	0.30317	-1.7218	1.4745E-06	5.8313
PI 16:1_18:1	0.17666	-2.501	1.5555E-06	5.8081
PE-Cer 44:5;O2	1.8762	0.9078	1.5601E-06	5.8069
MG 32:0	0.2923	-1.7745	1.6093E-06	5.7934
PI 34:1	0.35124	-1.5095	1.7925E-06	5.7465
CL 16:0_20:3_18:1_18:1	0.01876	-5.7362	1.8212E-06	5.7396
PG O-39:0;O	0.043856	-4.5111	1.8531E-06	5.7321
PI 16:0_20:4	0.11134	-3.167	1.8747E-06	5.7271
Hex2Cer 33:2;O4	0.13972	-2.8394	1.9084E-06	5.7193
TG 59:1	0.073165	-3.7727	1.9969E-06	5.6997
PG 34:1	0.23489	-2.09	2.0682E-06	5.6844
PG 50:2;O	0.12524	-2.9972	2.1764E-06	5.6623
Hex2Cer 32:1;O4	0.14636	-2.7724	2.1795E-06	5.6616
CerP 49:4;O2	0.1321	-2.9203	2.2301E-06	5.6517
SL 18:0;O/20:1	0.12605	-2.9879	2.283E-06	5.6415
PI 36:3	0.5218	-0.93843	2.4592E-06	5.6092
HexCer 43:1;O5	0.3773	-1.4062	2.5394E-06	5.5953
PG O-40:0;O	0.028008	-5.158	2.6026E-06	5.5846
PI 35:2	0.12268	-3.027	2.6232E-06	5.5812
DG O-18:1_20:5	0.072777	-3.7804	2.7226E-06	5.565
DG 40:1	0.23222	-2.1064	2.7476E-06	5.5611
CerP 45:6;O2	0.38258	-1.3862	2.7915E-06	5.5542
SHexCer 43:5;O4	0.12338	-3.0188	2.8149E-06	5.5505

PI 18:0_20:4	0.19475	-2.3603	2.8691E-06	5.5423
HexCer 42:5;O4	0.25343	-1.9803	2.8703E-06	5.5421
PI 18:0_22:5	0.2159	-2.2116	2.9046E-06	5.5369
HexCer 45:3;O5	0.17299	-2.5313	3.0503E-06	5.5157
CerP 53:3;O3	0.020863	-5.5829	3.0544E-06	5.5151
CL 16:2_18:1_18:1_18:1	0.016352	-5.9344	3.6535E-06	5.4373
PI 20:0_16:1	0.18491	-2.4351	3.6836E-06	5.4337
PC 10:0_16:0	0.067541	-3.8881	3.7436E-06	5.4267
HexCer 40:1;O5	0.3172	-1.6565	3.749E-06	5.4261
PI O-18:0_22:5	0.1072	-3.2216	3.8585E-06	5.4136
PE 32:2;O	0.25167	-1.9904	3.8597E-06	5.4134
LPC 32:4	0.43288	-1.2079	3.8939E-06	5.4096
FA 31:4;O	2.2986	1.2007	4.039E-06	5.3937
Cer 20:1;O2/24:1;O	0.12715	-2.9754	4.3082E-06	5.3657
HBMP 16:1_18:1_18:1	0.27678	-1.8532	4.3343E-06	5.3631
DG 18:0_28:0	0.037376	-4.7417	4.513E-06	5.3455
Cer 51:4;O	0.11714	-3.0937	4.5366E-06	5.3433
PI O-40:5	0.13467	-2.8925	4.6727E-06	5.3304
Cer 18:0;O3/21:1;(2OH)	0.24154	-2.0497	4.8772E-06	5.3118
TG 60:1	0.074661	-3.7435	4.8783E-06	5.3117
MG 30:0	0.1308	-2.9346	4.9254E-06	5.3076
PE 22:0_24:2	0.33573	-1.5746	5.1058E-06	5.2919
MG 34:0	0.064486	-3.9549	5.3249E-06	5.2737
PE 40:1;O	0.65571	-0.60886	5.5741E-06	5.2538
PA 44:5	0.30338	-1.7208	5.6698E-06	5.2464
FAHFA 35:1;O	0.23473	-2.0909	6.2867E-06	5.2016
SHexCer 42:0;O2	0.13279	-2.9128	6.3383E-06	5.198
SL 25:0;O/26:2;O	0.065876	-3.9241	6.5187E-06	5.1858
Cer 52:4;O	0.12629	-2.9852	6.5383E-06	5.1845
PC O-44:3	0.15581	-2.6821	6.5456E-06	5.184
Cer 17:0;3O/18:0;(2OH)	0.095156	-3.3936	6.6082E-06	5.1799
HexCer 47:1;O5	0.41586	-1.2658	7.1832E-06	5.1437
CerP 29:3;O5	4.1993	2.0701	7.3093E-06	5.1361
PS 37:1	0.35958	-1.4756	7.3172E-06	5.1357
LPG 34:1	0.1908	-2.3899	7.3642E-06	5.1329
MG O-18:1	0.06384	-3.9694	7.4334E-06	5.1288
DG O-43:3	0.15954	-2.648	7.7875E-06	5.1086
DG O-18:1_17:0	0.1289	-2.9556	8.1503E-06	5.0888
PE-Cer 48:0;O3	1.8802	0.91091	8.3527E-06	5.0782
PS-NAc 52:1	0.11423	-3.13	8.4344E-06	5.0739
PI O-18:1_16:0	0.088449	-3.499	8.5216E-06	5.0695

PE O-42:3	0.15798	-2.6622	8.5625E-06	5.0674
DG O-18:0_22:1	0.095827	-3.3834	8.6977E-06	5.0606
CL 14:0_18:0_18:0_22:4	0.025484	-5.2943	8.7038E-06	5.0603
PI O-63:3	0.21117	-2.2436	8.7809E-06	5.0565
TG O-73:0;O3	0.013804	-6.1787	8.8389E-06	5.0536
PIP 34:5;O	2.7109	1.4388	9.0509E-06	5.0433
PI 18:0_20:1	0.19069	-2.3907	9.1625E-06	5.038
PG 42:6;O	0.34769	-1.5241	9.3776E-06	5.0279
Cer 42:0;O3	0.33134	-1.5936	9.3972E-06	5.027
LPC 21:4	0.46091	-1.1174	9.4287E-06	5.0256
SHexCer 52:2;O2	0.2031	-2.2997	9.5024E-06	5.0222
TG 12:0_14:0_18:0	0.12504	-2.9996	9.5049E-06	5.0221
Cer 37:4;O3	1.7839	0.83505	9.6399E-06	5.0159
TG 12:2_12:2_22:6	0.024197	-5.369	9.7696E-06	5.0101
HexCer 37:5;O2	0.31484	-1.6673	9.8579E-06	5.0062
PC 16:0_18:1	0.29763	-1.7484	9.9398E-06	5.0026
PG 39:0	0.11994	-3.0596	9.9926E-06	5.0003
TG 100:19	0.30056	-1.7343	1.0015E-05	4.9994
Cer 21:0;O3/24:1;(2OH)	0.063549	-3.976	1.0235E-05	4.9899
DG 58:4	0.041053	-4.6064	1.0281E-05	4.988
Cer 18:3;O2/24:6	0.31775	-1.654	1.0519E-05	4.978
DG 18:0_30:0	0.058559	-4.094	1.075E-05	4.9686
PE 16:0_20:4	0.22006	-2.1841	1.0752E-05	4.9685
Cer 21:3;O2/24:2;O	0.44312	-1.1742	1.084E-05	4.965
DG O-39:0	0.093018	-3.4263	1.0864E-05	4.964
HexCer 37:3;O2	0.26689	-1.9057	1.1289E-05	4.9473
Cer 36:4;O4	5.5835	2.4812	1.1324E-05	4.946
PE 20:0_16:1	0.23705	-2.0767	1.1535E-05	4.938
TG 46:2;O	0.15419	-2.6972	1.1552E-05	4.9374
Cer 16:0;O2/18:0;O	0.14035	-2.8329	1.1639E-05	4.9341
PE 28:0	0.30177	-1.7285	1.1666E-05	4.9331
CL 16:1_18:1_18:1_18:1	0.014727	-6.0854	1.1878E-05	4.9253
LPC O-33:4	0.25662	-1.9623	1.2011E-05	4.9204
MG 34:1	0.15034	-2.7337	1.2145E-05	4.9156
MG 32:1	0.43397	-1.2043	1.2488E-05	4.9035
PS 21:0_22:6	0.1463	-2.773	1.2551E-05	4.9013
PI 35:3	2.0834	1.0589	1.2673E-05	4.8971
DG 12:0_16:0	0.1409	-2.8273	1.2826E-05	4.8919
DG O-40:0	0.23845	-2.0682	1.2916E-05	4.8889
PI O-18:1_22:5	0.26017	-1.9425	1.305E-05	4.8844
TG 58:1	0.04259	-4.5533	1.3078E-05	4.8835

PG 18:0_20:3;O3	0.17361	-2.5261	1.3451E-05	4.8713
NAT 32:0;O	0.34258	-1.5455	1.3579E-05	4.8671
PC O-16:0_20:4	0.18238	-2.455	1.4184E-05	4.8482
SHexCer 41:3;O3	0.27211	-1.8778	1.4532E-05	4.8377
Cer 18:1;O2/24:0;O	0.18666	-2.4215	1.4542E-05	4.8374
PE 18:1_22:5	0.29679	-1.7525	1.4849E-05	4.8283
TG 12:2_12:2_20:5	0.22016	-2.1834	1.5036E-05	4.8229
HexCer 43:4;O5	0.16793	-2.574	1.5489E-05	4.81
MG 16:0	0.14321	-2.8038	1.5548E-05	4.8083
DG 26:0_18:1	0.15969	-2.6467	1.5565E-05	4.8079
PE 18:0_20:3	0.31443	-1.6692	1.6016E-05	4.7955
PI 37:2	0.39599	-1.3365	1.6089E-05	4.7935
Cer 18:0;O3/19:1;(2OH)	0.1007	-3.3118	1.7432E-05	4.7586
LPC 31:3	1.9061	0.93066	1.762E-05	4.754
PR 25:3;O	0.30106	-1.7319	1.7647E-05	4.7533
LPE 19:3;O	2.3922	1.2583	1.7673E-05	4.7527
TG 14:0_15:0_17:0	0.16176	-2.6281	1.787E-05	4.7479
Car 34:0	1.9097	0.93332	1.7897E-05	4.7472
SHexCer 40:0;O2	0.47862	-1.063	1.8457E-05	4.7338
LPI O-34:0	0.26348	-1.9242	1.9003E-05	4.7212
HexCer 43:4;O4	0.37857	-1.4014	1.9043E-05	4.7203
HexCer 41:3;O5	0.16081	-2.6366	1.9322E-05	4.7139
MG 18:1	0.18101	-2.4659	1.9341E-05	4.7135
FAHFA 19:2/19:2	0.2071	-2.2716	1.9431E-05	4.7115
HBMP 14:0_18:1_22:2	0.22178	-2.1728	1.9475E-05	4.7105
PE O-18:5_23:0	0.11078	-3.1743	1.9569E-05	4.7084
MG O-32:5	0.12979	-2.9457	1.9744E-05	4.7046
Cer 37:0;O3	0.29784	-1.7474	1.9889E-05	4.7014
PA 44:6	0.12082	-3.049	1.9952E-05	4.7
CL 72:4	0.0031083	-8.3297	1.9989E-05	4.6992
Cer 41:5;O	0.39546	-1.3384	2.004E-05	4.6981
PI O-67:3	0.026925	-5.2149	2.006E-05	4.6977
PE 44:6	0.23257	-2.1043	2.0158E-05	4.6956
HexCer 45:2;O5	0.37446	-1.4171	2.0329E-05	4.6919
SHexCer 43:4;O4	0.125	-3	2.0419E-05	4.69
PI 39:5	0.19043	-2.3927	2.125E-05	4.6726
Cer 44:1;O3	0.20361	-2.2961	2.2071E-05	4.6562
ST 30:3;O	0.15776	-2.6642	2.2257E-05	4.6525
LPC 32:0;O	0.61089	-0.71102	2.2302E-05	4.6517
Cer 16:0;O2/18:1;O	0.14244	-2.8116	2.2408E-05	4.6496
PG 56:7;O	0.092175	-3.4395	2.2597E-05	4.6459

TG 12:2_12:3_13:1	2.4445	1.2896	2.2764E-05	4.6427
TG 98:8	4.0904	2.0322	2.2927E-05	4.6397
PC O-18:1_20:4	0.15451	-2.6942	2.3013E-05	4.638
PS 41:2	0.51319	-0.96245	2.327E-05	4.6332
SHexCer 38:1;O4	0.21919	-2.1898	2.3916E-05	4.6213
HexCer 15:3;O2/30:8	0.46977	-1.09	2.3934E-05	4.621
CL 14:0_18:1_14:0_22:3	0.0032358	-8.2717	2.3982E-05	4.6201
LPA O-27:1	1.6607	0.73175	2.4163E-05	4.6168
Cer 46:4;O3	0.21463	-2.2201	2.4371E-05	4.6131
DG 42:1	0.37292	-1.4231	2.4423E-05	4.6122
CE 18:2;O	0.18832	-2.4087	2.4714E-05	4.607
SHexCer 33:0;O5	2.841	1.5064	2.4737E-05	4.6067
PI 36:2	0.59229	-0.75563	2.4942E-05	4.6031
HexCer 45:5;O4	0.2353	-2.0874	2.5221E-05	4.5982
SL 19:0;O/17:0	0.10814	-3.209	2.5285E-05	4.5971
PIP3 47:9	2.7867	1.4786	2.5442E-05	4.5945
PE 42:1;O	0.2649	-1.9165	2.5534E-05	4.5929
TG 14:0_18:0_22:1	0.033362	-4.9056	2.5873E-05	4.5872
MG 20:4	0.074142	-3.7536	2.6333E-05	4.5795
TG 57:1	0.039817	-4.6505	2.6846E-05	4.5711
TG 66:11	0.0721	-3.7939	2.7136E-05	4.5664
ST 27:3;O2;F2	0.25105	-1.9939	2.7528E-05	4.5602
PE 16:0_18:1	0.25442	-1.9747	2.8113E-05	4.5511
HBMP 14:0_18:1_22:1	0.11837	-3.0786	2.8456E-05	4.5458
PG 52:2;O	0.16339	-2.6136	2.8494E-05	4.5452
PC O-18:1_16:0	0.35508	-1.4938	2.8962E-05	4.5382
DG O-37:3	0.2285	-2.1297	2.9229E-05	4.5342
DG 15:0_18:0	0.11691	-3.0966	2.9914E-05	4.5241
PI 38:4	0.40207	-1.3145	3.05E-05	4.5157
PI 38:5	0.32436	-1.6243	3.1022E-05	4.5083
DG 40:4;O	1.876	0.90764	3.1046E-05	4.508
DG 35:1;O2	0.12011	-3.0575	3.1447E-05	4.5024
DG 44:10	0.19817	-2.3352	3.1521E-05	4.5014
DG O-36:3	0.13615	-2.8767	3.1807E-05	4.4975
PI 18:1_22:5	0.15192	-2.7186	3.1959E-05	4.4954
Cer 18:1;O2/16:0;O	0.13176	-2.924	3.3016E-05	4.4813
PE 34:2	0.17164	-2.5426	3.3385E-05	4.4765
SHexCer 54:2;O2	0.096161	-3.3784	3.3717E-05	4.4721
DG 38:5	0.48935	-1.0311	3.6162E-05	4.4418
PE 14:0_18:0	0.21501	-2.2175	3.7658E-05	4.4241
HexCer 33:2;O2	0.35218	-1.5056	3.8852E-05	4.4106

PI 18:1_20:3	0.17192	-2.5402	3.8989E-05	4.4091
PE 35:0	0.57243	-0.80484	3.9847E-05	4.3996
DG O-16:1_18:0	0.095753	-3.3845	4.1545E-05	4.3815
DG O-35:3	0.21038	-2.2489	4.252E-05	4.3714
PG 58:9;O	0.091689	-3.4471	4.2923E-05	4.3673
Cer 47:6;O3	0.23135	-2.1119	4.3339E-05	4.3631
TG O-99:10	2.651	1.4065	4.3537E-05	4.3611
PK 37:2;O8	0.27733	-1.8503	4.3569E-05	4.3608
DG O-18:2_22:5	0.11083	-3.1735	4.4386E-05	4.3528
Cer 18:1;O2/24:1;O	0.096113	-3.3791	4.4526E-05	4.3514
DG 50:2	0.046642	-4.4222	4.6074E-05	4.3365
LPC 30:0;O	0.57186	-0.80628	4.6111E-05	4.3362
CerP 47:2;O2	0.29118	-1.78	4.6847E-05	4.3293
CerP 31:3;O6	2.888	1.5301	4.7286E-05	4.3253
Cer 20:0;O2/16:1;O	0.12344	-3.0181	4.7922E-05	4.3195
Cer 17:0;3O/18:1;(2OH)	0.10982	-3.1868	4.8336E-05	4.3157
DG O-18:1_24:0	0.24328	-2.0393	5.066E-05	4.2953
PC O-14:1_18:1	0.32448	-1.6238	5.0709E-05	4.2949
NAT 26:2;O3	3.2771	1.7124	5.0825E-05	4.2939
PE 28:1	0.57838	-0.78992	5.0964E-05	4.2927
PI O-36:1	0.070142	-3.8336	5.1735E-05	4.2862
PC 18:1_26:1	0.35213	-1.5058	5.2786E-05	4.2775
PE 18:0_26:2	0.25907	-1.9486	5.3755E-05	4.2696
HexCer 41:6;O3	0.48808	-1.0348	5.3874E-05	4.2686
Cer 40:5;O3	0.35293	-1.5026	5.4057E-05	4.2671
HBMP 16:0_18:1_18:1	0.05993	-4.0606	5.4118E-05	4.2667
PI-Cer 41:2;O2	0.081512	-3.6169	5.4129E-05	4.2666
PE O-38:0	0.26339	-1.9247	5.4587E-05	4.2629
PE O-40:6	3.1629	1.6613	5.4833E-05	4.261
PC 10:0_18:1	0.26397	-1.9216	5.5772E-05	4.2536
ACer 58:0;O3	0.02761	-5.1787	5.6534E-05	4.2477
DG 56:1	0.031484	-4.9892	5.7349E-05	4.2415
TG 84:11;O3	0.20547	-2.283	5.8224E-05	4.2349
HexCer 35:3;O3	0.52242	-0.93672	5.8484E-05	4.233
DG O-16:0_18:0	0.096865	-3.3679	5.8791E-05	4.2307
Cer 18:1;O2/26:1;O	0.12569	-2.992	5.9361E-05	4.2265
PE 18:0_20:2	0.38522	-1.3762	5.9585E-05	4.2249
SHexCer 43:3;O3	0.24542	-2.0267	6.1308E-05	4.2125
LPC 33:4	1.9825	0.98732	6.151E-05	4.2111
TG 83:0;O3	0.27875	-1.8429	6.2013E-05	4.2075
TG O-84:9	0.24152	-2.0498	6.3067E-05	4.2002

Car 32:4;O4	0.28373	-1.8174	6.4302E-05	4.1918
FA 20:3	0.085388	-3.5498	6.5875E-05	4.1813
HexCer 45:6;O2	0.32505	-1.6213	6.7089E-05	4.1733
PG 34:1;O	0.27645	-1.8549	6.7763E-05	4.169
SHexCer 52:1;O2	0.060563	-4.0454	6.9437E-05	4.1584
PC 16:0_20:4	0.16161	-2.6294	7.0297E-05	4.1531
Cer 18:0;3O/19:0;(2OH)	0.090636	-3.4638	7.0424E-05	4.1523
DG 30:1	0.11869	-3.0748	7.0593E-05	4.1512
Hex2Cer 38:6;O3	0.13675	-2.8703	7.0785E-05	4.1501
PI 40:6	0.068739	-3.8627	7.1268E-05	4.1471
HexCer 45:4;O4	0.18658	-2.4222	7.1656E-05	4.1447
LPC 16:1	0.21439	-2.2217	7.2787E-05	4.1379
PE O-18:0_15:0	0.28275	-1.8224	7.3196E-05	4.1355
SHexCer 42:1;O2	0.063492	-3.9773	7.4764E-05	4.1263
Cer 39:0;O3	0.39436	-1.3424	7.5327E-05	4.1231
HexCer 41:2;O4	0.22749	-2.1361	7.592E-05	4.1196
PE 18:0_24:1	0.34843	-1.5211	7.6652E-05	4.1155
PE O-14:0_22:6	1.7091	0.77321	7.6922E-05	4.1139
HexCer 41:3;O4	0.40264	-1.3124	7.7478E-05	4.1108
SM 44:4;O3	0.26278	-1.928	7.7736E-05	4.1094
MG 24:2	1.9016	0.92719	7.8942E-05	4.1027
HexCer 32:0;O5	0.25284	-1.9837	7.9943E-05	4.0972
PS 17:0_18:2	2.1088	1.0764	8.0219E-05	4.0957
PE-Cer 34:1;O;P	0.52274	-0.93584	8.0224E-05	4.0957
TG O-8:0_8:0_16:0	7.0185	2.8112	8.0634E-05	4.0935
PA O-42:5	0.25615	-1.9649	8.3961E-05	4.0759
TG 14:1_16:0_18:1	2.4224	1.2764	8.5309E-05	4.069
LPE O-19:2	1.6173	0.6936	8.557E-05	4.0677
LPI 20:4	1.6066	0.68405	8.5919E-05	4.0659
DG 14:0_18:0	6.2555	2.6451	8.6144E-05	4.0648
Hex2Cer 30:0;O3	0.45326	-1.1416	8.6653E-05	4.0622
PI 18:1_20:4	0.15711	-2.6701	8.885E-05	4.0513
PE 42:2	0.32087	-1.6399	8.9194E-05	4.0497
MG 33:1	1.4467	0.53272	8.9891E-05	4.0463
DG 16:0_20:0	0.20113	-2.3138	9.101E-05	4.0409
Cer 41:1;O3	0.064038	-3.9649	9.1087E-05	4.0405
Cer 18:0;O2/22:0;O	0.28701	-1.8008	9.1943E-05	4.0365
DG 19:0_18:1	0.24736	-2.0153	9.3098E-05	4.0311
Cer 38:4;O3	2.8994	1.5358	9.3426E-05	4.0295
HexCer 39:3;O2	0.43669	-1.1953	9.4203E-05	4.0259
PG O-43:4	2.4461	1.2905	9.5384E-05	4.0205

HexCer 34:3;O3	0.27716	-1.8512	9.5661E-05	4.0193
HexCer 42:4;O4	0.44362	-1.1726	9.6081E-05	4.0174
DG O-18:1_22:5	0.095121	-3.3941	9.8186E-05	4.008
Cer 44:4;O3	0.17017	-2.5549	9.8868E-05	4.0049
Cer 32:1;O2	0.24143	-2.0503	9.9577E-05	4.0018
DG 15:0_18:1	0.084503	-3.5649	9.9653E-05	4.0015
LPG 33:5	1.5981	0.67634	0.00010011	3.9995
ST 27:3	0.26041	-1.9412	0.00010126	3.9946
PS 18:1_20:3	1.9458	0.96039	0.00010455	3.9807
PE 14:0_16:1	0.3181	-1.6524	0.00010459	3.9805
PC O-18:1_22:1	0.64366	-0.63562	0.00010461	3.9804
Cer 18:0;3O/23:1;(2OH)	0.17709	-2.4975	0.00010523	3.9779
PE 42:2;O	0.43243	-1.2095	0.00010549	3.9768
DG 40:7;O	0.40415	-1.307	0.00010561	3.9763
TG 49:0	0.18389	-2.4431	0.00010571	3.9759
CL 16:0_18:2_16:0_20:4	0.0074214	-7.0741	0.00010654	3.9725
SLBPA 54:3	0.12699	-2.9772	0.00010931	3.9614
Hex2Cer 31:2;O4	0.40773	-1.2943	0.0001099	3.959
CL 16:0_18:2_16:0_18:2	0.014649	-6.093	0.00011199	3.9508
PI 52:2;O	0.091186	-3.455	0.00011336	3.9455
Cer 16:0;O2/20:1;O	0.14564	-2.7795	0.00011491	3.9396
DG O-35:0;O	0.13831	-2.8541	0.00011666	3.9331
Cer 18:0;O3/42:1;(2OH)	0.094011	-3.411	0.00011701	3.9318
PE O-14:0_17:0	0.30124	-1.731	0.00012007	3.9206
Cer 44:0;O3	0.47333	-1.0791	0.00012009	3.9205
TG 62:10	0.15097	-2.7276	0.00012021	3.9201
PE-Cer 44:0;O3	0.47467	-1.075	0.00012031	3.9197
PE-Cer 42:6;O4	0.19204	-2.3805	0.00012296	3.9102
PI-Cer 39:0;O2	0.15938	-2.6495	0.00012454	3.9047
SPB 20:0;O2	3.109	1.6365	0.0001246	3.9045
Cer 18:1;O2/23:0;O	0.17192	-2.5402	0.00012533	3.9019
LPC 22:6	0.092592	-3.433	0.00012595	3.8998
SM 36:3;O6	1.7816	0.83318	0.00013549	3.8681
DG O-18:1_20:4	0.079487	-3.6531	0.00013567	3.8675
DG 58:1	0.036253	-4.7858	0.00013594	3.8666
MG O-32:6	2.2124	1.1456	0.0001372	3.8627
PI O-34:0;O	0.47873	-1.0627	0.00013747	3.8618
HexCer 40:5;O2	0.44413	-1.1709	0.00013758	3.8614
Cer 41:5;O2	0.33034	-1.598	0.00013961	3.8551
CL 14:0_18:1_18:0_18:2	0.0031372	-8.3163	0.00014003	3.8538
PE-NMe2 24:0	0.49346	-1.019	0.00014027	3.853

PE 18:0_16:1	0.27686	-1.8528	0.00014055	3.8522
PIP2 30:6;O	2.0309	1.0221	0.00014064	3.8519
TG 54:6;O2	2.0008	1.0006	0.00014154	3.8491
Cer 42:6;O3	0.34771	-1.524	0.00014321	3.844
PI 38:1	0.49379	-1.018	0.00014349	3.8432
PG O-44:3	0.23527	-2.0876	0.00014552	3.8371
Cer 43:4;O2	2.055	1.0391	0.00014665	3.8337
DG 17:0_18:1	0.20392	-2.2939	0.00014732	3.8317
PI O-20:0_16:1	0.21344	-2.2281	0.00014786	3.8301
MIPC 29:6;O5	2.6398	1.4004	0.00015161	3.8193
TG 50:5;O2	0.35313	-1.5017	0.0001535	3.8139
HexCer 38:5;O2	0.37123	-1.4296	0.00015351	3.8139
SHexCer 38:0;O2	0.17345	-2.5274	0.0001538	3.813
LPI O-29:0	0.40132	-1.3172	0.00015417	3.812
HexCer 37:6;O2	0.27886	-1.8424	0.00015673	3.8049
Car 34:5;O	0.19675	-2.3456	0.00015684	3.8045
PG 50:3;O	0.096067	-3.3798	0.00015811	3.801
PC 12:0_16:0	0.23022	-2.1189	0.00015827	3.8006
PI-Cer 39:3;O6	2.1201	1.0842	0.00015887	3.7989
DG O-18:2_20:0	0.10056	-3.3138	0.00015892	3.7988
TG 14:0_18:0_20:1	0.020035	-5.6413	0.00015981	3.7964
HexCer 18:0;O2/24:2	1.7543	0.81092	0.00016024	3.7952
DG 57:6	0.16193	-2.6266	0.0001616	3.7916
PE 38:0;O	1.5472	0.6297	0.00016284	3.7882
SHexCer 43:3;O4	0.13045	-2.9384	0.00016421	3.7846
Car 34:2;O	0.1726	-2.5345	0.00016438	3.7842
CL 14:0_18:0_14:0_22:5	0.052345	-4.2558	0.00016724	3.7767
LPC 17:1	0.54698	-0.87044	0.00016807	3.7745
NAT 20:3	1.7405	0.79946	0.00016927	3.7714
DG O-16:2_18:0	0.085054	-3.5555	0.0001696	3.7706
PI-Cer 36:2;O3	2.5773	1.3659	0.00017042	3.7685
TG 54:2	0.075942	-3.7189	0.00017054	3.7682
MG 33:0	0.14519	-2.784	0.00017231	3.7637
PE O-42:0	0.57268	-0.8042	0.00017236	3.7636
PG 14:0_18:0	0.10993	-3.1854	0.00017257	3.763
LPG 33:1	0.29226	-1.7747	0.000173	3.762
HexCer 45:6;O6	0.21167	-2.2401	0.0001731	3.7617
PE-Cer 44:6;O2	1.606	0.68344	0.00017439	3.7585
PG O-45:0	0.70199	-0.51049	0.00017778	3.7501
TG 12:0_12:3_20:6	0.25618	-1.9648	0.00017827	3.7489
DG 55:4	0.098729	-3.3404	0.00018027	3.7441

DG 39:5;O	0.55944	-0.83794	0.00018269	3.7383
PE 18:1_24:1	0.33207	-1.5905	0.00018304	3.7375
CE 28:1;O	0.3406	-1.5539	0.00018305	3.7374
Cer 28:0;O3	3.4387	1.7819	0.0001845	3.734
PE 18:0_20:1	0.39781	-1.3298	0.00018812	3.7256
DG 39:0;O2	0.27759	-1.849	0.00018891	3.7237
DG 32:0_22:2	0.016049	-5.9614	0.00019145	3.7179
HexCer 38:6;O2	0.40001	-1.3219	0.00019245	3.7157
Car 34:2	0.10855	-3.2035	0.00019318	3.714
TG O-8:0_8:0_18:2	0.51563	-0.9556	0.00019535	3.7092
Hex2Cer 30:1;O6	2.5047	1.3246	0.00019673	3.7061
DG 41:2	0.16798	-2.5736	0.00019704	3.7055
PI 40:3	1.5643	0.64548	0.00019895	3.7013
DG O-20:0_16:2	0.088489	-3.4984	0.00019952	3.7
DG 32:2	0.17588	-2.5073	0.00019953	3.7
CL 14:0_18:1_18:1_18:1	0.024659	-5.3417	0.00019975	3.6995
PI O-40:0;O	1.9523	0.96517	0.00020023	3.6985
TG 55:1	0.22014	-2.1835	0.00020219	3.6942
PS 18:0_22:0	0.49472	-1.0153	0.00020485	3.6886
DG 16:0_20:3	0.26964	-1.8909	0.00020496	3.6883
PC 20:4	22.35	4.4822	0.00020637	3.6854
PG 45:8;O	0.10318	-3.2767	0.00020673	3.6846
WE 40:4	0.20741	-2.2695	0.00020689	3.6843
Cer 38:0;O5	0.34796	-1.523	0.00020894	3.68
Car 22:4;O3	0.34917	-1.518	0.00020917	3.6795
HexCer 40:4;O3	0.36205	-1.4658	0.00020945	3.6789
PG 20:4;O	0.51664	-0.95276	0.00021258	3.6725
PC O-36:6	17.137	4.0991	0.00021267	3.6723
PG 39:4;O	0.092721	-3.431	0.00021451	3.6686
CerP 43:5;O2	0.54495	-0.87581	0.00021625	3.665
DG 41:0;O2	0.3384	-1.5632	0.00021665	3.6642
PE 56:5	0.35187	-1.5069	0.00021784	3.6619
TG 100:17	0.15604	-2.68	0.00021923	3.6591
ACer 43:6;O3	0.2265	-2.1424	0.00021927	3.659
MG 31:0	0.51999	-0.94345	0.00022027	3.657
TG 12:3_12:3_18:4	0.15144	-2.7232	0.00022048	3.6566
TG 84:11;O2	0.1169	-3.0967	0.00022409	3.6496
PS 32:1	2.6534	1.4078	0.0002242	3.6494
PE 18:0_22:6	0.26037	-1.9414	0.00022738	3.6432
HexCer 45:1;O3	2.265	1.1795	0.00022801	3.642
TG 75:0;O2	0.19224	-2.379	0.00023111	3.6362

TG 51:3;O	0.015166	-6.043	0.00023331	3.6321
PC 20:1_16:3	23.717	4.5679	0.00023436	3.6301
LPS 33:0;O	0.38138	-1.3907	0.00023461	3.6297
HexCer 38:2;O5	0.44689	-1.162	0.00023509	3.6288
Cer 18:0;O2/24:1;O	0.24608	-2.0228	0.00023572	3.6276
TG 12:1_12:3_20:6	0.39557	-1.338	0.000236	3.6271
LPI 18:1; [M-H]-	0.21741	-2.2015	0.0002406	3.6187
PG 18:1_20:2	0.45527	-1.1352	0.00024126	3.6175
FA 17:0;O2	0.30921	-1.6934	0.00024188	3.6164
CL 14:0_18:1_16:0_18:2	0.0044223	-7.821	0.00024304	3.6143
TG O-83:5	0.20887	-2.2593	0.00024405	3.6125
HexCer 40:4;O2	0.49903	-1.0028	0.00024482	3.6112
PE 44:1	0.48927	-1.0313	0.00024635	3.6085
NAT 28:0	1.9397	0.9558	0.00024869	3.6043
DG 36:0	0.096705	-3.3703	0.00024941	3.6031
PR 59:14;O4	0.19767	-2.3388	0.00024971	3.6026
CL 73:7	0.68481	-0.54622	0.00025361	3.5958
PG 39:1;O	0.10556	-3.2439	0.00025543	3.5927
DG 42:5	0.41586	-1.2658	0.00025755	3.5891
PE O-18:0_22:2	0.33083	-1.5958	0.00025794	3.5885
DG 33:0;O2	0.34752	-1.5248	0.00026588	3.5753
PC 18:0_21:1	0.56432	-0.82542	0.00026667	3.574
TG 52:6;O2	0.31785	-1.6536	0.00026784	3.5721
HexCer 48:6;O4	0.38659	-1.3711	0.00026856	3.571
PI O-20:0_16:2	0.095706	-3.3852	0.00026906	3.5702
PS O-15:0_20:4	2.4267	1.279	0.00026984	3.5689
TG 85:1;O	0.14515	-2.7844	0.00027187	3.5656
PI 18:1_22:6	0.13565	-2.882	0.00028224	3.5494
PS 18:0_22:2	1.8586	0.89418	0.0002849	3.5453
DG 41:1	0.10801	-3.2107	0.0002866	3.5427
PIP3 33:8	5.8449	2.5472	0.00028908	3.539
PS 18:0_20:0	0.46565	-1.1027	0.00029023	3.5373
CL 14:0_18:1_16:1_18:1	0.041133	-4.6035	0.00029118	3.5358
PS 19:0_18:2	0.15301	-2.7083	0.00029513	3.53
PS 18:0_20:3	2.231	1.1577	0.00029586	3.5289
DG O-18:1_24:1	0.10939	-3.1924	0.00030012	3.5227
PIP3 40:11	1.8163	0.86101	0.00030095	3.5215
FA 20:1	0.12448	-3.006	0.00030468	3.5162
Hex2Cer 28:1;O5	3.9129	1.9682	0.00030906	3.51
PE 30:3	3.2547	1.7025	0.0003126	3.505
TG 50:6;O2	0.30234	-1.7257	0.00031323	3.5041

DG O-39:4	0.22294	-2.1653	0.00031737	3.4984
DG dO-40:2	0.33244	-1.5888	0.00031746	3.4983
Hex2Cer 30:0;O4	0.34583	-1.5319	0.00031893	3.4963
LPC 34:3	0.37467	-1.4163	0.00032189	3.4923
MG 33:2;O	0.54125	-0.88564	0.0003259	3.4869
DG O-36:0;O	0.089795	-3.4772	0.00032629	3.4864
TG 14:0_18:0_19:1	0.069769	-3.8413	0.00032804	3.4841
ST 27:3;F	0.55724	-0.84363	0.00033298	3.4776
PE 50:7	1.493	0.57823	0.00033345	3.477
TG 55:8;O	0.06891	-3.8591	0.00033601	3.4736
PC O-18:0_15:1	0.44616	-1.1644	0.00033714	3.4722
DG 38:6;O	0.38111	-1.3917	0.00033715	3.4722
PG O-44:8	0.59481	-0.74949	0.00034355	3.464
DG O-40:6	0.30004	-1.7368	0.00034414	3.4633
PE 32:3;O	2.9284	1.5501	0.00034724	3.4594
LPG O-27:0;O	2.0044	1.0032	0.00035617	3.4483
Cer 18:1;O2/20:0;O	0.13388	-2.901	0.00035746	3.4468
TG 14:1_14:3_19:5	0.199	-2.3292	0.00036757	3.4347
LPA 18:1	0.34448	-1.5375	0.0003682	3.4339
PI O-38:6	0.65855	-0.60264	0.00037166	3.4299
PG 18:1_19:1	0.48348	-1.0485	0.00037167	3.4298
PE 56:5;O	0.38355	-1.3825	0.00037638	3.4244
Cer 18:1;O2/22:1;O	0.17463	-2.5176	0.00037716	3.4235
TG O-97:5	0.13964	-2.8403	0.00037874	3.4217
DG O-16:1_20:4	0.085423	-3.5492	0.00038494	3.4146
ST 23:6;O5	1.4609	0.54687	0.0003939	3.4046
CL 71:5	0.24504	-2.0289	0.00039601	3.4023
PC O-18:1_14:0	0.37515	-1.4144	0.00039766	3.4005
DG O-18:0_20:4	0.29292	-1.7714	0.00039893	3.3991
DG O-20:1_16:0	0.093729	-3.4154	0.00039973	3.3982
PE 18:0_22:5	0.20883	-2.2596	0.00040063	3.3973
Cer 18:0;O3/35:1;(2OH)	0.0071637	-7.1251	0.00040238	3.3954
CL 70:6	0.42056	-1.2496	0.00040446	3.3931
Cer 43:0;O3	0.36521	-1.4532	0.00040667	3.3908
PE 58:6	0.41216	-1.2787	0.00040694	3.3905
GlcADG 12:0_13:0	2.6399	1.4005	0.00040709	3.3903
LPA 30:1	3.9975	1.9991	0.00040862	3.3887
PI O-47:9	1.6023	0.68016	0.00040948	3.3878
DG O-45:5	0.17355	-2.5266	0.00041516	3.3818
PA 32:0	0.41355	-1.2739	0.00041666	3.3802
PG 42:4	0.41504	-1.2687	0.0004189	3.3779

TG O-69:0;O3	0.21594	-2.2113	0.00042327	3.3734
PA 18:1_20:1	0.26283	-1.9278	0.00042535	3.3713
PI-Cer 51:2;O2	0.23112	-2.1133	0.00043264	3.3639
Hex2Cer 34:4;O3	0.25292	-1.9832	0.00043725	3.3593
LPA O-30:3	1.932	0.95009	0.00044259	3.354
DG O-41:5	0.18928	-2.4014	0.00044455	3.3521
Car 27:3;O	1.736	0.79574	0.0004452	3.3514
MG O-19:1	1.527	0.61071	0.00044748	3.3492
PIP3 46:11	2.6086	1.3833	0.00045016	3.3466
PI O-36:2	0.15808	-2.6612	0.00045063	3.3462
TG 44:2	0.34347	-1.5418	0.00045961	3.3376
Cer 43:2;O	1.7442	0.80258	0.00046895	3.3289
PI O-65:4	0.12293	-3.024	0.0004767	3.3218
ST 29:3;O2	0.50232	-0.99332	0.00047736	3.3212
DG O-40:4	0.24377	-2.0364	0.00047859	3.32
LPE 16:0	0.40106	-1.3181	0.00048246	3.3165
PG 17:0_18:1	0.41588	-1.2658	0.00048302	3.316
PE 18:0_20:0	0.30887	-1.6949	0.00048531	3.314
HexCer 16:0;O2/18:1	2.3776	1.2495	0.00049158	3.3084
Cer 18:0;O2/4:0	5.6487	2.4979	0.00049577	3.3047
TG 95:5;O	0.50476	-0.98634	0.00049669	3.3039
SL 17:0;O_18:1	0.21099	-2.2448	0.00049672	3.3039
SM 36:0;O3	11.82	3.5631	0.00049694	3.3037
LPA 14:2;O	2.0633	1.045	0.00050105	3.3001
SM 52:3;O5	22.647	4.5013	0.00050285	3.2986
Cer 18:2;O2/24:1;O	0.18529	-2.4322	0.00050392	3.2976
HexCer 18:0;O2/24:0;O	2.6863	1.4256	0.00050639	3.2955
ST 28:1;O4	0.20684	-2.2734	0.00051966	3.2843
PIP3 33:7;O	2.8513	1.5116	0.00052294	3.2815
TG 12:0_12:2_22:7	0.40482	-1.3046	0.00052765	3.2777
LPI O-11:0	3.5134	1.8128	0.00053112	3.2748
DG O-18:1_22:6	0.21457	-2.2204	0.00054006	3.2676
LPC 33:6	1.7006	0.76607	0.00054307	3.2651
CerP 41:4;O2	0.70209	-0.51026	0.00054872	3.2607
LPI O-32:2	0.42782	-1.2249	0.00055312	3.2572
Car 34:3	0.30399	-1.7179	0.00055412	3.2564
PC O-16:1_24:1	0.51892	-0.94643	0.00055458	3.256
PE 18:1_22:1	0.43958	-1.1858	0.0005548	3.2559
DG 22:3_22:6	0.40124	-1.3175	0.00055484	3.2558
PS 18:0_20:2	2.4444	1.2895	0.00055731	3.2539
LPC 18:1;O	2.0214	1.0154	0.00056402	3.2487

TG 76:2	0.27308	-1.8726	0.00056489	3.248
TG 48:0;O3	3.1022	1.6333	0.00056502	3.2479
Cer 18:0;O2/23:1;O	0.17157	-2.5431	0.00056631	3.2469
TG 16:0_16:1_20:5	2.5299	1.3391	0.0005711	3.2433
ST 20:2;O	0.35717	-1.4853	0.00057322	3.2417
CL 16:0_18:2_16:0_18:3	0.0052588	-7.5711	0.000574	3.2411
Cer 46:1;O4	0.32664	-1.6142	0.00057475	3.2405
DG 28:1	0.17083	-2.5494	0.00057866	3.2376
PI 64:1	0.4361	-1.1973	0.00059758	3.2236
LPE O-22:0;O	0.44503	-1.168	0.00060506	3.2182
ST 28:2;O	0.53374	-0.90579	0.00061114	3.2139
FA 32:4	2.8734	1.5228	0.00061421	3.2117
LPC 34:1	0.40974	-1.2872	0.00061566	3.2107
PC 15:0_18:3	0.39364	-1.345	0.00062115	3.2068
Cer 42:5;O	2.6272	1.3935	0.00062519	3.204
Hex(5)-HexNAc(3)-Cer 34:1;O2	0.52928	-0.91788	0.00062552	3.2038
DG O-16:1_18:1	0.083726	-3.5782	0.00062762	3.2023
PR 20:2;O	0.51315	-0.96256	0.0006281	3.202
PI 40:7	0.08345	-3.5829	0.00063183	3.1994
TG 99:5	0.20664	-2.2748	0.00063331	3.1984
TG 51:3;O3	0.40637	-1.2991	0.00063473	3.1974
PC O-18:1_24:2	0.64939	-0.62284	0.00063728	3.1957
PI 40:4	0.65311	-0.61461	0.00064583	3.1899
HexCer 44:5;O2	0.4403	-1.1835	0.00064734	3.1889
DG 34:0	10.216	3.3528	0.00065219	3.1856
PE 46:1	0.4105	-1.2846	0.00065473	3.1839
DG O-18:2_20:4	0.064503	-3.9545	0.00065788	3.1819
ST 30:4;O	0.56366	-0.8271	0.00066192	3.1792
NAE 20:1;O2	1.5697	0.65052	0.00066924	3.1744
PC 26:0_18:1	0.42034	-1.2504	0.00067192	3.1727
TG 70:3;O3	4.0146	2.0053	0.00067509	3.1706
CerP 52:2;O2	0.38623	-1.3725	0.00068335	3.1654
NA 18:2;O3;N;Fe	1.6102	0.6872	0.00069609	3.1573
NAT 15:3	1.6102	0.6872	0.00069609	3.1573
Cer 18:1;O2/22:0;O	0.076622	-3.7061	0.00069706	3.1567
CerP 44:0;O5	0.39612	-1.336	0.00070075	3.1544
TG 56:1	0.02509	-5.3168	0.00070532	3.1516
HexCer 14:0;O2/18:1	2.024	1.0172	0.00070817	3.1499
HexCer 18:0;O2/25:1	3.4763	1.7975	0.00070922	3.1492
HexCer 49:3;O5	0.41579	-1.2661	0.00071008	3.1487

PE 18:0_22:1	0.30927	-1.6931	0.00071097	3.1482
CL 70:3	0.06009	-4.0567	0.00071294	3.1469
HexCer 40:2;O5	0.43641	-1.1963	0.00071458	3.1459
PG 42:3	0.30238	-1.7256	0.00071936	3.1431
LPA O-30:2	3.6722	1.8766	0.00072566	3.1393
ST 26:0;O8;G	0.35611	-1.4896	0.0007281	3.1378
HexCer 32:2;O2	1.8362	0.87673	0.00073395	3.1343
ACer 56:0;O3	0.1259	-2.9896	0.00074226	3.1294
CL 74:6	0.57629	-0.79512	0.00074354	3.1287
DG 33:0_18:1	0.10671	-3.2282	0.00074391	3.1285
PI O-18:1_20:4	0.14473	-2.7885	0.00075719	3.1208
HexCer 36:5;O2	0.31821	-1.652	0.00075922	3.1196
PI 14:0_18:0	0.17929	-2.4797	0.00076358	3.1171
FA 24:0;O3	1.511	0.59551	0.00076836	3.1144
TG 14:0_18:0_18:1	0.015466	-6.0148	0.00077546	3.1104
CL 14:0_18:0_14:0_20:4	0.041567	-4.5884	0.0007758	3.1103
HexCer 18:0;O2/24:1;O	2.7267	1.4471	0.0007761	3.1101
HexCer 40:1;O4	0.38529	-1.376	0.00078195	3.1068
MG O-22:3	1.4477	0.53378	0.00078352	3.1059
TG 13:0_14:0_16:0	0.48353	-1.0483	0.0007846	3.1054
DG 40:6;O	0.57739	-0.79239	0.0007857	3.1047
DG 37:0;O2	0.46138	-1.116	0.00078949	3.1027
HBMP 16:1_18:0_18:0	0.3649	-1.4544	0.00079005	3.1023
SL 22:0;O/22:3	0.11684	-3.0974	0.00079251	3.101
DG 44:9	0.41263	-1.2771	0.00079444	3.0999
LPA O-27:3	0.43168	-1.212	0.00079809	3.0979
PG 27:2;O	1.9351	0.9524	0.00081212	3.0904
ST 28:1;O;Hex;FA 16:0	3.0294	1.599	0.00082082	3.0858
SPB 22:0;O2	2.7517	1.4603	0.0008225	3.0849
PI-Cer 39:1;O4	2.2131	1.1461	0.00084104	3.0752
TG 12:0_12:1_16:3	1.6087	0.68585	0.00084268	3.0743
DG 53:3	0.26678	-1.9063	0.00084511	3.0731
ACer 58:4;O2	2.1645	1.114	0.00084775	3.0717
SOMG 18:0	1.4389	0.52494	0.00084863	3.0713
PG 20:0_16:1	0.46285	-1.1114	0.00084938	3.0709
TG 16:0_18:1_18:1	0.18075	-2.4679	0.00085043	3.0704
HexCer 35:0;O4	0.574	-0.80089	0.0008553	3.0679
CL 16:0_18:1_18:0_18:2	0.0057163	-7.4507	0.00085604	3.0675
CerP 51:6;O2	0.54591	-0.87327	0.00086074	3.0651
CAR 14:1	4.2994	2.1041	0.00086729	3.0618
FA 24:1;O	8.6772	3.1172	0.00086805	3.0615

DG O-35:0	0.37816	-1.4029	0.00089178	3.0497
CL 71:4	0.26531	-1.9142	0.00090903	3.0414
DG O-20:2_16:0	0.10379	-3.2683	0.00091051	3.0407
HexCer 18:2;O2/21:1	3.6557	1.8702	0.00091843	3.037
PIP 52:2	0.6461	-0.63018	0.00091959	3.0364
NAT 17:2;O	1.5789	0.65893	0.00092364	3.0345
ST 24:3;O3;G	0.42685	-1.2282	0.00092555	3.0336
PE 44:3	0.55714	-0.84389	0.00093216	3.0305
SM 18:2;O2/24:2	9.3633	3.227	0.00093872	3.0275
PS 17:0_21:0	0.4864	-1.0398	0.00094103	3.0264
Hex2Cer 32:0;O2	0.16494	-2.6	0.00094295	3.0255
HexCer 42:6;O4	0.55737	-0.84328	0.00095108	3.0218
PE O-18:0_19:2	0.46219	-1.1134	0.00095169	3.0215
Cer 44:2;O	1.525	0.60882	0.00095437	3.0203
PR 45:6;O	0.086879	-3.5249	0.00095632	3.0194
LPC 20:3	0.53039	-0.91489	0.00095886	3.0182
LPA O-27:4	0.22503	-2.1518	0.00097186	3.0124
SM 42:2;O2	11.726	3.5516	0.0009738	3.0115
PI-Cer 48:2;O3	1.4464	0.5325	0.00097399	3.0114
HexCer 18:2;O2/24:2	2.2895	1.195	0.00098253	3.0077
PE-Cer 42:6;O3	0.3794	-1.3982	0.00099003	3.0044
CerP 46:3;O3	0.4602	-1.1197	0.0010023	2.999
TG 82:10;O2	0.15814	-2.6607	0.0010112	2.9952
PIP3 45:8;O	0.67133	-0.57492	0.001015	2.9935
HexCer 36:1;O5	0.1572	-2.6694	0.0010175	2.9925
TG 49:5;O2	4.3372	2.1168	0.0010352	2.985
ST 28:2;O;HexNAc	0.43487	-1.2014	0.0010382	2.9837
LPC O-31:3	0.40695	-1.2971	0.0010403	2.9828
PI-Cer 34:6;O5	1.8621	0.89689	0.001046	2.9805
MG O-34:1	1.6578	0.72924	0.0010616	2.9741
MG O-31:0;O	1.4194	0.50525	0.0010628	2.9736
LPA 24:0;O	0.15497	-2.69	0.0010647	2.9728
PE O-34:3	1.582	0.66177	0.0010668	2.9719
DG O-46:10	3.0114	1.5904	0.0010686	2.9712
DG O-33:0	2.2443	1.1663	0.0010686	2.9712
DG 37:2	4.6221	2.2086	0.0010858	2.9643
CE 20:5	1.4854	0.57088	0.0010947	2.9607
PC 34:3	11.176	3.4823	0.0010961	2.9602
DG O-44:9	0.34105	-1.5519	0.0010985	2.9592
PI 40:5	0.075976	-3.7183	0.0011009	2.9582
Cer 44:1;O5	0.56927	-0.81282	0.0011049	2.9567

Cer 18:0;O2/20:1;O	0.18626	-2.4246	0.0011081	2.9554
SHexCer 29:0;O2	1.7756	0.82833	0.0011158	2.9524
Cer 44:6;O2	0.28904	-1.7907	0.0011203	2.9507
PG 58:8;O	0.47564	-1.0721	0.0011291	2.9473
FA 19:0;O2	0.52409	-0.93211	0.0011363	2.9445
TG 88:21;O3	0.021649	-5.5295	0.0011403	2.943
DG 43:1;O2	0.39841	-1.3277	0.0011431	2.9419
PE 46:0;O	0.49145	-1.0249	0.0011471	2.9404
PE-Cer 37:2;O3	0.54268	-0.88184	0.0011536	2.9379
MG 34:1;O	4.0419	2.015	0.0011556	2.9372
PA 42:4	0.55676	-0.84488	0.0011583	2.9362
PnC 34:1	5.4043	2.4341	0.0011641	2.934
Cer 44:1;O2	0.16966	-2.5593	0.0011714	2.9313
PIP3 46:10	1.8836	0.91353	0.0011937	2.9231
TG 48:5;O	0.3058	-1.7094	0.0011969	2.9219
HexCer 18:1;O2/16:0	2.248	1.1686	0.0012045	2.9192
PI-Cer 40:1;O2	2.0861	1.0608	0.0012048	2.9191
DG 39:4;O2	2.221	1.1512	0.0012068	2.9184
DG 18:0_32:0	0.12929	-2.9513	0.0012376	2.9074
PS 36:2	2.4427	1.2885	0.0012382	2.9072
Car 25:0;O4	3.4527	1.7877	0.0012451	2.9048
LPA 32:1	0.27844	-1.8446	0.0012461	2.9044
PS 52:0;O	0.37876	-1.4006	0.0012796	2.8929
Car 32:7;O4	1.9658	0.97511	0.0012874	2.8903
HexCer 43:1;O4	0.27226	-1.877	0.0012969	2.8871
TG 76:11;O3	2.6257	1.3927	0.0013016	2.8855
PG O-36:2	0.33487	-1.5783	0.0013294	2.8764
TG 75:2;O3	0.079215	-3.6581	0.0013294	2.8764
PE O-18:1_21:2	0.56919	-0.81302	0.0013334	2.875
PC O-20:3_16:4	4.9284	2.3011	0.0013405	2.8727
GP 30:0	4.8018	2.2636	0.0013418	2.8723
Car 32:6;O3	1.5297	0.61326	0.0013563	2.8676
PC 30:0	6.6438	2.732	0.0013584	2.867
DG 16:0_32:2	0.29212	-1.7754	0.0013766	2.8612
SM 20:0;O2/16:2	2.1835	1.1267	0.0013858	2.8583
PE 30:1;O	0.37517	-1.4144	0.0013865	2.8581
PI O-67:5	0.2043	-2.2912	0.0013918	2.8564
PS 24:4_18:5	3.7142	1.8931	0.0013929	2.8561
PG O-39:0	0.62446	-0.67931	0.0013944	2.8556
CL 16:0_20:5_18:0_18:2	0.015307	-6.0297	0.0013948	2.8555
PC O-16:0_12:0	0.38981	-1.3592	0.0013968	2.8549

DG O-19:1_18:1	0.29339	-1.7691	0.0014246	2.8463
PI-Cer 34:1;O2	0.40691	-1.2972	0.0014385	2.8421
HexCer 18:1;O2/4:0	4.0358	2.0128	0.001452	2.838
SM 34:1;O2	33.927	5.0843	0.001456	2.8368
TG 16:1_18:1_18:1	0.25707	-1.9598	0.0014634	2.8346
LPS O-16:1	2.4592	1.2982	0.0014714	2.8323
PC O-68:6	22.661	4.5022	0.0014773	2.8305
ACer 71:3;O6	0.50826	-0.97637	0.0014853	2.8282
DG 18:1_24:1	0.13436	-2.8958	0.0014941	2.8256
LPC 34:0	0.53391	-0.90534	0.0014997	2.824
PC 16:0_18:4	16.973	4.0852	0.0015059	2.8222
LPE 12:0	1.5835	0.6631	0.0015072	2.8218
PG 45:6;O	0.21604	-2.2106	0.0015185	2.8186
SM 44:5;O6	13.188	3.7211	0.0015229	2.8173
LPG 25:0;O	2.6346	1.3976	0.0015283	2.8158
PS 20:0_16:2	2.273	1.1846	0.0015313	2.8149
DG 16:0_18:2	0.11378	-3.1356	0.0015328	2.8145
PC 34:0;O	16.734	4.0647	0.0015355	2.8138
TG O-10:0_10:0_10:0	6.414	2.6812	0.0015403	2.8124
TG 50:1;O2	0.50946	-0.97297	0.0015479	2.8102
SM 18:0;O2/20:1	7.401	2.8877	0.0015493	2.8099
PG 37:0	0.14841	-2.7523	0.0015547	2.8084
HexCer 18:1;O2/24:0	3.4782	1.7983	0.0015559	2.808
LPC 28:0	0.46631	-1.1006	0.0015595	2.807
DG 43:2;O	3.3363	1.7382	0.0015639	2.8058
LPC 16:3;O	2.4262	1.2787	0.00158	2.8013
PG 18:0_20:2	0.36253	-1.4638	0.0015898	2.7987
TG 76:4;O	0.39613	-1.3359	0.0015934	2.7977
PI 30:1	0.53945	-0.89043	0.0016078	2.7938
HexCer 42:5;O2	0.47652	-1.0694	0.0016085	2.7936
SL 18:0;O/19:1	0.37157	-1.4283	0.0016093	2.7934
PG 38:0;O	0.13197	-2.9218	0.0016102	2.7931
ST 28:1;O3	0.46438	-1.1066	0.0016238	2.7895
SM 43:6;O2	11.322	3.501	0.0016285	2.7882
DG O-46:7	2.2676	1.1812	0.0016319	2.7873
DG 16:1_20:1	12.289	3.6193	0.001634	2.7867
Car 32:2;O2	1.5665	0.64754	0.0016362	2.7862
LPI 18:0	0.46865	-1.0934	0.0016371	2.7859
PE-Cer 36:3;O2	0.5735	-0.80214	0.0016518	2.782
ST 28:3;O	0.4602	-1.1197	0.0016633	2.779
CL 69:4	0.28721	-1.7998	0.0016671	2.778

DG 59:5	0.10505	-3.2508	0.0016725	2.7766
CerP 14:0;O2/10:0	0.33391	-1.5825	0.00168	2.7747
DG O-44:8	0.44595	-1.165	0.0016924	2.7715
PE 17:1_18:1	0.37548	-1.4132	0.0017	2.7696
LPI 34:2	0.23261	-2.104	0.0017012	2.7692
PE 3:0_16:1	1.6068	0.6842	0.0017043	2.7685
DG 38:5;O	0.49941	-1.0017	0.0017103	2.7669
DG 57:4	0.049568	-4.3344	0.0017406	2.7593
LPC 16:0;O	1.7796	0.83154	0.0017475	2.7576
NA 25:4;O2	5.3369	2.416	0.0017672	2.7527
PG O-36:0	1.506	0.5907	0.0017716	2.7516
TG 81:1;O3	0.56434	-0.82536	0.0017902	2.7471
PE-Cer 36:1;O4	0.54581	-0.87353	0.0017994	2.7449
SM 18:0;O2/26:1	6.3477	2.6662	0.0018007	2.7445
Cer 51:6;O2	0.39744	-1.3312	0.0018044	2.7437
Cer 18:1;3O/23:1;(2OH)	0.11983	-3.0609	0.0018066	2.7431
PG 56:8;O	0.12502	-2.9998	0.0018101	2.7423
SM 18:3;O2/26:2	17.313	4.1138	0.0018103	2.7422
SM 30:2;O5	14.625	3.8703	0.0018108	2.7421
Cer 40:6;O3	0.40557	-1.302	0.0018109	2.7421
PC O-18:1_20:1	0.39921	-1.3248	0.0018253	2.7387
SM 33:6;O2	9.3328	3.2223	0.0018286	2.7379
DG O-20:2_16:1	0.051446	-4.2808	0.0018484	2.7332
ST 27:6;O	0.27906	-1.8414	0.0018488	2.7331
Cer 18:0;O2/26:1;O	0.3667	-1.4473	0.0018555	2.7315
NAE 19:0;O	1.5929	0.67169	0.001859	2.7307
ST 29:7;O	0.043335	-4.5283	0.0018606	2.7303
NA 18:2;O3	1.5542	0.63615	0.0018729	2.7275
LPC 30:3	1.6365	0.71063	0.0018828	2.7252
PC 40:1	19.999	4.3218	0.0018863	2.7244
PS O-40:7	2.6133	1.3859	0.001887	2.7242
Cer 18:1;O3/21:1;(2OH)	0.11408	-3.1318	0.0018943	2.7225
PI O-67:6	0.64219	-0.63893	0.0019008	2.7211
Car 30:6;O2	1.5702	0.65094	0.0019118	2.7186
FA 29:4;O	1.7269	0.78815	0.0019279	2.7149
PG 21:1_21:1	1.6322	0.70685	0.0019434	2.7114
DG 41:6;O	0.65158	-0.61798	0.0019516	2.7096
LPC 19:1	0.4222	-1.244	0.0019518	2.7096
DG 18:1_19:1	0.1725	-2.5353	0.0019566	2.7085
CE 18:1	0.27606	-1.8569	0.0019751	2.7044
NAT 22:2;O2	1.4689	0.55472	0.0019751	2.7044

HexCer 20:0;O2/16:1	1.8454	0.88392	0.0019762	2.7042
TG 44:6;O2	0.08066	-3.632	0.0019789	2.7036
SM 18:0;O2/25:1	9.8	3.2928	0.0019818	2.7029
PA O-50:6	3.5481	1.827	0.0019863	2.702
SM 40:0;O5	16.671	4.0593	0.0020082	2.6972
PI 28:1	1.8554	0.89171	0.0020124	2.6963
PR 58:14;O3	0.075688	-3.7238	0.002014	2.6959
SM 32:2;O4	18.416	4.2029	0.0020309	2.6923
DG O-33:0;O2	2.8544	1.5132	0.0020341	2.6916
PE 42:5	0.15892	-2.6536	0.0020343	2.6916
PI 18:0_22:3	2.0973	1.0685	0.0020461	2.6891
TG 53:1	0.3305	-1.5973	0.0020489	2.6885
SM 38:3;O6	8.6724	3.1164	0.0020628	2.6855
PE-Cer 32:1;O;P	0.60158	-0.73317	0.0020708	2.6839
FA 17:1	0.18565	-2.4294	0.0020727	2.6835
PE-Cer 32:3;O5	2.0776	1.0549	0.0020797	2.682
LPE 18:0	0.46252	-1.1124	0.0020859	2.6807
TG 12:0_12:3_22:7	0.1168	-3.0979	0.0020881	2.6802
PC 16:0_18:3	25.662	4.6816	0.0020957	2.6787
Cer 45:1;O3	0.62596	-0.67587	0.0021049	2.6768
NAT 33:0	3.069	1.6178	0.0021302	2.6716
PG 48:2;O	0.37682	-1.408	0.0021405	2.6695
DG 27:0_21:1	0.0099618	-6.6494	0.0021434	2.6689
PC 14:0_18:3	7.4208	2.8916	0.0021573	2.6661
PC 14:0_16:1	0.39731	-1.3317	0.0021686	2.6638
SM 45:5;O5	30.194	4.9162	0.0021741	2.6627
Cer 44:3;O	0.48675	-1.0387	0.0021813	2.6613
PC 31:0;O	11.513	3.5252	0.0022003	2.6575
SM 54:4;O3	11.513	3.5252	0.0022003	2.6575
PI 15:0_18:1	0.57721	-0.79282	0.0022196	2.6537
HexCer 18:2;O2/22:6	1.7372	0.79679	0.002228	2.6521
PG 14:0_16:0	0.21154	-2.241	0.0022301	2.6517
SM 16:0;O2/18:1	10.238	3.3559	0.0022415	2.6495
MG O-29:0;O	2.0427	1.0305	0.0022529	2.6473
Cer 18:2;O2/26:7;O	0.61291	-0.70625	0.002265	2.6449
MG O-32:0;O	0.3941	-1.3434	0.0022804	2.642
TG 83:0;O	0.21661	-2.2068	0.0022819	2.6417
DG 26:0	0.29605	-1.7561	0.0022844	2.6412
PG 40:7	5.8101	2.5386	0.0023076	2.6368
SM 36:1;O3	10.55	3.3992	0.0023192	2.6347
SM 54:3;O3	10.552	3.3994	0.0023268	2.6332

MG 25:2	3.2446	1.6981	0.0023324	2.6322
HexCer 44:2;O5	0.56521	-0.82314	0.0023346	2.6318
TG 16:3_22:7_22:7	5.523	2.4655	0.0023492	2.6291
Cer 50:3;O	0.36554	-1.4519	0.0023581	2.6274
SM 53:0;O3	10.328	3.3684	0.0023642	2.6263
Car 22:3;O2	0.20354	-2.2966	0.0023704	2.6252
ST 28:0;O3	0.15557	-2.6844	0.0023724	2.6248
PS 18:0_17:1	2.94	1.5558	0.002373	2.6247
HexCer 41:4;O4	0.55374	-0.85271	0.0023798	2.6235
DG O-58:5	0.035445	-4.8183	0.0023857	2.6224
PS 40:5	4.7743	2.2553	0.0023908	2.6215
SM 40:1;O2	46.38	5.5354	0.0023928	2.6211
ST 44:4;O2	0.34488	-1.5358	0.0024031	2.6192
PC 14:0_18:0	11.374	3.5077	0.0024196	2.6163
DG 16:0_28:0	0.17566	-2.5092	0.002436	2.6133
PI O-18:1_22:6	0.69865	-0.51735	0.002437	2.6132
SM 42:1;O4	10.626	3.4095	0.0024454	2.6117
PC O-18:1_21:2	9.8817	3.3048	0.0024505	2.6107
SM 42:1;O2	9.6264	3.267	0.002463	2.6085
SM 54:2;O5	9.8043	3.2934	0.0024673	2.6078
ST 28:2;O4;G	0.5855	-0.77225	0.0024842	2.6048
TG 14:0_16:0_19:1	0.097524	-3.3581	0.0024878	2.6042
SM 18:2;O2/22:2	31.956	4.998	0.0024969	2.6026
HexCer 39:5;O2	0.56294	-0.82895	0.0025105	2.6002
FA 18:2	0.13801	-2.8572	0.0025265	2.5975
PC O-52:9	5.8322	2.544	0.0025315	2.5966
LPC 18:0	0.39657	-1.3343	0.0025585	2.592
SM 40:1;O5	18.577	4.2154	0.0025606	2.5917
PE 40:4	0.15862	-2.6563	0.0025641	2.5911
PS 32:0; PS 14:0-18:0; [M-H]-	2.366	1.2424	0.0025758	2.5891
SHexCer 31:4;O2	0.28994	-1.7862	0.0025784	2.5886
SM 18:3;O2/25:1	66.017	6.0448	0.0026024	2.5846
PC 32:5	8.8464	3.1451	0.0026092	2.5835
PC 45:2	8.9284	3.1584	0.002614	2.5827
NA 41:2;O4;N	1.7373	0.79682	0.0026166	2.5823
FA 18:0;O;[cy]	0.24742	-2.0149	0.0026184	2.582
SM 32:7;O2	33.634	5.0718	0.0026191	2.5819
PC 38:6;O	13.526	3.7577	0.0026253	2.5808
HexCer 42:1;O5	0.57879	-0.7889	0.0026491	2.5769
NAT 20:3;O3	1.6797	0.74822	0.0026496	2.5768

PE 12:0_18:1	0.39925	-1.3246	0.002651	2.5766
TG 98:9;O2	0.4435	-1.173	0.002652	2.5764
PS 20:0_18:1	1.5637	0.64496	0.0026534	2.5762
ST 29:4;O3	0.28586	-1.8066	0.0026603	2.5751
TG 8:0_8:0_17:2	1.6344	0.70875	0.0026666	2.574
LPC 16:0	0.55911	-0.8388	0.0026708	2.5734
TG 14:0_16:0_18:4	1.9373	0.95404	0.0026725	2.5731
SM 46:1;O2	8.5835	3.1016	0.0026738	2.5729
PC O-18:5_15:1	8.8672	3.1485	0.0026741	2.5728
PC 45:2;O	8.5706	3.0994	0.0026794	2.572
SM 41:1;O2	45.977	5.5228	0.0026812	2.5717
PC O-18:1_24:1	0.31632	-1.6606	0.0027039	2.568
PE 24:0_18:1	0.45097	-1.1489	0.0027296	2.5639
Cer 18:3;O2/30:7;O	2.3454	1.2298	0.0027607	2.559
PS 14:0_20:0	0.33846	-1.5629	0.0027622	2.5587
SM 32:2;O2	18.472	4.2072	0.002764	2.5585
NA 42:2;O4;N	0.19898	-2.3293	0.002768	2.5578
PE 22:0_18:1	0.39893	-1.3258	0.0027717	2.5572
Cer 19:1;O2/24:1;O	0.14136	-2.8225	0.0027761	2.5566
PA O-47:3	16.784	4.069	0.0027763	2.5565
LPC 26:0;O	0.66661	-0.58508	0.0027782	2.5562
SM 18:0;O2/21:1	13.143	3.7162	0.0027785	2.5562
SM 33:3;O3	9.8263	3.2966	0.002786	2.555
SM 44:4;O6	8.6126	3.1065	0.0027877	2.5548
HexCer 37:0;O4	0.50083	-0.99759	0.0027938	2.5538
PC 43:2;O	8.0618	3.0111	0.0027958	2.5535
TG 14:0_18:0_18:2	0.072845	-3.779	0.0027983	2.5531
SM 34:1;O5	11.01	3.4608	0.0028173	2.5502
PC 34:3;O	10.872	3.4425	0.0028233	2.5492
TG 79:0;O2	0.22252	-2.168	0.0028421	2.5464
SM 50:3;O3	8.2174	3.0387	0.0028449	2.5459
SM 33:2;O3	19.779	4.3059	0.0028461	2.5457
PE 40:7	1.8093	0.85543	0.0028475	2.5455
TG 55:2;O	2.0012	1.0009	0.0028486	2.5454
SM 41:0;O2	10.75	3.4262	0.0028666	2.5426
SM 40:6;O6	5.8781	2.5553	0.0028702	2.5421
HBMP 16:1_18:1_18:0	0.27182	-1.8793	0.002894	2.5385
Cer 32:1;O6	3.1836	1.6707	0.0028951	2.5383
SM 42:6;O5	7.9484	2.9907	0.0028991	2.5377
PS 42:3;O	1.5475	0.62996	0.002903	2.5372
PIP2 62:4	1.466	0.55189	0.0029047	2.5369

PC 43:7	7.8754	2.9774	0.0029146	2.5354
PE 18:1_24:2	0.60882	-0.71592	0.0029294	2.5332
PC 31:2;O	17.239	4.1076	0.0029317	2.5329
SM 36:1;O5	13.423	3.7467	0.0029541	2.5296
DG O-42:5	0.24206	-2.0465	0.0029638	2.5282
SM 32:2;O3	13.994	3.8068	0.0029647	2.528
PG 40:3	0.3982	-1.3284	0.0029773	2.5262
SM 18:0;O2/24:2	8.1704	3.0304	0.0029818	2.5255
CerP 44:0;O6	2.167	1.1157	0.0029879	2.5246
PC 48:0	7.6928	2.9435	0.0029894	2.5244
SHexCer 43:2;O2	1.7992	0.84736	0.0029963	2.5234
SM 40:4;O2	8.1534	3.0274	0.0030058	2.522
PE-Cer 32:3;O3	1.7814	0.833	0.0030133	2.521
MIPC 48:2;O4	0.65133	-0.61854	0.0030221	2.5197
ST 18:2;O3;G	0.5341	-0.90481	0.003026	2.5191
LPC O-34:0;O	0.31369	-1.6726	0.0030299	2.5186
PC 18:0_20:5	20.874	4.3837	0.0030315	2.5183
Cer 39:6;O2	0.55154	-0.85848	0.0030466	2.5162
PE O-18:0_20:1	0.55556	-0.84799	0.0030559	2.5149
ST 33:5;O6	0.28841	-1.7938	0.0030578	2.5146
Hex(4)-HexNAc-Fuc-Cer 42:1;O2	1.7205	0.78287	0.0030635	2.5138
PC O-42:6	7.2382	2.8556	0.0030827	2.5111
HexCer 42:3;O3	0.49077	-1.0269	0.0030835	2.511
SM 40:6;O2	3.3911	1.7618	0.0030862	2.5106
LPC 18:4;O	2.8123	1.4918	0.0030944	2.5094
DG 37:2;O2	0.23232	-2.1058	0.0030998	2.5087
SM 45:3;O4	8.3745	3.066	0.003103	2.5082
Cer 9:0;O2/16:4	1.9293	0.94807	0.0031091	2.5074
HexCer 40:0;O4	0.37426	-1.4179	0.003113	2.5068
DG O-44:2	1.8767	0.90817	0.0031132	2.5068
SM 45:2;O3	12.727	3.6699	0.0031207	2.5058
ST 28:3;O3;Cl	0.31076	-1.6861	0.0031282	2.5047
DG 50:4	0.053121	-4.2346	0.0031642	2.4997
PE-Cer 44:1;O4	0.58139	-0.78243	0.0031706	2.4989
PS 23:0_18:5	0.32168	-1.6363	0.003175	2.4983
SM 45:5;O4	19.915	4.3158	0.0032001	2.4948
FA 24:2	0.43267	-1.2087	0.003201	2.4947
SM 34:0;O3	5.8463	2.5475	0.0032035	2.4944
SM 14:3;O2/18:2	13.672	3.7731	0.0032128	2.4931
Car 33:6;O4	1.5584	0.64007	0.0032218	2.4919

DG 17:1_18:1	0.15199	-2.718	0.0032352	2.4901
DG 42:7	0.65751	-0.60491	0.0032412	2.4893
TG 15:1_18:1_18:1	3.2843	1.7156	0.0032493	2.4882
PC 36:2	7.4555	2.8983	0.003274	2.4849
PI O-55:3	0.43897	-1.1878	0.0032891	2.4829
HexCer 38:4;O4	5.5969	2.4846	0.0032895	2.4829
DG 56:6	0.25572	-1.9674	0.0032968	2.4819
HexCer 18:0;O2/26:1	3.2271	1.6902	0.003311	2.48
HexCer 41:3;O2	0.28101	-1.8313	0.0033241	2.4783
PE 44:1;O	0.55483	-0.84988	0.0033438	2.4758
ST 43:3;O2	0.15841	-2.6583	0.0033595	2.4737
PS 40:6	2.9948	1.5825	0.0033641	2.4731
PE 54:5;O	0.40599	-1.3005	0.0033694	2.4725
PC O-18:1_17:0	0.37611	-1.4108	0.0033818	2.4709
DG O-56:5	0.011953	-6.3865	0.0033844	2.4705
PC O-38:3	6.7904	2.7635	0.0033884	2.47
PA 23:2;O3	16.631	4.0558	0.0033909	2.4697
ST 18:3;O2;GlcA	0.28197	-1.8264	0.0034046	2.4679
SM 50:2;O3	5.3281	2.4136	0.0034127	2.4669
PC 28:4;O	29.362	4.8759	0.0034403	2.4634
HexCer 32:6;O3	1.5442	0.62686	0.0034408	2.4633
TG 15:0_16:0_17:1	0.015938	-5.9714	0.0034659	2.4602
SM 44:6;O6	13.522	3.7573	0.0034662	2.4601
PC 36:1	6.0544	2.598	0.0034741	2.4592
LPA O-27:6	0.36238	-1.4644	0.0034841	2.4579
PC 42:3	6.6782	2.7395	0.0035052	2.4553
Glc-GP 38:4	7.4362	2.8946	0.0035066	2.4551
SM 44:1;O4	6.4239	2.6834	0.0035118	2.4545
LPC 26:0	0.50085	-0.99756	0.0035239	2.453
NAE 27:1;O	2.116	1.0814	0.0035322	2.452
PI-Cer 34:1;O6	2.3651	1.2419	0.0035413	2.4508
TG 48:2	0.14129	-2.8233	0.0035418	2.4508
TG 60:5;O2	0.43427	-1.2033	0.0035565	2.449
PI-Cer 34:0;O4	0.62359	-0.68134	0.0035825	2.4458
TG 86:4;O	0.44272	-1.1755	0.0036002	2.4437
PE 18:0_22:2	0.43281	-1.2082	0.0036518	2.4375
PC 2:0_16:4	19.456	4.2821	0.0036587	2.4367
PI-Cer 36:1;O4	0.47364	-1.0781	0.0036877	2.4332
SM 21:3;O2/24:2	17.054	4.092	0.0036915	2.4328
PC 36:5	6.6253	2.728	0.0036997	2.4318
CL 14:0_18:1_16:0_18:1	0.014024	-6.156	0.003712	2.4304

GP 32:0	7.5521	2.9169	0.0037165	2.4299
PIM1 35:3	2.9455	1.5585	0.0037319	2.4281
TG 59:2	0.031734	-4.9778	0.0037522	2.4257
PE-Cer 33:2;O2	1.7931	0.84242	0.0037639	2.4244
CL 14:0_18:2_16:0_18:2	0.0059326	-7.3971	0.0037641	2.4243
Car 26:6	2.7668	1.4682	0.0037677	2.4239
SM 45:1;O3	9.0433	3.1769	0.0037776	2.4228
PC 46:2	6.0359	2.5936	0.0038112	2.4189
CerP 45:0;O6	1.8901	0.9185	0.0038261	2.4172
FA 20:0	1.5136	0.59796	0.0038425	2.4154
SM 28:3;O2	11.19	3.4841	0.0038565	2.4138
ST 27:1;O;S	4.5993	2.2014	0.0038827	2.4109
HexCer 34:5;O2	0.43237	-1.2096	0.0038829	2.4108
DG 57:5	0.079968	-3.6444	0.0038897	2.4101
HexCer 39:3;O3	0.54749	-0.8691	0.0039045	2.4084
TG 96:9;O2	2.346	1.2302	0.0039085	2.408
SM 54:0;O3	5.9592	2.5751	0.0039098	2.4078
CerP 40:3;O2	4.2103	2.0739	0.0039102	2.4078
TG 60:2	0.040602	-4.6223	0.0039123	2.4076
TG 51:3;O2	0.51073	-0.96938	0.0039144	2.4073
PA 44:4	0.56495	-0.8238	0.0039192	2.4068
SM 15:3;O2/18:2	13.864	3.7932	0.0039206	2.4066
DG 42:0;O4;N	0.41937	-1.2537	0.0039356	2.405
TG 79:0;O3	0.44646	-1.1634	0.0039477	2.4037
Cer 42:4;O2	1.5418	0.62466	0.003986	2.3995
Cer 18:1;O2/23:1;O	0.13671	-2.8708	0.0039973	2.3982
PG 15:0_18:1	0.54156	-0.8848	0.0040037	2.3975
SM 20:0;O2/16:1	9.6276	3.2672	0.004031	2.3946
PC 50:2	9.4552	3.2411	0.0040336	2.3943
DG O-43:2	1.8848	0.91443	0.0040442	2.3932
PG O-38:0	0.34576	-1.5322	0.0040457	2.393
DG O-54:5	0.027218	-5.1993	0.0040963	2.3876
PIP3 37:6	0.47651	-1.0694	0.0041243	2.3847
PC 16:0_18:0	4.9174	2.2979	0.0041637	2.3805
PC 25:1;O	5.5019	2.4599	0.0041784	2.379
HexCer 21:3;O2/24:2	2.1754	1.1213	0.0042116	2.3755
PC 23:1;O	4.9247	2.3	0.0042139	2.3753
TG 97:7;O2	1.8551	0.89147	0.0042295	2.3737
PC 43:11;O	54.087	5.7572	0.0042391	2.3727
SM 44:3;O2	5.4458	2.4451	0.0042446	2.3722
CerP 32:4;O2	2.099	1.0697	0.0042467	2.3719

DG O-40:5	0.12708	-2.9762	0.0042568	2.3709
MGDG 23:0_18:5	7.5934	2.9247	0.0043165	2.3649
PA O-36:2	12.015	3.5867	0.0043295	2.3636
SM 36:0;O2	19.01	4.2487	0.0043676	2.3598
TG 16:0_18:0_22:2	0.019988	-5.6447	0.0043983	2.3567
HexCer 47:2;O5	0.58589	-0.7713	0.0044019	2.3564
SM 30:3;O3	13.411	3.7454	0.0044089	2.3557
PC 28:0	4.9984	2.3215	0.0044117	2.3554
Car 31:4;O	2.6475	1.4046	0.004414	2.3552
PE 44:2	0.49954	-1.0013	0.0044143	2.3551
SM 18:0;O2/23:1	9.6547	3.2712	0.0044151	2.3551
PC 44:2	5.1718	2.3707	0.0044234	2.3542
SM 43:2;O4	5.3262	2.4131	0.0044477	2.3519
DG 28:0_18:1	0.1111	-3.17	0.0044787	2.3488
DG 18:1_20:2	0.46095	-1.1173	0.0044938	2.3474
CerP 44:6;O2	1.7794	0.8314	0.0045053	2.3463
HexCer 43:0;O4	0.62423	-0.67984	0.0045184	2.345
CDP-DG 34:1	13.784	3.7849	0.0045263	2.3443
Hex(3)-Cer 44:1;O2	0.59745	-0.74312	0.0045399	2.343
MG O-32:1	1.5373	0.6204	0.0045756	2.3395
PA O-39:4	1.608	0.68524	0.0045846	2.3387
TG 9:0_11:0_14:0	1.6977	0.76362	0.0045877	2.3384
Hex(3)-HexNAc-KDN(2)-Cer 36:1;O2	3.223	1.6884	0.0046092	2.3364
Cer 18:3;O2/35:7;O	1.4408	0.52689	0.0046128	2.336
PS O-18:3_22:5	4.3504	2.1211	0.004618	2.3355
ST 29:0;O2;GlcA	0.62588	-0.67605	0.0046223	2.3351
PC O-36:1	7.5046	2.9078	0.0046302	2.3344
SM 46:1;O6	15.535	3.9575	0.0046324	2.3342
ST 30:4;O2	0.30144	-1.7301	0.0046383	2.3336
DG 58:5	0.023089	-5.4366	0.0046581	2.3318
DG 44:2;O2	2.2596	1.1761	0.0046617	2.3315
FAHFA 19:0/19:2	1.7552	0.81167	0.0046922	2.3286
PC 40:0;O	5.0157	2.3264	0.0046941	2.3284
PC O-16:1_18:1	0.30375	-1.7191	0.0047067	2.3273
BMP 18:2;O	66.005	6.0445	0.0047262	2.3255
PE 28:2;O	0.67849	-0.55961	0.0047268	2.3254
DG dO-40:0	0.38971	-1.3595	0.0047335	2.3248
FA 33:3;O2	0.38115	-1.3916	0.004738	2.3244
NAE 26:0;O2	2.7274	1.4475	0.004761	2.3223
HexCer 38:0;O4	1.8492	0.88693	0.004792	2.3195

LPC 20:4	0.58452	-0.77468	0.0048024	2.3185
PA O-58:6	10.822	3.4359	0.0048204	2.3169
PC 40:0	7.0311	2.8138	0.004833	2.3158
PE O-38:2	0.32596	-1.6172	0.0048497	2.3143
NAT 17:0	1.4526	0.5386	0.0048515	2.3141
ACer 62:1;O3	0.11509	-3.1191	0.004866	2.3128
HexCer 45:6;O5	0.36857	-1.44	0.0048717	2.3123
NA 18:0	1.9759	0.98249	0.0048834	2.3113
TG 71:0;O3	0.5087	-0.97512	0.0049207	2.308
PG O-33:7	1.5439	0.62656	0.0049413	2.3062
Cer 43:5;O	0.62338	-0.68182	0.0049446	2.3059
SM 42:4;O2	25.939	4.6971	0.0049897	2.3019
Cer 15:2;2O/38:10	0.0049014	-7.6726	0.0050154	2.2997
FAHFA 48:3;O	1.9536	0.96611	0.0050169	2.2996
PI-Cer 35:0;O2	0.50119	-0.99658	0.0050255	2.2988
PE 54:2;O	0.48323	-1.0492	0.0050311	2.2983
CL 72:7	0.46857	-1.0937	0.0050448	2.2972
ACer 64:2;O4	0.25071	-1.9959	0.0051242	2.2904
TG O-14:0_18:0_20:2	0.40673	-1.2979	0.0051474	2.2884
ST 28:7;O;HexNAc	0.29121	-1.7799	0.0051621	2.2872
DG 42:6	0.53774	-0.89501	0.0051743	2.2861
Cer 43:6;O	0.58869	-0.76443	0.0051948	2.2844
HexCer 49:2;O5	0.48454	-1.0453	0.0051957	2.2844
HexCer 39:6;O5	3.3163	1.7296	0.0052531	2.2796
SM 18:1;O2/26:2	6.8155	2.7688	0.0052716	2.2781
PG 41:4;O	0.51099	-0.96863	0.0052959	2.2761
PC 33:2	5.6653	2.5021	0.0053053	2.2753
SM 38:3;O3	4.1206	2.0429	0.0053085	2.275
SM 38:0;O4	8.0702	3.0126	0.0053281	2.2734
DG 51:4	0.32155	-1.6369	0.0053764	2.2695
TG 92:1	1.4891	0.57446	0.0053807	2.2692
LPC 30:1	4.2032	2.0715	0.0054024	2.2674
TG 12:0_16:0_16:1	0.10156	-3.2996	0.0054123	2.2666
Cer 40:1;O	2.005	1.0036	0.0054288	2.2653
PI-Cer 53:3;O2	0.54987	-0.86285	0.0054289	2.2653
PI-Cer 45:2;O2	1.5551	0.63702	0.0054653	2.2624
LPC O-23:5	2.7096	1.4381	0.005476	2.2615
DG 24:0;O2	3.2683	1.7085	0.0054802	2.2612
FA 20:2	0.1234	-3.0186	0.0054939	2.2601
PA 48:0	5.7673	2.5279	0.0055086	2.259
TG 56:6	0.30246	-1.7252	0.0055578	2.2551

SM 48:4;O3	4.9059	2.2945	0.0055768	2.2536
MGDG 20:3_20:3	2.6344	1.3975	0.005596	2.2521
ST 29:2;O2	0.30626	-1.7071	0.0056237	2.25
PG 22:6_22:6	0.47039	-1.0881	0.0056342	2.2492
FA 18:0;O5	1.8256	0.86838	0.0056376	2.2489
PC 46:1	5.2536	2.3933	0.0056459	2.2483
PC 44:0	5.8106	2.5387	0.0056489	2.248
LPC 14:0	0.45254	-1.1439	0.0056573	2.2474
PE 18:1_20:2	0.5352	-0.90185	0.0056931	2.2446
SM 18:1;O2/25:1	7.0934	2.8265	0.0057032	2.2439
HexCer 38:2;O2	0.58878	-0.7642	0.0057273	2.242
HexCer 35:2;O5	0.1964	-2.3481	0.0057295	2.2419
HexCer 18:0;O2/22:1	1.8858	0.9152	0.0057364	2.2414
PC 44:1	5.1139	2.3544	0.0057425	2.2409
NAT 26:3;O3	1.721	0.78324	0.0057654	2.2392
PC 32:4	4.3948	2.1358	0.0057663	2.2391
LPA O-27:7	2.5358	1.3424	0.0057677	2.239
LPS 28:0;O	0.61461	-0.70225	0.0057706	2.2388
TG 54:5	0.30552	-1.7107	0.0057753	2.2384
PC O-16:0_18:1	5.9752	2.579	0.0058009	2.2365
PIP3 26:6	2.9023	1.5372	0.0058101	2.2358
PC 34:1	5.7016	2.5114	0.0058356	2.2339
HexCer 42:4;O2	0.60323	-0.72922	0.0058359	2.2339
DG 36:0;O2	4.8656	2.2826	0.0059254	2.2273
TG 46:4;O	0.38509	-1.3767	0.0059667	2.2243
Cer 37:6;O2	0.45255	-1.1438	0.0060219	2.2203
TG 49:12;O2	1.7746	0.8275	0.0060282	2.2198
MG 19:0;O	0.32088	-1.6399	0.006049	2.2183
PC 32:0	4.294	2.1023	0.0060573	2.2177
LPC 17:0	0.41685	-1.2624	0.0061076	2.2141
SM 18:2;O2/26:2	15.907	3.9916	0.0061101	2.214
DG O-50:4	0.16505	-2.599	0.0061276	2.2127
DG 60:6	0.039087	-4.6772	0.0061448	2.2115
SM 40:1;O4	4.6276	2.2103	0.0061475	2.2113
PC 30:1	4.247	2.0865	0.006159	2.2105
TG O-18:3_8:0_12:0	0.54939	-0.86409	0.0061826	2.2088
LPE 32:1	0.58641	-0.77003	0.0061966	2.2078
HexCer 37:0;O5	2.1397	1.0974	0.0062177	2.2064
PE 42:7	0.42378	-1.2386	0.006226	2.2058
TG 15:0_16:0_16:1	0.24873	-2.0074	0.0062281	2.2056
DG 18:1_21:1	0.21215	-2.2368	0.006247	2.2043

PC 48:7	4.2717	2.0948	0.0062756	2.2023
PA 40:0;O	17.309	4.1135	0.00628	2.202
PA 26:0	9.6941	3.2771	0.0062903	2.2013
PI-Cer 43:2;O2	1.4468	0.53288	0.0062927	2.2012
PC 28:0;O	4.4995	2.1698	0.0063175	2.1995
CL 76:9	0.50975	-0.97213	0.0063198	2.1993
CL 16:0_18:1_16:0_18:1	0.010815	-6.5308	0.0063206	2.1992
HexCer 40:4;O4	0.58837	-0.7652	0.0063556	2.1968
TG 48:8;O3	1.9552	0.96729	0.0064032	2.1936
HexCer 37:3;O6	1.8388	0.8788	0.0064044	2.1935
TG O-36:1	2.2542	1.1726	0.0064243	2.1922
DG O-58:6	0.19291	-2.374	0.006447	2.1906
CE 32:3;O	0.66698	-0.58428	0.0064604	2.1897
SM 44:5;O4	4.1843	2.065	0.0064673	2.1893
Cer 21:3;O2/24:6;O	0.52821	-0.92082	0.0064779	2.1886
PA O-56:5	14.804	3.8879	0.0064916	2.1876
SM 17:0;O2/18:1	7.4946	2.9058	0.0065017	2.187
PC O-38:1	6.5521	2.712	0.0065226	2.1856
PC 28:2	4.2707	2.0945	0.0065348	2.1848
DG 55:5	0.12105	-3.0463	0.0065553	2.1834
PC O-16:0_18:3	13.021	3.7028	0.0065648	2.1828
PA 38:0;O	16.15	4.0134	0.0066441	2.1776
DG 24:0_26:2	0.022411	-5.4797	0.0066814	2.1751
FA 22:1	0.37887	-1.4002	0.0066929	2.1744
PE O-16:0_20:2	0.63825	-0.64781	0.0067004	2.1739
CE 20:1	0.1713	-2.5454	0.0067117	2.1732
LPC 18:2	0.55178	-0.85784	0.0067161	2.1729
Hex2Cer 42:2;O2	0.4506	-1.1501	0.0067335	2.1718
TG 14:0_16:0_16:1	0.039462	-4.6634	0.0067403	2.1713
PC O-20:3_16:1	6.7237	2.7493	0.0067516	2.1706
PE O-38:4	1.5812	0.66099	0.0067583	2.1702
HexCer 38:3;O3	0.53532	-0.90153	0.0067615	2.17
PC 44:6	4.0571	2.0205	0.0067671	2.1696
PC 34:2	4.5283	2.179	0.006817	2.1664
PA 43:9	12.538	3.6482	0.006859	2.1637
PA O-37:1	12.538	3.6482	0.006859	2.1637
MG O-16:0;O	0.62395	-0.68049	0.006867	2.1632
PC 20:2	15.064	3.913	0.0068859	2.162
TG 15:0_16:0_17:0	0.46504	-1.1046	0.0068883	2.1619
DG 16:0_18:3	4.4572	2.1561	0.0069275	2.1594
TG 83:21;O3	1.6141	0.6907	0.0069413	2.1586

HBMP 16:0_20:2_18:0	0.45238	-1.1444	0.006978	2.1563
PA 39:2	0.56666	-0.81945	0.0070289	2.1531
LPE 24:1	1.5625	0.64384	0.0070588	2.1513
LPC O-34:3	0.27193	-1.8787	0.0070635	2.151
TG 16:0_18:1_20:1	0.017655	-5.8238	0.0070674	2.1507
PC O-18:0_19:1	5.4449	2.4449	0.0070688	2.1507
SM 36:2;O2	23.52	4.5558	0.0071049	2.1484
PA 37:8;O	11.547	3.5294	0.0071249	2.1472
PR 53:11;O2	0.59938	-0.73845	0.0071274	2.1471
ST 23:0;O3	0.59938	-0.73845	0.0071274	2.1471
ST 25:3;O	0.59938	-0.73845	0.0071274	2.1471
ST 27:7;O	0.59938	-0.73845	0.0071274	2.1471
ST 29:0;O7	0.59938	-0.73845	0.0071274	2.1471
PC 32:1;O	3.8342	1.9389	0.0071481	2.1458
Cer 38:1;O3	2.2689	1.182	0.0071611	2.145
PE 52:3	2.0055	1.004	0.007204	2.1424
FA 16:3;O4	1.5607	0.64219	0.0072057	2.1423
DG 42:7;O	0.68909	-0.53724	0.0072129	2.1419
PA 28:0	11.28	3.4956	0.0072158	2.1417
FOH 16:0	1.4018	0.48732	0.0072184	2.1416
MIPC 37:6;O4	2.2446	1.1665	0.0072503	2.1396
PA 55:0	7.3186	2.8716	0.0072508	2.1396
HexCer 42:6;O5	2.7993	1.4851	0.0072815	2.1378
TG 12:0_14:0_16:0	0.30271	-1.724	0.0072867	2.1375
Cer 40:1;O3	2.7936	1.4821	0.0073286	2.135
PG 14:0_18:1	0.18052	-2.4697	0.0074021	2.1306
TG 48:5;O2	0.52652	-0.92543	0.0074138	2.13
CerP 40:2;O5	1.602	0.67985	0.0074312	2.1289
HexCer 36:1;O2	2.9079	1.54	0.007447	2.128
CerP 51:3;O2	0.18133	-2.4633	0.0074809	2.126
SM 18:0;O2/22:1	5.8383	2.5455	0.0074957	2.1252
PE 16:0_18:0	0.42505	-1.2343	0.0075029	2.1248
HexCer 31:0;O6	1.7513	0.80843	0.0075114	2.1243
SM 18:1;O2/23:1	7.0934	2.8265	0.0075145	2.1241
PE-Cer 28:2;O2	0.22306	-2.1645	0.0075339	2.123
PI-Cer 29:1;O3	2.0936	1.066	0.0075828	2.1202
PG 56:3;O	0.62798	-0.67121	0.0075855	2.12
NAE 20:0;O2	1.7053	0.77001	0.0075863	2.12
PA 48:1	10.115	3.3384	0.0075902	2.1197
TG 75:5	0.65268	-0.61556	0.0075924	2.1196
PA O-42:4	0.5495	-0.86381	0.0075969	2.1194

PA 49:1	10.088	3.3346	0.0076802	2.1146
PC 17:0_18:0	0.71139	-0.49129	0.0076834	2.1144
DG 59:6	0.15624	-2.6782	0.0077039	2.1133
SLBPA 42:0	4.4233	2.1451	0.0077105	2.1129
SCer 32:1;O	2.0784	1.0555	0.0077165	2.1126
PC 42:4	4.3482	2.1204	0.0077395	2.1113
TG 51:1	0.081298	-3.6206	0.0077724	2.1094
PG 56:4;O	0.58796	-0.7662	0.0077963	2.1081
LPC O-20:4	0.074975	-3.7375	0.0078091	2.1074
PI 14:0_16:0	0.48092	-1.0561	0.007839	2.1057
NAT 33:0;O4	0.67994	-0.55653	0.0078479	2.1052
DG 38:6;O2	3.4786	1.7985	0.0078496	2.1052
PR 38:7;O2	0.66299	-0.59295	0.0078632	2.1044
SM 18:0;O2/26:2	5.2699	2.3978	0.0078637	2.1044
LPC 32:0	0.32288	-1.6309	0.0078675	2.1042
PA 61:7	6.9229	2.7914	0.0078686	2.1041
SM 43:5;O4	19.667	4.2977	0.0079256	2.101
CerP 54:6;O3	0.5891	-0.76341	0.007927	2.1009
ST 28:1;O	0.47913	-1.0615	0.0079567	2.0993
LPE O-20:2	1.4786	0.56427	0.007964	2.0989
PE O-18:0_17:1	0.34723	-1.526	0.0079806	2.098
DG O-18:0_22:4	0.26637	-1.9085	0.0079914	2.0974
SHexCer 28:1;O2	2.7495	1.4592	0.0080226	2.0957
PA O-58:10	9.3101	3.2188	0.0080245	2.0956
HBMP 60:2; HBMP 20:0-22:1-18:1; [M+NH4]+	7.3189	2.8716	0.0080568	2.0938
PG 34:3	1.5939	0.67258	0.0080642	2.0934
PC 38:7	3.7435	1.9044	0.0080953	2.0918
PA 45:9	10.8	3.433	0.0081012	2.0914
TG 58:2	0.048455	-4.3672	0.0081025	2.0914
PC 16:0_17:0	0.65953	-0.6005	0.0081053	2.0912
FAHFA 20:1/20:0	1.4372	0.52325	0.0081382	2.0895
ST 19:0;O3;Hex	1.4372	0.52325	0.0081382	2.0895
ST 28:1;O;S	1.4372	0.52325	0.0081382	2.0895
ST 44:5;O2	1.4372	0.52325	0.0081382	2.0895
Cer 19:3;O2/36:7;O	0.46505	-1.1046	0.0081786	2.0873
PG O-54:0;O	0.51539	-0.95625	0.0082146	2.0854
Cer 18:3;O2/32:7;O	2.9487	1.5601	0.008234	2.0844
Car 12:2;O2	2.2486	1.169	0.0082409	2.084
CoA 24:6	8.9255	3.1579	0.008281	2.0819
PC 68:7;O	24.333	4.6049	0.0082891	2.0815

PC O-14:0_4:0	0.45445	-1.1378	0.0083172	2.08
HexCer 35:4;O6	3.4342	1.78	0.0083326	2.0792
PR 42:1;O8;N3	0.56081	-0.83443	0.0084013	2.0757
PE O-42:4	0.48919	-1.0315	0.0084209	2.0746
TG 50:6;O	0.36953	-1.4362	0.0084492	2.0732
PA 31:8;O	8.6961	3.1204	0.0084599	2.0726
TG 45:2	0.0062555	-7.3207	0.0084624	2.0725
TG 57:2	0.043132	-4.5351	0.0084705	2.0721
TG 46:2	0.13325	-2.9078	0.0085325	2.0689
PC 30:2;O	5.4278	2.4404	0.0085415	2.0685
PC 38:0;O	3.5682	1.8352	0.0085436	2.0684
PA O-35:1	8.3939	3.0693	0.0085439	2.0683
Cer 35:3;O3	1.5498	0.63211	0.0085712	2.067
SM 42:1;O3	5.5735	2.4786	0.0085929	2.0659
PA O-39:1	37.27	5.2199	0.0086002	2.0655
Cer 19:0;O2/24:2;O	0.21332	-2.2289	0.0086011	2.0654
PA 56:0	8.6565	3.1138	0.0086131	2.0648
PA 41:4	16.058	4.0052	0.0086162	2.0647
PE 40:0;O	0.33852	-1.5627	0.0086541	2.0628
Car 19:2;O2	1.7622	0.81736	0.0086816	2.0614
HexCer 45:3;O4	0.41558	-1.2668	0.008689	2.061
HexCer 19:0;O2/24:2	2.5162	1.3313	0.0086918	2.0609
PA O-58:0	8.4058	3.0714	0.0087053	2.0602
PI O-63:1	0.51336	-0.96195	0.008709	2.06
Cer 39:4;O	0.61389	-0.70396	0.0087311	2.0589
LPC 20:2;O	1.9465	0.96088	0.0087445	2.0583
PC 18:0_20:4	5.4616	2.4493	0.0087505	2.058
PC O-16:1_20:4	0.55274	-0.85532	0.0087637	2.0573
ST 22:0;O7	0.55063	-0.86086	0.0087816	2.0564
LPA 26:4	0.39166	-1.3523	0.0087966	2.0557
TG 42:1	0.405	-1.304	0.0088746	2.0519
PA O-58:5	18.913	4.2413	0.0088786	2.0517
DG 18:0_16:1	4.3576	2.1235	0.0088899	2.0511
CL 16:0_18:2_16:0_22:6	0.014132	-6.1449	0.0088916	2.051
LPA 20:1	0.48986	-1.0296	0.00895	2.0482
TG 14:2_14:3_17:3	0.2318	-2.109	0.0089575	2.0478
PA 65:8;O	11.993	3.5841	0.008983	2.0466
SM 44:4;O5	3.7934	1.9235	0.0089927	2.0461
CerP 34:2;O5	1.5782	0.65832	0.0090044	2.0455
TG 41:1;O	0.046392	-4.43	0.0090122	2.0452
Hex2Cer 29:0;O3	1.8481	0.88605	0.0090435	2.0437

PE-Cer 33:2;O3	3.159	1.6595	0.0090633	2.0427
ST 28:3;O3;F2	0.34935	-1.5172	0.0090757	2.0421
DG 41:6	1.4152	0.50105	0.0090861	2.0416
CerP 41:2;O2	0.093264	-3.4225	0.0091198	2.04
DG 29:0;O2	2.8873	1.5297	0.0091226	2.0399
PC 14:0_16:0	4.7054	2.2343	0.0091304	2.0395
ST 25:0;O	0.42509	-1.2341	0.009136	2.0392
TG 16:1_18:0_18:1	0.031037	-5.0099	0.0091368	2.0392
ST 20:2;O2;S	0.67191	-0.57366	0.0091412	2.039
TG 82:1;O	2.0523	1.0372	0.0091962	2.0364
HexCer 38:4;O2	0.60582	-0.72304	0.0092478	2.034
TG 18:1_19:0_21:4	0.22754	-2.1358	0.0092561	2.0336
CL 73:5	0.47003	-1.0892	0.0093647	2.0285
Car 30:1;O2	1.6258	0.70117	0.0093823	2.0277
PC 18:0_24:0	7.3008	2.8681	0.0093918	2.0273
Cer 34:2;O2	0.41973	-1.2525	0.0093959	2.0271
SM 18:1;O2/24:2	8.2531	3.0449	0.0094037	2.0267
HexCer 37:2;O6	2.5407	1.3452	0.0094772	2.0233
PC O-40:1	4.423	2.145	0.0094845	2.023
HexCer 32:5;O2	2.0521	1.0371	0.0095303	2.0209
TG 77:1;O3	0.50455	-0.98693	0.009534	2.0207
PE-Cer 52:6;O2	0.60273	-0.73041	0.0095582	2.0196
FA 19:2;O4	2.7569	1.463	0.0097201	2.0123
ST 27:3;O (Cholest-4,6-Dien-3-One)	0.21826	-2.1959	0.0097661	2.0103
SPB 28:1;O4;N	1.595	0.67359	0.0097922	2.0091
HexCer 45:0;O4	0.26522	-1.9147	0.0098487	2.0066
TG 97:11;O3	0.62537	-0.67722	0.0098795	2.0053
PI-Cer 37:1;O2	0.62175	-0.6856	0.0099258	2.0032
PC 44:3	3.4969	1.8061	0.0099617	2.0017
TG 55:7;O3	1.9291	0.94791	0.0099643	2.0016
PC O-42:0	5.9834	2.581	0.0099994	2
PC 32:2;O	6.8137	2.7684	0.010102	1.9956
TG 93:14;O	1.6619	0.73282	0.010122	1.9947
PA O-39:3	6.8487	2.7758	0.010138	1.9941
PA 37:7;O	6.7135	2.7471	0.010145	1.9937
SM 42:5;O4	11.618	3.5383	0.010157	1.9932
SM 34:2;O5	4.2271	2.0797	0.01016	1.9931
PE 40:1	0.626	-0.67577	0.010191	1.9918
DG 56:2	2.581	1.3679	0.010202	1.9913
DG 40:5;O	0.62784	-0.67154	0.010232	1.99

LPA O-30:4	0.49189	-1.0236	0.01027	1.9884
TG 17:1_18:0_18:1	0.056946	-4.1343	0.010279	1.9881
HexCer 48:3;O3	2.1825	1.126	0.010331	1.9859
TG 16:0_16:5_17:3	0.21105	-2.2443	0.010379	1.9838
Cer 43:2;O3	0.35443	-1.4964	0.010379	1.9838
SHexCer 43:4;O3	0.25705	-1.9599	0.010485	1.9794
HexCer 18:0;O2/26:2	1.6831	0.75109	0.010512	1.9783
PC O-14:0_18:3	22.263	4.4766	0.010589	1.9752
PE O-20:3_27:0	0.15314	-2.7071	0.010598	1.9748
PA O-41:6	10.048	3.3288	0.010621	1.9738
DG 18:1_36:2	0.065045	-3.9424	0.010622	1.9738
PE 36:0	0.54051	-0.8876	0.010634	1.9733
PE 5:0_18:5	2.3967	1.2611	0.010687	1.9711
TG 56:5	0.45585	-1.1334	0.01071	1.9702
TG 14:0_16:1_18:1	0.067925	-3.8799	0.010722	1.9697
MG 33:0;O	2.1149	1.0806	0.010741	1.9689
PIP 41:3	2.1277	1.0893	0.010761	1.9681
TG 97:7;O3	2.008	1.0058	0.01077	1.9678
SM 18:0;O2/22:2	8.2673	3.0474	0.010789	1.967
PC 14:0_18:1	6.9006	2.7867	0.010805	1.9664
SHexCer 30:1;O3	2.2848	1.1921	0.010825	1.9656
PIP 54:4	0.70675	-0.50072	0.010843	1.9649
DG 50:5	0.23553	-2.086	0.010855	1.9644
PC 18:0_22:0	7.4355	2.8944	0.010855	1.9644
CerP 36:1;O4	0.41227	-1.2783	0.010933	1.9613
SM 45:5;O2	7.6767	2.9405	0.010938	1.9611
PC 18:1	22.075	4.4643	0.010946	1.9608
TG 91:14	2.1827	1.1261	0.010952	1.9605
PI O-61:3	2.0834	1.0589	0.010966	1.96
PK 33:8;O18	0.57648	-0.79466	0.010967	1.9599
TG 16:0_19:3_19:3	0.2339	-2.096	0.010996	1.9588
PG 22:0_22:2	1.4341	0.52012	0.011003	1.9585
PA O-36:1	17.742	4.1491	0.011067	1.956
MG 16:1	0.024164	-5.371	0.011068	1.9559
PC 20:0_16:2	5.5565	2.4742	0.011072	1.9558
TG 55:2	0.3062	-1.7075	0.011088	1.9551
CL 74:5	0.56503	-0.82361	0.0111	1.9547
PIP3 28:8	2.4942	1.3186	0.01113	1.9535
HC 23:1	3.2586	1.7042	0.011137	1.9532
Cer 41:0;O3	0.6885	-0.53847	0.011158	1.9524
MG O-32:0	0.58162	-0.78185	0.01119	1.9512

PC 32:1	3.9938	1.9978	0.011209	1.9504
Car 16:2;O4	1.4881	0.5735	0.011225	1.9498
PE 18:0_26:1	0.62265	-0.6835	0.011244	1.9491
PC O-18:4_15:1	1.415	0.50079	0.011255	1.9487
ST 21:3;O3;G	0.57943	-0.78729	0.011326	1.9459
HexCer 31:2;O4	1.4933	0.57851	0.011334	1.9456
HexCer 42:1;O4	0.64145	-0.6406	0.011366	1.9444
Hex2Cer 32:1;O3	0.56754	-0.81722	0.01138	1.9439
ST 28:4;O3	0.58032	-0.78507	0.011397	1.9432
PC 20:1_16:2	4.2865	2.0998	0.011428	1.942
PC O-38:0;O	3.2272	1.6903	0.01146	1.9408
LPE O-20:1	0.60484	-0.72538	0.011467	1.9405
ST 29:3;O4	2.7874	1.4789	0.011516	1.9387
PE O-18:2_24:1	0.52902	-0.9186	0.011521	1.9385
PA 45:0	5.5776	2.4796	0.011523	1.9384
PS 17:0_18:1	2.4054	1.2663	0.011555	1.9372
PI 52:0;O	0.66642	-0.5855	0.011577	1.9364
HexCer 18:0;O2/20:1	1.6624	0.73327	0.01162	1.9348
PA 45:6	4.9939	2.3202	0.011647	1.9338
HexCer 42:0;O6	0.56351	-0.82748	0.011711	1.9314
SM 33:1;O6	13.694	3.7755	0.011738	1.9304
PC 34:4	2.6018	1.3795	0.011757	1.9297
PE O-18:0_22:3	0.49536	-1.0134	0.011777	1.929
PA O-38:0;O	10.103	3.3367	0.011801	1.9281
DG 35:3	3.3562	1.7468	0.011819	1.9274
FA 16:1	0.075988	-3.7181	0.011859	1.926
Cer 40:0;O	0.47169	-1.0841	0.011864	1.9258
PA 42:0	12.276	3.6178	0.011928	1.9234
TG 51:3	1.7565	0.8127	0.011933	1.9232
PC 47:2	17.37	4.1186	0.011979	1.9216
CerP 29:6;O2	2.6928	1.4291	0.012	1.9208
PA O-44:0;O	17.011	4.0884	0.012053	1.9189
PC 31:1	9.2604	3.2111	0.012108	1.9169
PA O-50:5	0.49238	-1.0222	0.012119	1.9165
PC 44:4	3.0314	1.6	0.012158	1.9151
LPC 26:4	1.544	0.62671	0.012168	1.9148
PA O-45:0	11.111	3.4739	0.01235	1.9083
HexCer 40:5;O4	1.8709	0.90373	0.012407	1.9063
PC 14:0_16:3	5.7667	2.5277	0.012419	1.9059
PI 18:0_20:2	0.36323	-1.461	0.012454	1.9047
CerP 44:4;O3	0.028807	-5.1174	0.012467	1.9042

PE 14:0_18:2	0.36269	-1.4632	0.012497	1.9032
PI 18:0_22:4	0.64111	-0.64137	0.012518	1.9025
TG 62:2	0.29435	-1.7644	0.012595	1.8998
LPA 13:2;O	1.9533	0.96593	0.012621	1.8989
DG O-30:0	3.7236	1.8967	0.012715	1.8957
DG 28:1;O	2.4098	1.2689	0.012719	1.8956
PIP3 35:5	0.45527	-1.1352	0.012757	1.8942
PC O-18:1_24:4	4.1779	2.0628	0.012899	1.8894
TG 14:0_15:1_16:0	0.4293	-1.22	0.012949	1.8878
SHexCer 36:0;O2	0.66355	-0.59173	0.012982	1.8867
PC 18:0_21:2	3.5782	1.8392	0.013085	1.8832
PG 54:6;O	0.61811	-0.69407	0.013098	1.8828
HexCer 18:1;O2/22:0	1.8551	0.89149	0.013126	1.8819
PC O-42:2	5.1791	2.3727	0.013169	1.8805
LPC 27:3	1.783	0.83434	0.013212	1.879
PA O-37:0	16.437	4.0389	0.013328	1.8752
SM 15:0;O2/16:1	19.438	4.2808	0.013329	1.8752
NAT 18:2	3.5561	1.8303	0.013345	1.8747
TG 16:0_18:1_22:4	0.29111	-1.7804	0.013348	1.8746
PC 33:5	3.0271	1.5979	0.01335	1.8745
Car 32:6;O2	1.5831	0.66276	0.013385	1.8734
PC 36:0	7.8065	2.9647	0.013386	1.8733
HexCer 41:0;O4	0.46294	-1.1111	0.013389	1.8733
Car 30:0;O	0.42027	-1.2506	0.013403	1.8728
PG 28:2	0.55823	-0.84106	0.013512	1.8693
FA 20:0;O3	1.9923	0.99441	0.013551	1.868
MG 27:2;O	3.1116	1.6376	0.013641	1.8652
PC O-36:5	2.9719	1.5714	0.013722	1.8626
HexCer 36:4;O2	0.63794	-0.64851	0.013741	1.862
TG 16:0_18:1_22:6	0.17869	-2.4845	0.013813	1.8597
HC 25:1	3.1746	1.6666	0.013816	1.8596
DG 17:0_18:3	5.1485	2.3642	0.013823	1.8594
PA 25:0_18:4	0.66575	-0.58694	0.013902	1.8569
PC O-22:3_24:0	0.43298	-1.2076	0.013974	1.8547
FOH 16:3	3.0206	1.5949	0.014075	1.8516
SM 38:3;O2	3.012	1.5907	0.014091	1.8511
SM 43:5;O2	9.2163	3.2042	0.014105	1.8506
DG 54:5	0.31711	-1.6569	0.014109	1.8505
DG O-42:6	0.57239	-0.80494	0.014125	1.85
HexCer 23:0;O2/18:2	1.9676	0.97644	0.014137	1.8497
PC 33:3;O	3.003	1.5864	0.014171	1.8486

ST 25:4;O4	0.3845	-1.3789	0.014309	1.8444
HexCer 18:2;O2/26:2	3.9052	1.9654	0.014347	1.8432
PI 18:1_22:4	0.18361	-2.4453	0.014358	1.8429
TG 16:1_18:1_22:1	0.033507	-4.8994	0.014369	1.8426
Cer 38:0;O	0.50757	-0.97833	0.014414	1.8412
SM 34:0;O4	28.437	4.8297	0.014416	1.8412
FA 20:4	0.015909	-5.974	0.014424	1.8409
LPC 14:2;O	1.7889	0.83911	0.014541	1.8374
SM 19:3;O2/24:2	14.098	3.8175	0.014564	1.8367
PI-Cer 45:2;O3	1.4687	0.55458	0.01464	1.8345
DG 39:4;O	3.6655	1.874	0.014704	1.8326
PA O-49:1	33.132	5.0502	0.014749	1.8312
PIP 54:3	0.62975	-0.66715	0.014825	1.829
Hex(3)-HexNAc-NeuAc-Cer 42:1;O2	3.0735	1.6199	0.014871	1.8277
TG 33:1;O3	0.65333	-0.61413	0.014939	1.8257
PG 54:4	0.41094	-1.283	0.01497	1.8248
DG 46:3	0.38648	-1.3715	0.014996	1.824
PC O-40:3	3.9095	1.967	0.015004	1.8238
TG 53:0	0.59493	-0.74921	0.015016	1.8235
CE 27:7	1.9664	0.97554	0.015045	1.8226
SM 39:0;O2	15.696	3.9724	0.015046	1.8226
DG 35:1	3.8154	1.9318	0.015064	1.8221
PR 35:0;O4	0.62702	-0.67342	0.015118	1.8205
PC 43:1;O	3.474	1.7966	0.015156	1.8194
TG 48:4;O	0.40715	-1.2964	0.015169	1.819
ST 23:3;O4;G	0.63848	-0.64728	0.015183	1.8187
PI 66:0	1.7249	0.78649	0.015213	1.8178
PC 38:1	2.417	1.2732	0.015232	1.8172
LPG 31:1	0.6921	-0.53095	0.015264	1.8163
DG 32:9	2.037	1.0264	0.015276	1.816
Cer 22:2;O2/24:6	1.7352	0.7951	0.015374	1.8132
PA 46:2	5.5278	2.4667	0.015376	1.8132
SM 18:0;O2/24:1	5.9142	2.5642	0.015406	1.8123
HexCer 40:3;O4	1.7754	0.82814	0.015409	1.8122
DG 40:1;O	2.8229	1.4972	0.015431	1.8116
PC 30:3;O2	9.5715	3.2587	0.015469	1.8105
ST 25:1;O2	0.40428	-1.3066	0.015494	1.8098
PE O-28:4_28:7	1.5292	0.6128	0.015518	1.8092
LPI O-16:0	1.5726	0.65316	0.015552	1.8082
Hex(5)-HexNAc(2)-Fuc-Cer 36:1;O2	0.51944	-0.94496	0.015597	1.8069

PI 16:0_18:0	0.44321	-1.1739	0.015608	1.8067
PC O-18:0_14:0	0.54966	-0.86338	0.015619	1.8063
ST 28:2;O4	0.61458	-0.70234	0.015666	1.805
TG 16:0_17:1_18:1	1.6449	0.71797	0.015674	1.8048
PE O-18:1_16:0	1.948	0.962	0.015709	1.8038
PI O-65:2	0.49393	-1.0176	0.015727	1.8033
Car 22:4;O4	0.42032	-1.2504	0.015765	1.8023
PE 23:6	2.0525	1.0374	0.01578	1.8019
PIP3 44:9	1.4075	0.49318	0.015878	1.7992
MG O-18:0	0.41042	-1.2848	0.015942	1.7974
DG 44:7;O	1.6832	0.75117	0.016008	1.7957
CL 74:4	0.63306	-0.65959	0.016016	1.7954
PA 44:0;O	9.1073	3.187	0.016082	1.7937
MG 23:2;O	0.25627	-1.9642	0.016195	1.7906
FA 17:3;O3	2.9624	1.5668	0.016265	1.7887
PE-Cer 40:0;O6	2.6664	1.4149	0.016285	1.7882
DG O-35:0;O2	4.6538	2.2184	0.016311	1.7875
Car 30:2;O2	1.5475	0.62996	0.016346	1.7866
PC O-18:0_20:5	13.129	3.7146	0.0164	1.7851
SM 32:0;O4	18.162	4.1829	0.01667	1.7781
TG 57:10	0.59681	-0.74466	0.016825	1.774
PE O-18:0_20:2	0.5613	-0.83316	0.01687	1.7729
CerP 14:0;O2/12:0	0.21864	-2.1934	0.016895	1.7722
CL 16:0_18:2_16:0_20:5	0.022223	-5.4918	0.016953	1.7707
PC 15:0_18:0	4.314	2.109	0.016959	1.7706
DG 52:4	0.40845	-1.2918	0.017021	1.769
DG O-56:6	0.30217	-1.7266	0.01704	1.7685
TG 14:0_18:1_19:1	0.10614	-3.236	0.017136	1.7661
PA 43:6	3.9185	1.9703	0.0172	1.7645
CL 74:9	0.30524	-1.712	0.017222	1.7639
PC 20:2_16:3	3.1378	1.6498	0.017417	1.759
SM 48:5;O2	2.8719	1.522	0.01751	1.7567
NAE 33:5;O	4.5113	2.1736	0.017729	1.7513
AcylGlcADG 22:5_22:5_20:5	2.1033	1.0726	0.01782	1.7491
ST 28:0;O8;T	0.51519	-0.95682	0.017826	1.7489
Car 22:2;O4	0.49547	-1.0131	0.017843	1.7485
DG 60:7	0.29539	-1.7593	0.017939	1.7462
ST 24:3;O3	0.66148	-0.59624	0.017992	1.7449
PA 45:4	10.806	3.4337	0.018017	1.7443
PA O-39:0	20.949	4.3888	0.018046	1.7436

PA O-44:5	4.1451	2.0514	0.018178	1.7405
NAT 34:2;O4	1.6707	0.74045	0.018188	1.7402
PG O-43:0	1.5826	0.6623	0.01827	1.7383
DG 59:2	1.6869	0.75441	0.018329	1.7369
PG O-44:5	0.69708	-0.5206	0.018352	1.7363
PE O-16:0_18:1	0.33354	-1.5841	0.018427	1.7345
PE O-18:0_17:0	0.5576	-0.84271	0.018478	1.7333
ST 23:3;O3	0.19041	-2.3929	0.018511	1.7326
HexCer 18:1;O2/24:1	1.6807	0.74908	0.018524	1.7323
TG 96:8;O	0.6687	-0.58057	0.018532	1.7321
ST 30:2;O	0.54681	-0.8709	0.018597	1.7306
DG 35:4	2.8303	1.501	0.018605	1.7304
LPC 26:1	0.53204	-0.9104	0.018634	1.7297
PA 42:5	3.2744	1.7112	0.018731	1.7274
Car 32:5;O	1.8563	0.89245	0.018939	1.7226
LPC 30:0	0.48439	-1.0458	0.019054	1.72
LPC 33:2	0.16139	-2.6314	0.019066	1.7197
TG 14:0_14:3_19:5	0.28392	-1.8164	0.019079	1.7194
DG 39:2	0.56244	-0.83023	0.019114	1.7186
PE O-16:2_23:0	0.66752	-0.58311	0.019136	1.7182
DG 52:3	0.2728	-1.8741	0.019156	1.7177
DG 60:10	0.24563	-2.0254	0.019235	1.7159
ST 21:1;O7	1.655	0.72681	0.019337	1.7136
FA 28:0;O3	5.0982	2.35	0.019377	1.7127
SM 34:1;O2(FA 24:1)	2.6623	1.4127	0.019593	1.7079
PG 23:1;O	1.7264	0.78778	0.019721	1.7051
PA O-40:0;O	10.297	3.3642	0.019729	1.7049
SM 53:6;O2	8.5352	3.0934	0.019786	1.7036
PEtOH 18:1_20:5	3.6055	1.8502	0.019942	1.7002
Cer 42:1;O3	1.4781	0.56373	0.019987	1.6992
PC 18:1_20:3	0.48018	-1.0584	0.02012	1.6964
DG O-32:0	2.6515	1.4068	0.020171	1.6953
Car 30:2;O3	1.898	0.92448	0.020208	1.6945
PA 42:0;O	10.923	3.4493	0.020247	1.6936
PA 41:8	3.8529	1.9459	0.020276	1.693
PE 52:5;O	0.57329	-0.80266	0.020333	1.6918
ST 27:1;O	1.9732	0.98051	0.020372	1.691
DG O-48:3	0.42321	-1.2405	0.020493	1.6884
PG 32:0;O	0.28648	-1.8035	0.020503	1.6882
PE 52:4;O	0.47339	-1.0789	0.020509	1.6881
FA 24:1	0.54002	-0.88893	0.020541	1.6874

ST 28:3;O4	0.43866	-1.1888	0.020571	1.6867
TG 94:4;O2	0.42837	-1.2231	0.020624	1.6856
Cer 31:4;O	1.4991	0.58412	0.020639	1.6853
Cer 43:5;O2	1.5913	0.67016	0.020641	1.6853
SHexCer 35:4;O3	1.4749	0.56066	0.020642	1.6853
PIP 66:2	0.50981	-0.97197	0.020782	1.6823
PC 38:5	5.6232	2.4914	0.020917	1.6795
CoA 21:6;O2	13.066	3.7078	0.020955	1.6787
WE 23:3	1.5753	0.65567	0.020992	1.6779
TG 45:1	2.1118	1.0784	0.021099	1.6757
DG 47:1	3.7872	1.9211	0.021286	1.6719
PG 32:0	0.64539	-0.63175	0.02137	1.6702
CL 73:4	0.48215	-1.0524	0.021403	1.6695
PE 17:0_18:1	0.51076	-0.96929	0.021553	1.6665
DG 56:8	0.42704	-1.2276	0.021714	1.6633
PI-Cer 38:3;O4	0.11978	-3.0616	0.021865	1.6603
PA 51:0	6.5181	2.7044	0.021925	1.6591
PC 48:7;O	23.289	4.5416	0.021968	1.6582
PR 30:7	0.51392	-0.96039	0.022052	1.6566
NAE 20:4	0.055943	-4.1599	0.022111	1.6554
PC O-22:3_26:1	0.36107	-1.4697	0.022161	1.6544
Cer 38:0;O4	0.60089	-0.73482	0.022196	1.6537
PC 18:0_20:0	6.2055	2.6335	0.022236	1.653
PA O-32:7	20.03	4.3241	0.022293	1.6518
ST 29:6;O8;Hex	0.33091	-1.5955	0.022297	1.6517
PI O-32:5	1.5399	0.6228	0.022363	1.6505
CerP 32:1;O2	3.4811	1.7996	0.022377	1.6502
HexCer 35:3;O6	2.2187	1.1497	0.022518	1.6475
DG 40:2	0.4701	-1.089	0.022527	1.6473
PIP 52:4	0.60841	-0.71689	0.022539	1.6471
MIPC 37:0;O6	2.2992	1.2011	0.022549	1.6469
DG 40:4	0.67256	-0.57226	0.022552	1.6468
PA 35:0	39.751	5.3129	0.022929	1.6396
PE 18:1_19:1	0.55875	-0.83972	0.022983	1.6386
Cer 22:1;O2/24:6	1.4094	0.49513	0.02321	1.6343
CL 75:6	0.59951	-0.73815	0.023276	1.6331
SM 14:0;O2/18:1	6.915	2.7897	0.023276	1.6331
DG 60:5	0.50013	-0.99964	0.023325	1.6322
PG 38:5	2.2153	1.1475	0.023539	1.6282
NAE 31:1;O	2.6385	1.3997	0.023563	1.6278
DG dO-36:0	0.61002	-0.71306	0.023586	1.6273

PS 21:2_18:3	2.4617	1.2997	0.023608	1.6269
PS 14:0_18:0	1.8453	0.88387	0.023679	1.6256
BMP 19:4;O	3.9116	1.9677	0.023752	1.6243
GD1b d42:1	2.2599	1.1762	0.023759	1.6242
TG 100:16;O3	0.6798	-0.55681	0.02378	1.6238
TG 16:0_18:1_18:2	0.15426	-2.6965	0.023783	1.6237
Hex2Cer 34:2;O2	2.3045	1.2045	0.023879	1.622
HexCer 54:6;O3	0.49872	-1.0037	0.024002	1.6197
TG O-42:1	0.56186	-0.83173	0.024444	1.6118
DG 38:4	0.56862	-0.81445	0.024548	1.61
ST 28:3;O3;G	0.38039	-1.3945	0.024602	1.609
ST 30:0;O8	0.67682	-0.56316	0.024705	1.6072
TG 50:3	0.32993	-1.5998	0.024739	1.6066
ST 27:2;O;Hex	0.6542	-0.6122	0.024752	1.6064
ST 25:1;O4;Hex	1.7192	0.7817	0.02478	1.6059
Car 32:1;O	0.66857	-0.58085	0.024866	1.6044
HexCer 37:3;O4	1.7398	0.79895	0.025027	1.6016
DG 58:6	0.30902	-1.6942	0.025044	1.6013
Hex2Cer 41:5;O6	1.75	0.80736	0.0251	1.6003
TG 16:1_18:0_20:2	0.095369	-3.3903	0.025266	1.5975
PC 48:9;O	36.779	5.2008	0.025416	1.5949
PEtOH 16:1_20:3	3.4312	1.7787	0.025444	1.5944
PG O-56:0;O	0.66208	-0.59492	0.025478	1.5938
Cer 37:1;O4	2.3964	1.2608	0.025554	1.5925
ST 28:3;O7;T	0.67719	-0.56236	0.025622	1.5914
Cer 29:0;O2	1.8269	0.86939	0.025647	1.591
PA O-36:0	18.037	4.1729	0.025896	1.5868
SHexCer 43:3;O2	1.6301	0.70499	0.026081	1.5837
WE 34:0	3.1083	1.6361	0.026109	1.5832
DG 32:0	0.48474	-1.0447	0.02615	1.5825
TG 97:6;O2	0.60239	-0.73122	0.026195	1.5818
FAL 17:2	2.1999	1.1375	0.026288	1.5802
PS 20:1;O	2.9039	1.538	0.026291	1.5802
Car 32:0;O4	2.2708	1.1832	0.026418	1.5781
PA 20:1;O2	15.126	3.919	0.026609	1.575
PA 43:4	7.6422	2.934	0.026698	1.5735
Car 34:6;O	0.51421	-0.95958	0.026837	1.5713
HexCer 44:6;O6	0.57622	-0.79531	0.026846	1.5711
LPI 11:3	1.597	0.6754	0.026848	1.5711
PE 38:0	0.70328	-0.50782	0.026866	1.5708
LPG 22:6	2.8608	1.5164	0.026887	1.5705

DG 54:0	0.60264	-0.73063	0.026956	1.5694
PE 23:1; PE 2:0-21:1; [M-H]-	1.7263	0.78765	0.027154	1.5662
PE-Cer 15:0;2O/16:4	1.7043	0.76919	0.027189	1.5656
PE 3:0_18:4	1.9298	0.94848	0.027192	1.5656
FOH 20:0;O	2.7893	1.4799	0.027205	1.5654
TG 82:3;O2	3.6887	1.8831	0.027231	1.5649
HexCer 18:3;O2/26:2	2.2642	1.179	0.027252	1.5646
DG 61:2;O	2.2597	1.1761	0.02727	1.5643
TG 14:0_18:1_18:2	0.2652	-1.9148	0.027287	1.564
PEtOH 16:0_18:1	3.2994	1.7222	0.027477	1.561
SM 16:0;O2/18:0	4.3231	2.1121	0.027496	1.5607
Cer 39:1;O4	3.7829	1.9195	0.027551	1.5599
FA 32:0;O4	2.8321	1.5019	0.027764	1.5565
TG 67:11;O	0.60906	-0.71534	0.027782	1.5562
PG 25:1;O2	1.7543	0.81088	0.02787	1.5549
CerP 54:5;O3	0.25896	-1.9492	0.027926	1.554
HexCer 37:2;O4	1.415	0.50078	0.027997	1.5529
CL 71:6	0.70353	-0.50732	0.028003	1.5528
PA O-58:8	4.555	2.1874	0.028176	1.5501
ST 29:3;O6	0.66487	-0.58885	0.028373	1.5471
PA O-47:1	10.743	3.4254	0.028385	1.5469
LPI 12:3	2.0655	1.0465	0.028418	1.5464
DG O-36:1	1.5278	0.61144	0.028476	1.5455
MG O-20:0	0.63513	-0.65488	0.028575	1.544
HexCer 41:0;O3	1.6775	0.74635	0.028858	1.5397
SM 15:0;O2/18:1	12.786	3.6765	0.028903	1.5391
PA O-45:1	14.603	3.8682	0.029013	1.5374
HexCer 32:5;O3	1.7632	0.81822	0.029176	1.535
MGDG 18:0_20:1	0.62308	-0.6825	0.029259	1.5337
DG 52:1	2.7687	1.4692	0.029537	1.5296
PIP3 38:9	0.52692	-0.92433	0.029752	1.5265
TG 54:3	0.38147	-1.3904	0.030103	1.5214
TG 16:1_18:1_19:1	0.14718	-2.7644	0.030109	1.5213
PC O-36:0	4.8612	2.2813	0.030157	1.5206
PE 56:3	0.46801	-1.0954	0.030306	1.5185
DG 58:2	0.68938	-0.53662	0.030317	1.5183
ST 23:2;O3;G	0.2075	-2.2688	0.030525	1.5153
PA O-56:7	0.57395	-0.801	0.030673	1.5132
HexCer 40:0;O5	0.43259	-1.2089	0.030691	1.513
Hex2Cer 33:0;O5	1.4753	0.56097	0.030719	1.5126
TG 60:3	0.14974	-2.7395	0.030781	1.5117

NAE 20:0	0.6996	-0.5154	0.030814	1.5112
ST 30:4;O5	0.7055	-0.50328	0.030835	1.511
PC 16:0_24:1	0.69923	-0.51616	0.030877	1.5104
CL 72:3	0.47212	-1.0828	0.030971	1.509
Hex(2)-HexNeuAc(3)-Cer 34:1;O2	2.1313	1.0917	0.031003	1.5086
NAE 20:2	1.5334	0.61672	0.031065	1.5077
ST 30:0;O2;GlcA	0.65323	-0.61433	0.03114	1.5067
HexCer 15:3;O2/28:7	0.68403	-0.54786	0.031162	1.5064
PE O-38:5	0.67247	-0.57246	0.031286	1.5047
PE 14:1_18:1	0.31269	-1.6772	0.031337	1.5039
NA 22:0	1.539	0.62197	0.031398	1.5031
CE 22:2	0.36647	-1.4482	0.031503	1.5017
PC O-18:1_22:6	0.44671	-1.1626	0.031565	1.5008
ST 21:1;O6	1.5921	0.67096	0.031606	1.5002
PA O-43:1	17.591	4.1368	0.031679	1.4992
PR 20:2;O2	0.42797	-1.2244	0.031788	1.4977
DG 54:4	0.41677	-1.2627	0.032088	1.4937
PG 40:4	0.61795	-0.69443	0.032094	1.4936
TG 52:5	0.38777	-1.3667	0.032205	1.4921
DG 42:9	0.5865	-0.76981	0.032217	1.4919
SHexCer 32:0;O3	2.9669	1.5689	0.032557	1.4874
LPG 32:1	0.44242	-1.1765	0.032796	1.4842
PS 18:0_22:1	1.5917	0.67059	0.032929	1.4824
PE 25:1;O	0.71333	-0.48736	0.033019	1.4812
PA 37:0	8.3609	3.0637	0.033308	1.4774
PC 36:0;O	2.8729	1.5225	0.033355	1.4768
HexCer 41:1;O4	0.55302	-0.85461	0.033362	1.4767
HexCer 39:6;O3	0.62996	-0.66666	0.033538	1.4745
Cer 28:6;O	1.5477	0.63011	0.033625	1.4733
Cer 40:1;O6	1.5477	0.63011	0.033625	1.4733
Cer 44:5;O	1.5477	0.63011	0.033625	1.4733
Cer 45:4;O3	1.5477	0.63011	0.033625	1.4733
Cer 47:1;O3	1.5477	0.63011	0.033625	1.4733
Cer 47:6;O2	1.5477	0.63011	0.033625	1.4733
Cer 52:6;O	1.5477	0.63011	0.033625	1.4733
CerP 44:5;O5	1.5477	0.63011	0.033625	1.4733
Hex2Cer 40:6;O2	1.5477	0.63011	0.033625	1.4733
HexCer 32:5;O5	1.5477	0.63011	0.033625	1.4733
SPB 18:1;O3	1.5477	0.63011	0.033625	1.4733
SPB 20:2;O6	1.5477	0.63011	0.033625	1.4733

HexCer 28:0;O4	0.67445	-0.56823	0.033636	1.4732
PC 30:0;O	2.1457	1.1015	0.033639	1.4732
PA 35:1	2.145	1.101	0.033659	1.4729
DG 52:2	0.55227	-0.85657	0.033667	1.4728
TG 14:0_16:0_22:6	0.36766	-1.4436	0.033751	1.4717
MIPC 34:2;O2	0.55358	-0.85314	0.033855	1.4704
PC O-20:3_16:0	3.6031	1.8492	0.033858	1.4703
SM 34:2;O2	26.885	4.7487	0.033882	1.47
PA O-35:9	12.711	3.668	0.033938	1.4693
PG 55:3	0.66346	-0.59192	0.03403	1.4681
DG 32:7	2.4245	1.2777	0.034243	1.4654
PR 50:10;O	0.70807	-0.49803	0.034297	1.4647
TG O-44:0;O2	1.5334	0.61676	0.034339	1.4642
CL 71:3	0.44666	-1.1628	0.034378	1.4637
ST 23:5;O3	1.426	0.51194	0.034473	1.4625
PA 40:3;O	22.906	4.5177	0.034579	1.4612
PA O-43:0	13.909	3.7979	0.034668	1.4601
MG 21:1	2.0768	1.0544	0.034724	1.4594
SHexCer 40:3;O2	1.5392	0.62216	0.034735	1.4592
TG 58:3;O2	0.29685	-1.7522	0.034787	1.4586
LPI O-32:0	0.45535	-1.135	0.034889	1.4573
LPG O-31:5	1.8335	0.87458	0.034932	1.4568
PIP 60:3;O	0.50581	-0.98334	0.034946	1.4566
SM 33:0;O6	12.266	3.6166	0.034971	1.4563
PE O-18:2_24:2	0.62723	-0.67294	0.035021	1.4557
HBMP 14:0_20:2_20:2	0.70754	-0.49911	0.035081	1.4549
TG O-52:0;O2	2.0845	1.0597	0.035212	1.4533
DG 50:3	0.32287	-1.631	0.035229	1.4531
CerP 54:1;O3	1.5362	0.61932	0.035497	1.4498
ST 29:0;O8;HexNAc	1.5627	0.64406	0.03564	1.4481
PC 44:5	2.115	1.0807	0.03586	1.4454
PA 40:0	4.7609	2.2512	0.035873	1.4452
PC O-18:0_24:0	6.2633	2.6469	0.035907	1.4448
DG 30:0;O2	3.4322	1.7791	0.035949	1.4443
PG 55:2	0.52717	-0.92367	0.035993	1.4438
Cer 42:1;O	0.48178	-1.0536	0.036298	1.4401
TG 60:15	2.3928	1.2587	0.036302	1.4401
SM 48:1;3O	2.2985	1.2007	0.036571	1.4369
PI O-16:0_18:2	0.50963	-0.97247	0.036643	1.436
PC 16:0_20:3	0.53396	-0.9052	0.036718	1.4351
Hex2Cer 29:3;O2	3.5013	1.8079	0.036761	1.4346

TG 15:0_16:1_18:1	0.45388	-1.1396	0.037141	1.4301
PS O-18:3_22:4	2.0828	1.0585	0.037187	1.4296
CerP 19:0;O2/2:0	0.56791	-0.81627	0.037201	1.4294
NAE 20:2;O	1.4684	0.55425	0.037211	1.4293
DG O-42:1	1.7744	0.8273	0.037287	1.4284
TG 46:3	0.7029	-0.50861	0.037291	1.4284
Hex(3)-HexNAc-Fuc-NeuAc(2)-Cer 36:1;O2	0.70244	-0.50956	0.037324	1.428
PA O-36:0;O	8.9319	3.159	0.037469	1.4263
SM 36:0;O4	10.414	3.3805	0.037698	1.4237
CL 76:10	0.56429	-0.82549	0.037836	1.4221
PA O-42:0;O	7.2916	2.8662	0.038015	1.42
LPA 34:3	1.7649	0.81958	0.038019	1.42
PC 14:0_15:1	2.0032	1.0023	0.038294	1.4169
LPE O-18:2	0.5284	-0.92029	0.03853	1.4142
Cer 18:0;O3/25:	0.39778	-1.33	0.038554	1.4139
TG 54:7	0.41662	-1.2632	0.039248	1.4062
SM 14:0;O2/18:0	5.8009	2.5363	0.039249	1.4062
DG 53:4	0.52313	-0.93475	0.039328	1.4053
TG 8:0_8:0_16:2	0.58066	-0.78424	0.039534	1.403
DG O-39:3	1.719	0.78155	0.039616	1.4021
CerP 52:5;O2	1.5834	0.66307	0.039812	1.4
SM 14:0;O2/18:2	24.099	4.5909	0.039815	1.4
GM1(d18:1/24:0)	2.6721	1.418	0.039893	1.3991
CerP 51:5;O2	2.9516	1.5615	0.039946	1.3985
PE-Cer 30:0;O5	2.2594	1.1759	0.039956	1.3984
CL 69:5	0.53401	-0.90506	0.040072	1.3972
PC 12:0_14:0	0.51219	-0.96524	0.040134	1.3965
PI O-56:2	0.66924	-0.57941	0.040138	1.3964
PA 52:4	1.5695	0.65028	0.040209	1.3957
PA 39:6	2.5726	1.3632	0.04022	1.3956
DG 53:5	0.51106	-0.96845	0.040236	1.3954
HexCer 40:6;O4	1.7221	0.78416	0.040236	1.3954
PE O-18:0_24:2	0.18893	-2.4041	0.040343	1.3942
TG 75:1;O3	0.50463	-0.98669	0.040354	1.3941
DG O-38:4	0.64644	-0.62941	0.040597	1.3915
PI 36:4	0.059635	-4.0677	0.040689	1.3905
PR 20:1;O4	0.6609	-0.5975	0.040922	1.388
HexCer 16:3;O2/12:1;O	1.8313	0.8729	0.041067	1.3865
DG 60:2	0.69936	-0.51589	0.041381	1.3832
Cer 18:3;O2/26:2;O	1.5412	0.62403	0.041514	1.3818

PA O-54:2	3.4645	1.7926	0.041558	1.3813
Cer 43:4;O3	3.1501	1.6554	0.041667	1.3802
SM 33:2;O2	15.136	3.9199	0.04169	1.38
DG 52:5	0.43934	-1.1866	0.041958	1.3772
Car 31:1;O2	1.9982	0.99871	0.04221	1.3746
FA 21:2;O	0.64444	-0.63388	0.042211	1.3746
CL 74:10	0.60937	-0.7146	0.042231	1.3744
PC 16:0_20:0	3.2156	1.6851	0.042285	1.3738
TG O-81:0;O3	3.6149	1.854	0.042296	1.3737
PC O-38:2	3.0198	1.5945	0.042329	1.3734
CL 69:3	0.51345	-0.9617	0.042754	1.369
Cer 53:6;O	1.9721	0.97973	0.042764	1.3689
DG 62:6	0.35425	-1.4971	0.042813	1.3684
SM 45:2;O4	1.9866	0.9903	0.042911	1.3674
Cer 40:2;O3	0.64483	-0.63301	0.043106	1.3655
PG 53:2	0.51721	-0.95118	0.043224	1.3643
PA 18:1_26:2	1.7704	0.82404	0.043434	1.3622
PE 38:5	0.55779	-0.84222	0.04402	1.3564
PA 29:0	8.6217	3.108	0.044052	1.356
GD1a (NeuAc/NeuGc)(d18:1/16:0)	3.5988	1.8475	0.044161	1.355
LPC O-24:5	1.6494	0.72196	0.044272	1.3539
FAHFA 14:0/14:0	3.7328	1.9002	0.044403	1.3526
PC 15:0_16:0	2.8129	1.4921	0.044726	1.3494
TG 52:7;O2	1.5233	0.60715	0.044807	1.3487
TG 70:13;O2	1.5233	0.60715	0.044807	1.3487
TG 72:12;O2	1.5233	0.60715	0.044807	1.3487
TG 81:6;O3	1.5233	0.60715	0.044807	1.3487
TG 82:1;O3	1.5233	0.60715	0.044807	1.3487
TG 82:4;O3	1.5233	0.60715	0.044807	1.3487
TG 82:5	1.5233	0.60715	0.044807	1.3487
TG 91:13;O	1.5233	0.60715	0.044807	1.3487
TG 93:16;O2	1.5233	0.60715	0.044807	1.3487
TG O-45:2	1.5233	0.60715	0.044807	1.3487
TG O-61:0;O3	1.5233	0.60715	0.044807	1.3487
PEtOH 18:1_20:4	1.9404	0.95633	0.044997	1.3468
SM 44:2;O4	4.7789	2.2567	0.045074	1.3461
Car 16:1;O	1.439	0.52509	0.045415	1.3428
PE O-18:2_22:3	0.64259	-0.63804	0.045445	1.3425
SHexCer 32:1;O4	2.3597	1.2386	0.045541	1.3416
SM 44:6;O2	3.6846	1.8815	0.045979	1.3374

Cer 18:1;O2/24:0	0.65252	-0.61591	0.046283	1.3346
DG 23:2	1.9629	0.97298	0.046516	1.3324
CerP 54:6;O5	0.63053	-0.66536	0.046595	1.3317
PC 15:1_16:1	3.5892	1.8437	0.04681	1.3297
PA 41:6	3.5436	1.8252	0.047027	1.3276
TG 12:2_12:2_22:7	0.41442	-1.2708	0.047147	1.3265
SM 45:6;O2	7.5985	2.9257	0.047163	1.3264
TG 42:0	0.55379	-0.85258	0.047171	1.3263
SM 40:4;O5	2.0298	1.0213	0.047312	1.325
PC O-18:0_22:0	6.1841	2.6286	0.047323	1.3249
ST 24:2;O2	0.17192	-2.5402	0.047365	1.3245
HexCer 18:0;O2/15:0;O	1.4845	0.56994	0.047719	1.3213
Cer 42:2;O	0.65172	-0.61769	0.047865	1.32
SL 21:1;O_21:1;O	0.70371	-0.50694	0.048093	1.3179
DG 18:0_22:4	0.43676	-1.1951	0.048315	1.3159
SPB 17:0;O3	1.5026	0.58744	0.048415	1.315
DG 42:3	0.32929	-1.6026	0.048645	1.313
TG 90:10	1.9769	0.98325	0.04879	1.3117
SHexCer 35:0;O5	1.4515	0.53757	0.048836	1.3113
FOH 19:2;O3	0.30912	-1.6938	0.048868	1.311
HexCer 45:2;O4	1.4713	0.55707	0.049027	1.3096
HexCer 46:1;O4	1.4792	0.56484	0.049033	1.3095
PC O-18:0_17:0	8.1945	3.0347	0.049129	1.3087
PE 36:5	2.3071	1.2061	0.049176	1.3082
Cer 18:0;O2/30:7	1.4284	0.51435	0.049434	1.306
Hex2Cer 44:6;O2	1.4253	0.51131	0.049724	1.3034
Cer 43:5;O3	1.4902	0.57547	0.049728	1.3034
PE-Cer 16:0;O2/18:1	1.9808	0.98607	0.049742	1.3033

Supplemental Table 5. LPS cells vs LPS EVs volcano plot extended statistics. Extended statistics corresponding to Figure 3D in main text. Extended statistics include fold change (FC), log 2 fold change (log2(FC)), the raw p value (raw.pval) and the -log10 of the p-value (-log10(p)).

Lipid	FC	log2(FC)	raw.pval	-log10(p)
MG 34:1;O	6.961	2.7993	1.5845E-07	6.8001
MG 28:1;O	3.1542	1.6573	1.4635E-06	5.8346
LPG O-22:0;O	0.59596	-0.74671	7.5717E-06	5.1208
DG 40:5;O	3.4195	1.7738	1.2453E-05	4.9047
PI-Cer 34:6;O5	3.4685	1.7943	2.1702E-05	4.6635
CE 16:1	0.49785	-1.0062	3.6416E-05	4.4387
Cer 48:6;O2	0.32933	-1.6024	3.653E-05	4.4373

ST 26:0;O	0.4303	-1.2166	6.6782E-05	4.1753
Cer 41:6;O2	3.6368	1.8627	7.0563E-05	4.1514
PI 16:0_18:0	2.0448	1.032	8.7002E-05	4.0605
HexCer 41:2;O4	0.39205	-1.3509	0.00018572	3.7311
CerP 48:5;O3	0.22714	-2.1383	0.0002016	3.6955
NAE 20:0;O2	0.44618	-1.1643	0.00021587	3.6658
SQMG 18:0	2.0963	1.0679	0.00026891	3.5704
FA 31:4;O	1.5765	0.65669	0.00028408	3.5466
Car 34:0	2.387	1.2552	0.00029211	3.5345
Cer 37:4;O3	1.4294	0.51541	0.00030002	3.5228
CerP 45:6;O2	0.60201	-0.73214	0.00033181	3.4791
TG 70:3;O3	6.1242	2.6145	0.00033352	3.4769
Cer 41:5;O2	3.5599	1.8319	0.00040909	3.3882
PK 43:14;O25	0.50226	-0.99348	0.00043562	3.3609
TG 85:1;O	0.1901	-2.3952	0.00047335	3.3248
WE 41:1	0.43276	-1.2084	0.00047423	3.324
Hex(2)-HexNAc-NeuAc-Cer 36:1;O2	2.0245	1.0176	0.00048801	3.3116
Cer 36:4;O4	2.0118	1.0085	0.00053811	3.2691
TG O-8:0_8:0_16:0	3.0306	1.5996	0.00064026	3.1936
Car 16:2;O4	0.60971	-0.71382	0.00064897	3.1878
HexCer 43:6;O2	0.45316	-1.1419	0.00065419	3.1843
LPC 30:4	0.32189	-1.6354	0.00065564	3.1833
TG 46:2;O	0.30092	-1.7325	0.00069816	3.156
HexCer 43:2;O5	0.62737	-0.6726	0.00071935	3.1431
Cer 18:0;3O/19:0;(2OH)	5.6583	2.5004	0.00075764	3.1205
TG 83:0;O	0.30254	-1.7248	0.00076547	3.1161
CerP 53:3;O3	0.22318	-2.1637	0.00079961	3.0971
Hex2Cer 34:2;O2	2.7052	1.4357	0.00084242	3.0745
HexCer 43:1;O4	0.22927	-2.1249	0.00084907	3.0711
Hex2Cer 44:6;O2	2.9231	1.5475	0.00086946	3.0607
LPA O-27:1	0.54538	-0.87467	0.00097625	3.0104
LPG O-33:4	2.1901	1.131	0.0010367	2.9844
LPE 12:0	1.616	0.69239	0.0013528	2.8688
DG 38:5;O	3.285	1.7159	0.0014797	2.8298
PIP 34:5;O	1.9921	0.9943	0.0015149	2.8196
Cer 41:1;O3	0.47815	-1.0645	0.0015443	2.8113
PE 42:0;O	2.4268	1.2791	0.0016041	2.7948
PG 38:1	0.34836	-1.5213	0.0016647	2.7787
ST 28:2;O4	0.61126	-0.71014	0.001717	2.7652
HexCer 42:4;O4	0.62793	-0.67132	0.0017206	2.7643

DG O-56:5	0.21694	-2.2046	0.0017313	2.7616
PI 24:0	0.41126	-1.2819	0.0017633	2.7537
PC O-18:1_24:1	0.34655	-1.5288	0.0018028	2.7441
HexCer 45:5;O4	0.41318	-1.2752	0.0018502	2.7328
PI-Cer 35:0;O4	2.1821	1.1257	0.0018613	2.7302
PG O-39:0;O	0.28178	-1.8273	0.0019716	2.7052
TG 93:14;O	0.30854	-1.6965	0.0020237	2.6939
Cer 28:0;O3	2.0675	1.0479	0.0020909	2.6797
HexCer 35:2;O2	1.5524	0.63445	0.0023397	2.6308
PG O-44:8	0.66154	-0.5961	0.002511	2.6002
ST 28:2;O	2.1043	1.0733	0.0025149	2.5995
PG O-38:0	0.40119	-1.3176	0.0026596	2.5752
TG 52:2;O	0.26986	-1.8897	0.0027039	2.568
SHexCer 29:0;O2	0.5647	-0.82443	0.0027738	2.5569
MG O-34:1	1.6881	0.75539	0.002793	2.5539
PE 44:1;O	0.55122	-0.8593	0.0028029	2.5524
MG 32:0	2.1635	1.1134	0.0028559	2.5443
HexCer 49:3;O5	0.49455	-1.0158	0.0029488	2.5304
SHexCer 42:1;O2	0.37245	-1.4249	0.0031754	2.4982
LPI O-34:0	0.55873	-0.83976	0.0032427	2.4891
PK 40:8;O26	0.542	-0.88364	0.0032714	2.4853
Cer 43:2;O	1.668	0.73809	0.0034103	2.4672
PG 23:1;O	0.24813	-2.0108	0.0035233	2.453
PE 30:1;O	0.63594	-0.65303	0.0036545	2.4372
SM 44:4;O3	0.306	-1.7084	0.0037503	2.4259
TG 51:2;O	0.25951	-1.9462	0.0038339	2.4164
TG 91:13;O	0.47545	-1.0726	0.0040107	2.3968
FA 15:1	2.4939	1.3184	0.004031	2.3946
PG O-40:0;O	0.23897	-2.0651	0.0040701	2.3904
ST 18:2;O3;G	0.38435	-1.3795	0.0041989	2.3769
Cer 43:5;O2	1.9526	0.96537	0.0044051	2.356
PG 27:2;O	1.6968	0.76283	0.0044818	2.3486
MIPC 29:6;O5	1.9053	0.93003	0.0045492	2.3421
TG 12:2_12:2_22:6	0.51192	-0.96601	0.004724	2.3257
TG 45:1;O	0.55006	-0.86234	0.0047272	2.3254
Hex2Cer 28:3;O5	0.50276	-0.99206	0.0048713	2.3124
PC O-16:1_24:1	0.60096	-0.73466	0.0049457	2.3058
LPA O-19:5	1.6579	0.72939	0.0053692	2.2701
ST 26:1;O	0.38834	-1.3646	0.0054983	2.2598
LPE 20:4	1.919	0.94034	0.0055309	2.2572
Car 30:2;O2	0.60664	-0.72109	0.0055547	2.2553

DG 27:0_21:1	0.35239	-1.5047	0.0055947	2.2522
TG 51:3;O	0.29285	-1.7718	0.0056356	2.2491
PC O-44:3	0.35336	-1.5008	0.0057797	2.2381
PE-Cer 32:3;O5	0.54215	-0.88323	0.005996	2.2221
PC O-18:1_20:1	0.56615	-0.82073	0.0061414	2.2117
TG 57:10	0.48643	-1.0397	0.0061766	2.2092
PE O-18:1_24:1	0.4297	-1.2186	0.006503	2.1869
TG 48:5;O	0.3008	-1.7331	0.0066507	2.1771
LPG O-27:0;O	0.62921	-0.66838	0.0072479	2.1398
PA O-58:6	6.2033	2.633	0.0074806	2.1261
DG 24:0_26:2	0.34009	-1.556	0.007625	2.1178
LPE 20:0	1.6036	0.68129	0.0076564	2.116
LPA 32:1	0.49893	-1.0031	0.0076825	2.1145
CE 20:5	0.43196	-1.211	0.0077378	2.1114
SCer 33:0;O	2.5882	1.372	0.007832	2.1061
DG O-36:3	6.4159	2.6817	0.007883	2.1033
PE O-18:0_20:1	0.57826	-0.79022	0.0079099	2.1018
PI O-64:0;O	2.1974	1.1358	0.0079211	2.1012
MG O-30:0;O	1.5277	0.61132	0.0079658	2.0988
PE O-18:2_24:2	0.3693	-1.4371	0.0080929	2.0919
PA O-44:0;O	0.4625	-1.1125	0.0086169	2.0647
Cer 17:0;3O/18:1;(2OH)	3.4322	1.7791	0.0092046	2.036
PS 32:0; PS 14:0-18:0; [M-H]-	0.46334	-1.1099	0.0092737	2.0327
HexCer 18:2;O2/22:6	1.6477	0.72043	0.0093526	2.0291
PE O-18:2_22:3	0.42472	-1.2354	0.009375	2.028
AHexCer (O-17:3)18:1;2O/20:2;O	2.246	1.1674	0.0093751	2.028
PS 18:0_20:1	0.56205	-0.83123	0.0096383	2.016
DG 16:0_20:0	1.8776	0.90886	0.0097574	2.0107
PC 43:11;O	6.2712	2.6487	0.0098777	2.0053
TG 12:2_12:3_13:1	0.44003	-1.1843	0.0099262	2.0032
HexCer 43:0;O4	0.41121	-1.2821	0.0099796	2.0009
PG O-33:7	1.4116	0.49736	0.010097	1.9958
PA O-56:5	7.04	2.8156	0.010169	1.9927
CerP 32:4;O2	0.57269	-0.80416	0.010323	1.9862
PE-Cer 30:0;O5	4.2011	2.0708	0.010328	1.986
ST 33:6;O3	0.64009	-0.64366	0.010447	1.981
MGDG 17:0_18:2	0.42335	-1.2401	0.010526	1.9777
MG 20:1	1.809	0.85516	0.010716	1.97
DG 18:1_36:2	0.4519	-1.1459	0.010719	1.9698
HexCer 43:4;O5	0.48537	-1.0428	0.010805	1.9664

LPS 28:0;O	0.56013	-0.83618	0.010987	1.9591
PIP 30:7	2.5177	1.3321	0.011223	1.9499
Cer 17:0;3O/18:0;(2OH)	4.4009	2.1378	0.011279	1.9477
CE 22:6	0.52412	-0.93204	0.011346	1.9452
TG 52:6;O2	0.46202	-1.114	0.011413	1.9426
PI-Cer 40:5;O6	2.2247	1.1536	0.011526	1.9383
PC 18:1_26:1	0.48457	-1.0452	0.011596	1.9357
Cer 18:1;O2/26:1;O	0.67877	-0.55901	0.012004	1.9207
HexCer 45:2;O5	0.65915	-0.60131	0.012108	1.9169
HexCer 39:3;O6	0.60327	-0.72913	0.012221	1.9129
PE 32:2;O	0.64484	-0.63299	0.012397	1.9067
DG O-18:1_24:1	0.38472	-1.3781	0.012491	1.9034
Cer 34:0;O	1.426	0.512	0.012905	1.8893
NAT 26:2;O3	1.4537	0.53968	0.012956	1.8875
DG 32:0_22:2	0.44436	-1.1702	0.013174	1.8803
PS 36:2	0.6127	-0.70676	0.013198	1.8795
SHexCer 34:0;O4	0.65655	-0.60701	0.013486	1.8701
Cer 44:0;O	2.0295	1.0211	0.013563	1.8676
Cer 37:0;O3	0.59725	-0.7436	0.013852	1.8585
SM 48:1;3O	3.2024	1.6792	0.014037	1.8527
PE 52:2;O	4.1916	2.0675	0.014052	1.8523
HexCer 38:2;O2	0.45783	-1.1271	0.014161	1.8489
LPE 24:1	1.4032	0.48873	0.014284	1.8452
SM 41:1;O2	4.9	2.2928	0.01431	1.8444
SHexCer 42:0;O2	0.48041	-1.0576	0.014356	1.843
NA 25:4;O2	2.4549	1.2957	0.014375	1.8424
HexCer 37:3;O6	0.64946	-0.6227	0.014456	1.84
MG 27:4;O	4.1994	2.0702	0.014538	1.8375
DG O-38:4	0.39047	-1.3567	0.014886	1.8272
Cer 43:4;O2	1.424	0.50991	0.015087	1.8214
TG 86:4;O	0.50958	-0.97263	0.015311	1.815
Cer 44:2;O	1.4218	0.50769	0.015763	1.8024
TG 50:6;O	0.49654	-1.01	0.015942	1.7974
NAE 20:0	0.54177	-0.88424	0.016032	1.795
PI O-18:1_20:4	0.6425	-0.63823	0.016164	1.7914
Cer 18:0;O2/4:0	0.4751	-1.0737	0.016393	1.7853
PE-Cer 33:2;O3	2.566	1.3595	0.017405	1.7593
HexCer 18:3;O2/24:6	1.8327	0.87395	0.017519	1.7565
Cer 42:5;O	1.5883	0.66751	0.017816	1.7492
GlcADG 12:0_13:0	0.30976	-1.6908	0.017908	1.747
TG 12:2_12:2_20:5	0.46292	-1.1112	0.018085	1.7427

LPG 25:0;O	2.2129	1.146	0.018085	1.7427
TG 49:5;O2	1.9788	0.98466	0.018284	1.7379
SPB 22:0;O2	0.54419	-0.87781	0.018565	1.7313
PI 14:0_18:0	1.9473	0.96149	0.018703	1.7281
PS 18:0_22:1	0.68443	-0.54702	0.019203	1.7166
Cer 51:4;O	0.46121	-1.1165	0.019341	1.7135
PA O-58:5	5.3006	2.4061	0.019397	1.7123
CL 14:0_18:1_18:0_18:2	0.40879	-1.2906	0.019481	1.7104
CerP 40:3;O2	0.57877	-0.78895	0.01959	1.708
TG O-39:0	0.44808	-1.1582	0.019635	1.707
SPB 20:0;O2	0.58297	-0.7785	0.019657	1.7065
Cer 42:4;O2	1.4371	0.52318	0.019659	1.7064
ST 30:4;O2	2.5977	1.3772	0.019723	1.705
PC 28:0	2.6415	1.4014	0.019772	1.704
HexCer 45:3;O5	0.45596	-1.133	0.020175	1.6952
PE-Cer 32:3;O3	0.71148	-0.4911	0.020222	1.6942
DG 29:0;O2	0.45115	-1.1483	0.020365	1.6911
PS O-36:0;O	0.3994	-1.3241	0.020382	1.6908
CE 26:3;O	2.7187	1.4429	0.020555	1.6871
PC O-18:1_17:0	0.55144	-0.85871	0.020647	1.6851
CE 29:6	2.6357	1.3982	0.020764	1.6827
PE 56:5	2.0251	1.018	0.021097	1.6758
HexCer 21:3;O2/24:2	0.64602	-0.63036	0.021164	1.6744
Cer 18:0;O3/35:1;(2OH)	0.57174	-0.80657	0.022134	1.6549
TG 15:1_18:1_18:1	2.0066	1.0047	0.022535	1.6471
Cer 52:4;O	0.48942	-1.0309	0.022612	1.6457
NA 22:0	0.39221	-1.3503	0.022672	1.6445
HexCer 39:1;O4	0.45554	-1.1344	0.022683	1.6443
PE 54:2	3.5409	1.8241	0.023331	1.6321
TG O-10:0_10:0_10:0	2.0776	1.0549	0.024372	1.6131
DG 40:7;O	1.6428	0.71614	0.02508	1.6007
HexCer 38:3;O2	0.67127	-0.57504	0.025157	1.5993
FOH 20:0;O	0.44862	-1.1564	0.025477	1.5939
Hex2Cer 28:1;O5	1.7199	0.78229	0.0262	1.5817
DG O-54:5	0.45422	-1.1385	0.026431	1.5779
PC 15:0_20:3	2.9161	1.544	0.026697	1.5735
Hex2Cer 28:0;O4	0.67105	-0.57552	0.027656	1.5582
PE O-18:1_21:1	0.52667	-0.92503	0.027899	1.5544
TG O-41:1	0.38003	-1.3958	0.027988	1.553
CE 27:7	2.1634	1.1133	0.028009	1.5527
ST 27:4;O2	6.2962	2.6545	0.028246	1.549

PA O-58:8	4.1905	2.0671	0.028713	1.5419
PI-Cer 39:1;O4	1.5411	0.62399	0.029109	1.536
HexCer 18:2;O2/21:1	1.8351	0.87586	0.029675	1.5276
PI O-55:3	0.45958	-1.1216	0.029879	1.5246
TG 87:12;O2	0.59787	-0.7421	0.029967	1.5234
FA 28:0;O3	3.6347	1.8618	0.030167	1.5205
Hex(2)-HexNAc-NeuAc-Cer 40:1;O2	4.0159	2.0057	0.030225	1.5196
TG 54:5	0.579	-0.78837	0.030366	1.5176
CE 20:5;O	2.239	1.1629	0.030546	1.5151
DG 12:0_16:0	2.4352	1.284	0.030744	1.5122
ST 26:2;O4	0.66596	-0.58648	0.03105	1.5079
HexCer 47:1;O4	0.35739	-1.4844	0.031185	1.5061
HexCer 52:4;O3	5.5617	2.4755	0.031804	1.4975
HexCer 32:6;O3	0.63363	-0.65829	0.031828	1.4972
PIP3 37:6	0.52796	-0.9215	0.032306	1.4907
PG 30:2	0.5299	-0.91621	0.032394	1.4895
PIP 40:0	2.5868	1.3712	0.033002	1.4815
TG 49:12;O2	0.61876	-0.69255	0.033048	1.4809
PI O-67:5	1.7894	0.83948	0.033065	1.4806
PIP 31:6	2.0549	1.0391	0.033081	1.4804
DG O-20:2_16:1	0.52099	-0.94069	0.033171	1.4792
CerP 32:1;O2	0.45646	-1.1314	0.033455	1.4755
TG 55:8;O	0.50883	-0.97473	0.033581	1.4739
Hex(2)-HexNAc-NeuAc-Cer 42:1;O2	5.2648	2.3964	0.033677	1.4727
DG 60:6	0.38822	-1.3651	0.034065	1.4677
PE O-40:3	0.49918	-1.0024	0.034148	1.4666
TG 16:1_18:1_22:1	0.58565	-0.77188	0.034293	1.4648
PC O-16:0_15:0	0.66176	-0.59562	0.034422	1.4632
NAE 26:0;O2	0.5284	-0.92029	0.034441	1.4629
PE 56:7	2.2959	1.1991	0.034459	1.4627
TG 18:0_19:4_22:7	3.2724	1.7104	0.035142	1.4542
CE 16:0	0.46652	-1.1	0.035158	1.454
DG 42:6;O	1.6297	0.70461	0.035179	1.4537
FA 24:1;O	2.6178	1.3884	0.035533	1.4494
Cer 18:0;O3/19:1;(2OH)	2.6523	1.4072	0.035663	1.4478
DG 44:2	0.5759	-0.7961	0.037056	1.4311
PI O-65:4	2.8917	1.5319	0.037217	1.4293
MG 21:5	1.4623	0.54825	0.037453	1.4265
ST 19:1;O5	0.60377	-0.72794	0.037735	1.4233
DG 40:6;O2	0.5927	-0.75462	0.037829	1.4222

ACer 43:6;O3	1.5914	0.67028	0.037996	1.4203
PS 14:0_16:0	0.67809	-0.56046	0.038034	1.4198
FA 24:1	0.5683	-0.81528	0.03809	1.4192
Car 12:2;O2	1.6565	0.72812	0.038236	1.4175
HexCer 39:2;O5	0.55338	-0.85365	0.038383	1.4159
SM 32:0;O4	4.6776	2.2258	0.038637	1.413
NAE 27:1;O	0.52583	-0.92732	0.039326	1.4053
MIPC 40:2;O2	2.4627	1.3003	0.041483	1.3821
LPC 22:6	0.5895	-0.76243	0.041618	1.3807
PG 25:1;O2	0.36749	-1.4442	0.041959	1.3772
HexCer 54:5;O3	2.1539	1.1069	0.042334	1.3733
TG 46:4;O	0.3799	-1.3963	0.042496	1.3717
CL 16:0_18:2_18:0_18:2	0.48204	-1.0528	0.042725	1.3693
PI-Cer 40:1;O2	1.4534	0.53942	0.042827	1.3683
LPC 32:2	0.56456	-0.82479	0.043028	1.3663
PE 18:0_26:2	0.54005	-0.88882	0.04316	1.3649
CAR 14:1	0.54764	-0.8687	0.043777	1.3587
ST 28:0;O7;T	0.22206	-2.171	0.044013	1.3564
MGDG O-11:0_16:0	0.35741	-1.4844	0.044316	1.3534
DG 41:0;O2	0.58627	-0.77035	0.04487	1.348
PG 38:9	1.5599	0.64142	0.044936	1.3474
CL 16:0_20:3_18:0_18:2	0.48588	-1.0413	0.045002	1.3468
CE 18:2	0.42471	-1.2355	0.045253	1.3444
PI O-61:3	1.5929	0.67165	0.046231	1.3351
MG O-29:0;O	0.67822	-0.56018	0.046705	1.3306
PIP3 26:6	1.8574	0.89328	0.046761	1.3301
PE 54:5	2.23	1.1571	0.046875	1.3291
ST 23:0;O7	0.65876	-0.60218	0.047168	1.3264
PC 40:1	2.4683	1.3035	0.047185	1.3262
Cer 19:3;O2/36:7;O	0.51299	-0.963	0.047418	1.3241
PE O-18:2_21:1	0.58672	-0.76927	0.047833	1.3203
DG 42:0;O4;N	0.33191	-1.5912	0.048989	1.3099
TG O-14:0_18:0_18:1	0.66725	-0.5837	0.049154	1.3084
ACer 49:6;O3	1.8826	0.91271	0.049517	1.3052
CE 30:1;O	2.1407	1.0981	0.049596	1.3046
Cer 18:0;O3/21:1;(2OH)	2.384	1.2534	0.049618	1.3044

Supplemental Table 6. NT EVs vs LPS EVs volcano plot extended statistics. Extended statistics corresponding to Figure 3F in main text. Extended statistics include fold change (FC), log 2 fold change (log2(FC)), the raw p value (raw.pval) and the -log10 of the p-value (-log10(p)).

Lipid	FC	log2(FC)	raw.pval	-log10(p)
HexCer 45:1;O4	0.11924	-3.0681	7.7921E-06	5.1083
LPS 28:0;O	2.5181	1.3323	2.1081E-05	4.6761
Cer 18:0;O2/22:0;O	3.4815	1.7997	3.4878E-05	4.4575
TG 48:1	26.85	4.7469	3.4967E-05	4.4563
PI 24:0	2.0926	1.0653	4.0489E-05	4.3927
FA 28:0;O3	0.32316	-1.6297	6.0904E-05	4.2154
TG 55:1	4.3769	2.1299	6.8147E-05	4.1666
PE 42:2	2.6645	1.4139	7.1387E-05	4.1464
LPC 30:4	2.6237	1.3916	9.2011E-05	4.0362
PS 37:1	7.3855	2.8847	9.3501E-05	4.0292
DG 33:0;O2	3.4048	1.7676	0.00011135	3.9533
FA 31:4;O	0.61029	-0.71244	0.00011166	3.9521
PI 15:0_18:1	2.4242	1.2775	0.0001137	3.9442
TG 59:1	4.3099	2.1076	0.00012461	3.9044
TG 12:2_12:2_22:6	4.4916	2.1672	0.00013568	3.8675
TG O-14:0_18:0_18:1	4.4255	2.1459	0.00015554	3.8082
MG O-32:0;O	3.4345	1.7801	0.00019105	3.7188
CerP 52:2;O2	3.9041	1.965	0.00019463	3.7108
TG 58:1	4.2713	2.0947	0.00020863	3.6806
PE 12:0_16:0	1.8987	0.92504	0.00021838	3.6608
Cer 40:5;O3	3.4587	1.7902	0.00022458	3.6486
LPG O-32:2	0.26941	-1.8921	0.00022475	3.6483
PE 58:6	2.4606	1.299	0.00025604	3.5917
Cer 16:0;O2/18:0;O	2.965	1.568	0.00026609	3.575
TG 60:1	3.9436	1.9795	0.00029852	3.525
TG 99:5	5.6324	2.4937	0.00038049	3.4197
PG 50:2;O	2.0266	1.0191	0.00039477	3.4037
PI 66:2	2.4851	1.3133	0.00041864	3.3782
TG 60:5;O2	3.5674	1.8349	0.00046667	3.331
TG 14:0_18:0_22:1	3.6732	1.877	0.0005724	3.2423
TG 57:1	4.4899	2.1667	0.00059509	3.2254
TG 14:0_18:0_19:1	5.1369	2.3609	0.00064276	3.1919
TG 14:0_18:0_20:1	6.6017	2.7228	0.00064742	3.1888
PE-NMe2 24:0	2.2203	1.1508	0.00065196	3.1858
PE-Cer 18:2;O2/21:1;O	0.46754	-1.0969	0.00065242	3.1855
PG O-44:3	4.4987	2.1695	0.00065592	3.1831
DG 39:5;O	2.6282	1.394	0.00069279	3.1594
PI 36:2	0.7111	-0.49187	0.00069633	3.1572
PG O-39:0;O	3.0723	1.6193	0.00082929	3.0813

LPA 26:0	0.34241	-1.5462	0.00083262	3.0796
TG 12:0_14:0_18:0	3.7162	1.8938	0.00084442	3.0734
Cer 28:0;O3	0.45106	-1.1486	0.00085436	3.0684
LPA O-27:3	4.031	2.0111	0.00096232	3.0167
PE 42:2;O	2.516	1.3311	0.00098068	3.0085
ACer 71:3;O6	2.4911	1.3168	0.0010261	2.9888
LPG O-22:0;O	1.5592	0.64078	0.0010908	2.9622
TG 14:0_18:0_18:1	9.8672	3.3026	0.0011088	2.9552
PE 35:0	1.4074	0.49307	0.0011513	2.9388
HexCer 28:0;O4	2.0137	1.0098	0.0011911	2.9241
DG 55:4	6.1693	2.6251	0.0012846	2.8912
PE 30:1	0.47233	-1.0821	0.001353	2.8687
PI 14:0_16:0	2.1842	1.1271	0.0013567	2.8675
TG 56:1	10.314	3.3666	0.0013803	2.86
TG 15:0_16:0_17:1	10.395	3.3778	0.0013996	2.854
TG 14:0_16:0_19:1	6.199	2.632	0.0014425	2.8409
TG 93:14;O	2.896	1.5341	0.0014515	2.8382
TG 75:5	2.5584	1.3552	0.001492	2.8262
PI 31:4;O	0.45555	-1.1343	0.0014972	2.8247
TG 16:1_18:1_18:1	7.0668	2.8211	0.0015127	2.8202
DG 34:4	4.0152	2.0055	0.0015157	2.8194
PE 40:6	0.42453	-1.2361	0.0015259	2.8165
TG 12:2_12:3_13:1	2.0514	1.0366	0.0015537	2.8086
PA 32:0	2.6817	1.4231	0.0016356	2.7863
FA 19:0;O2	2.471	1.3051	0.0016718	2.7768
DG 50:2	4.6717	2.2239	0.0017292	2.7621
TG O-83:5	4.351	2.1214	0.0017393	2.7596
TG 84:11;O3	3.1191	1.6411	0.0017568	2.7553
TG 51:3;O3	4.2854	2.0994	0.0017953	2.7459
PIP2 62:4	0.47804	-1.0648	0.0018355	2.7363
Cer 40:1;O6	0.3964	-1.335	0.0018478	2.7333
FA 20:0;O	0.43171	-1.2119	0.0018599	2.7305
PC 10:0_16:0	2.5394	1.3445	0.0018725	2.7276
DG O-37:3	3.6874	1.8826	0.0018828	2.7252
HexCer 33:2;O6	0.34915	-1.5181	0.0019389	2.7124
TG 12:0_16:0_16:1	4.575	2.1938	0.0019821	2.7029
TG 79:0;O3	3.3751	1.7549	0.0020045	2.698
LPA O-27:6	3.3928	1.7625	0.0021121	2.6753
LPA O-27:1	1.9544	0.96674	0.0021176	2.6742
TG 15:0_16:0_16:1	3.3482	1.7434	0.0021369	2.6702
PI 14:0_18:2	0.45667	-1.1308	0.0021565	2.6663

DG O-38:4	3.9623	1.9863	0.0022996	2.6384
DG 57:6	7.8203	2.9672	0.0023105	2.6363
LPS 33:0;O	3.2161	1.6853	0.0023135	2.6357
Hex2Cer 31:4;O2	0.41563	-1.2666	0.0023576	2.6275
GlcADG 12:0_13:0	2.5597	1.356	0.002554	2.5928
PE 56:5;O	2.3529	1.2344	0.0025606	2.5917
TG 85:1;O	2.8136	1.4924	0.0025642	2.5911
TG 49:0	4.0918	2.0327	0.0025658	2.5908
HexCer 42:6;O4	3.1824	1.6701	0.0026456	2.5775
TG 14:0_14:3_19:5	3.7476	1.9059	0.0026642	2.5744
HexCer 42:4;O4	2.1814	1.1252	0.0029245	2.534
LPG O-32:0	0.24149	-2.05	0.0030299	2.5186
PG 20:4;O	2.0462	1.0329	0.0030308	2.5184
NAE 20:0;O2	2.0728	1.0516	0.0030852	2.5107
TG 53:1	3.6133	1.8533	0.0030997	2.5087
TG 54:5	6.3819	2.674	0.0031287	2.5046
TG 46:3	2.4186	1.2742	0.0031542	2.5011
Car 30:1	0.52202	-0.93783	0.003239	2.4896
PG 27:2;O	0.56969	-0.81175	0.0032648	2.4861
TG 14:0_16:0_16:1	7.7132	2.9473	0.003394	2.4693
PG O-38:0	5.2994	2.4058	0.0034234	2.4655
TG 12:0_12:2_22:7	3.7608	1.9111	0.0034817	2.4582
Hex2Cer 28:0;O4	2.0145	1.0104	0.003594	2.4444
DG dO-36:0	3.7941	1.9237	0.003614	2.442
MG 21:1	0.40087	-1.3188	0.0038048	2.4197
HexCer 53:5;O6	0.26484	-1.9168	0.0038055	2.4196
Hex2Cer 43:0;O2	1.5986	0.67681	0.0038503	2.4145
MG 34:2;O	1.5521	0.63419	0.0039172	2.407
NA 18:0;O	0.27221	-1.8772	0.0039254	2.4061
CerP 53:3;O3	3.5735	1.8373	0.0039638	2.4019
PG 40:1	0.33755	-1.5668	0.0040101	2.3968
HexCer 48:1;O4	1.8574	0.89332	0.0040238	2.3954
TG 56:5	3.5697	1.8358	0.0041238	2.3847
MG 33:2;O	1.7254	0.78693	0.0042237	2.3743
TG 56:6	5.1969	2.3777	0.0042431	2.3723
TG 16:0_18:0_22:2	6.0231	2.5905	0.0042627	2.3703
ST 27:4;O	0.23469	-2.0912	0.0042892	2.3676
PC 12:0_16:1	1.9484	0.96229	0.004348	2.3617
DG O-16:0_18:1	5.19	2.3757	0.0043871	2.3578
DG 16:0_20:0	8.522	3.0912	0.0044468	2.3519
MG 19:0;O	2.6391	1.4	0.0045361	2.3433

DG 27:0_21:1	6.7631	2.7577	0.0046117	2.3361
LPI 18:1	0.53917	-0.89119	0.004691	2.3287
DG 58:4	4.3207	2.1113	0.0049176	2.3082
PE 56:5	2.7107	1.4387	0.0049401	2.3063
DG 47:1	0.44575	-1.1657	0.0049605	2.3045
TG 16:0_18:1_20:1	9.0825	3.1831	0.0049791	2.3029
DG 28:1	7.2155	2.8511	0.0049957	2.3014
DG 53:3	5.5797	2.4802	0.0051306	2.2898
PE 25:1;O	1.5924	0.67121	0.005159	2.2874
SHexCer 38:1;O3	0.58526	-0.77285	0.005177	2.2859
TG 52:2;O	3.3373	1.7387	0.0052079	2.2833
PC O-22:3_24:0	2.0662	1.0469	0.0053226	2.2739
TG 14:0_18:0_18:2	7.5694	2.9202	0.0055347	2.2569
HexCer 45:4;O4	0.65849	-0.60276	0.0056009	2.2517
TG 54:2	3.6738	1.8773	0.0056898	2.2449
DG 18:1_34:1	3.1053	1.6347	0.0056981	2.2443
HexCer 43:2;O5	1.5391	0.62207	0.0057356	2.2414
PG 58:4;O	0.2249	-2.1526	0.005819	2.2351
TG O-97:5	3.3257	1.7336	0.0058398	2.2336
PI 64:1	1.9252	0.94503	0.0059049	2.2288
HexCer 54:6;O3	2.1376	1.096	0.0059105	2.2284
TG 45:2	6.7104	2.7464	0.0059254	2.2273
TG O-75:0;O3	2.2409	1.1641	0.0059756	2.2236
TG 81:1;O3	1.8185	0.86277	0.0059772	2.2235
SQMG 18:0	0.37351	-1.4208	0.0060727	2.2166
TG 16:1_18:0_18:1	8.4496	3.0789	0.0060778	2.2163
MG O-18:0	2.4831	1.3121	0.0060994	2.2147
TG 16:0_18:1_18:1	5.1667	2.3692	0.0061174	2.2134
Cer 41:4;O	2.3785	1.2501	0.006264	2.2031
HBMP 16:1_18:0_18:0	2.1226	1.0858	0.006273	2.2025
DG 28:4;O2	2.6115	1.3849	0.0063897	2.1945
ST 25:1;O;Hex	0.60735	-0.71941	0.0064439	2.1909
PI O-67:3	2.462	1.2998	0.0064818	2.1883
Cer 36:4;O4	0.46969	-1.0902	0.0064918	2.1876
DG 41:6;O	1.7446	0.8029	0.0065183	2.1859
PG 14:0_18:0	2.6379	1.3994	0.0066203	2.1791
Cer 40:2;O3	2.4367	1.2849	0.0066654	2.1762
Hex2Cer 30:4;O4	2.0205	1.0147	0.0066836	2.175
TG 84:5;O3	0.29738	-1.7496	0.0067083	2.1734
PE 40:1;O	0.37563	-1.4126	0.0068465	2.1645
Cer 43:5;O2	0.57922	-0.78782	0.0069241	2.1596

Cer 18:3;O2/24:6	1.4366	0.52263	0.0069448	2.1583
LPG 18:1	0.40511	-1.3036	0.0069525	2.1579
TG 58:2	8.179	3.0319	0.0069877	2.1557
SHexCer 29:0;O2	1.5587	0.64036	0.0070548	2.1515
HexCer 43:2;O4	0.44	-1.1844	0.0070675	2.1507
HexCer 43:0;O4	2.3424	1.228	0.0071358	2.1466
TG 96:8;O	2.1534	1.1066	0.0072817	2.1378
TG 59:2	6.7912	2.7637	0.0073125	2.1359
PE O-40:1	0.53741	-0.8959	0.0073197	2.1355
TG 44:6;O2	5.3443	2.418	0.0074636	2.1271
PC 15:0_18:5	0.30616	-1.7076	0.0075658	2.1211
Cer 39:0;O3	2.202	1.1388	0.0076993	2.1135
DG 50:4	9.4286	3.237	0.0077061	2.1132
CerP 45:6;O2	1.5954	0.67393	0.007952	2.0995
TG 52:7;O2	0.37547	-1.4132	0.0080012	2.0968
FA 17:0;O2	1.8972	0.92386	0.0080211	2.0958
DG 58:5	8.9961	3.1693	0.0081967	2.0864
PC O-18:1_16:0	2.0939	1.0662	0.0082286	2.0847
DG O-14:1_18:0	3.0482	1.608	0.0082514	2.0835
TG 79:0;O2	4.5455	2.1844	0.0082555	2.0833
Cer 48:6;O2	2.0955	1.0673	0.0083482	2.0784
HexCer 32:5;O5	0.62541	-0.67714	0.0085639	2.0673
TG 16:0_18:1_22:4	5.131	2.3592	0.0085907	2.066
PC O-18:1_22:2	0.41586	-1.2658	0.0086015	2.0654
FOH 10:2	2.7707	1.4703	0.0086423	2.0634
PI-Cer 35:0;O2	1.6444	0.71758	0.0086869	2.0611
Cer 37:6;O2	3.2051	1.6804	0.0087307	2.059
TG 62:10	2.264	1.1789	0.0087515	2.0579
Cer 15:2;2O/38:10	6.9459	2.7962	0.0087526	2.0579
DG O-43:3	3.4954	1.8055	0.0087602	2.0575
Cer 34:1;O4	0.57613	-0.79555	0.0089842	2.0465
PC 17:0_18:0	1.4167	0.50249	0.0091108	2.0404
NAT 26:2;O3	0.64978	-0.62197	0.0091148	2.0403
DG 31:2	3.3694	1.7525	0.0093003	2.0315
DG 14:0_16:0	2.8389	1.5053	0.0094207	2.0259
Car 22:4;O4	3.0423	1.6052	0.0094342	2.0253
Cer 44:0;O	0.44713	-1.1612	0.0096138	2.0171
Hex2Cer 44:6;O2	0.36108	-1.4696	0.0096682	2.0147
DG O-35:3	3.0361	1.6022	0.0097095	2.0128
Cer 18:0;O3/35:1;(2OH)	5.566	2.4766	0.009857	2.0063
DG 32:0_22:2	4.6918	2.2301	0.009877	2.0054

TG 51:3;O	3.9492	1.9816	0.0098935	2.0047
ACer 58:0;O3	3.0727	1.6195	0.0099405	2.0026
DG 51:4	4.3629	2.1253	0.010258	1.9889
DG 26:3;O	1.8721	0.90462	0.010329	1.9859
SPBP 16:1;O3	2.2323	1.1585	0.01033	1.9859
TG 56:4	2.2177	1.1491	0.01036	1.9847
DG O-56:5	6.6587	2.7352	0.010471	1.98
PR 20:2;O3	0.30508	-1.7128	0.010498	1.9789
DG 44:8;O	1.6729	0.74239	0.010579	1.9756
DG 57:4	8.6499	3.1127	0.010696	1.9708
DG 38:6;O	2.3955	1.2603	0.010841	1.9649
TG 16:0_19:3_19:3	6.7485	2.7546	0.010981	1.9594
TG 52:5	3.8805	1.9562	0.010985	1.9592
DG 37:0;O2	2.6802	1.4224	0.011096	1.9548
DG 40:1;O2	2.7856	1.478	0.011129	1.9535
Cer 41:4;O2	2.0775	1.0548	0.011169	1.952
DG 15:0_18:0	3.7718	1.9153	0.011221	1.95
TG 42:1	2.1747	1.1208	0.011301	1.9469
LPE 22:1	1.8502	0.88767	0.011607	1.9353
NAE 19:0;O	0.41381	-1.273	0.011789	1.9285
PE 36:3	3.5721	1.8368	0.011825	1.9272
TG 14:0_18:1_19:1	6.0838	2.605	0.011964	1.9221
Cer 38:0;O	2.2739	1.1852	0.011965	1.9221
LPG O-27:0;O	1.7063	0.77084	0.012073	1.9182
PC O-18:1_20:2	0.47992	-1.0591	0.01214	1.9158
TG 97:6;O2	2.6304	1.3953	0.012251	1.9118
TG 16:0_18:1_22:6	8.1719	3.0307	0.012354	1.9082
PE 30:0	0.62426	-0.67979	0.012412	1.9062
DG 56:1	4.3042	2.1058	0.012461	1.9044
PI 40:1;O	0.1175	-3.0893	0.012627	1.8987
TG 42:0	2.9326	1.5522	0.012785	1.8933
DG 39:6;O	1.7712	0.82473	0.012799	1.8928
TG 12:1_12:3_18:5	2.1037	1.073	0.012913	1.889
PR 58:14;O3	3.8026	1.927	0.012976	1.8869
TG 12:3_12:3_18:4	3.0809	1.6233	0.012987	1.8865
DG 56:8	5.5252	2.466	0.01324	1.8781
CerP 54:6;O5	2.5603	1.3563	0.013268	1.8772
PE 40:2	1.97	0.9782	0.013274	1.877
TG 16:0_18:1_18:2	5.5546	2.4737	0.013373	1.8738
DG O-16:0_18:0	2.8039	1.4874	0.013423	1.8722
LPA 26:6	1.4832	0.56869	0.013458	1.871

TG 60:6	2.6193	1.3892	0.013462	1.8709
TG 83:0;O3	2.5772	1.3658	0.013516	1.8692
TG 91:13;O	2.0008	1.0006	0.013724	1.8625
TG 51:1	8.4973	3.087	0.013748	1.8617
DG 53:4	4.334	2.1157	0.013815	1.8596
TG 86:13	1.9759	0.9825	0.013832	1.8591
TG O-61:0;O3	0.47972	-1.0597	0.013902	1.8569
LPE 24:1	0.35462	-1.4956	0.014087	1.8512
TG 70:3;O3	0.36267	-1.4633	0.014172	1.8486
PG 18:1_20:1	0.36345	-1.4602	0.01421	1.8474
TG 48:2	8.6679	3.1157	0.014212	1.8473
ST 29:7;O	3.7867	1.9209	0.014285	1.8451
FA 33:3;O2	2.7862	1.4783	0.014293	1.8449
TG 46:2	6.4249	2.6837	0.014311	1.8443
MG 32:1	0.52021	-0.94284	0.014314	1.8443
TG 70:12;O2	0.18527	-2.4323	0.014362	1.8428
PG 14:0_16:0	2.6772	1.4207	0.01437	1.8425
Cer 42:1;O3	0.60789	-0.71813	0.014406	1.8415
DG 60:6	6.2449	2.6427	0.01467	1.8336
TG 17:1_18:0_18:1	6.243	2.6422	0.014705	1.8325
FA 17:1	0.45787	-1.127	0.014728	1.8319
MG O-20:1	0.34753	-1.5248	0.014919	1.8263
TG 60:2	6.1766	2.6268	0.014939	1.8257
Cer 49:1;O4	2.0619	1.044	0.014949	1.8254
PC O-22:3_26:0	1.8697	0.90282	0.015015	1.8235
DG 39:2	4.0968	2.0345	0.01518	1.8187
TG 100:19	2.3811	1.2516	0.015388	1.8128
TG 84:6;O2	1.8454	0.88397	0.015735	1.8031
PG 44:9	0.45465	-1.1372	0.015995	1.796
DG 26:0	5.2848	2.4019	0.016109	1.7929
Cer 40:0;O6	0.65824	-0.60332	0.016119	1.7927
PE-Cer 42:6;O3	2.135	1.0942	0.016181	1.791
HexCer 35:2;O5	6.1874	2.6293	0.01619	1.7908
TG 57:9	1.8399	0.87964	0.016196	1.7906
SHexCer 34:0;O4	2.054	1.0385	0.016199	1.7905
HexCer 48:2;O4	1.844	0.8828	0.01634	1.7868
PE 46:1	3.6571	1.8707	0.016501	1.7825
PI-Cer 46:0;O3	0.4716	-1.0844	0.016545	1.7813
CL 74:4	0.59545	-0.74795	0.016559	1.781
PE O-40:6	0.36181	-1.4667	0.016746	1.7761
TG 14:0_18:1_18:2	3.8018	1.9267	0.016846	1.7735

FAHFA 14:0/14:0	0.50869	-0.97515	0.016977	1.7701
DG 32:0	4.1929	2.068	0.017048	1.7683
TG 54:7	4.0353	2.0127	0.017095	1.7671
DG 44:9	1.8601	0.89538	0.0171	1.767
MG 33:1	0.63335	-0.65894	0.017131	1.7662
TG 98:9;O2	2.6571	1.4098	0.017152	1.7657
Cer 50:2;O3	1.7171	0.78	0.017183	1.7649
FA 20:0	0.60949	-0.71432	0.017285	1.7623
DG 52:4	5.5725	2.4783	0.017306	1.7618
Cer 40:6;O3	2.6288	1.3944	0.01743	1.7587
PI 36:5	0.30048	-1.7346	0.017564	1.7554
TG 57:2	8.3932	3.0692	0.01758	1.755
MGDG 15:0_18:1	3.7188	1.8949	0.017594	1.7546
DG 55:5	7.4686	2.9008	0.017701	1.752
DG 36:2	2.6533	1.4078	0.017758	1.7506
TG 75:0;O3	2.4367	1.2849	0.017772	1.7503
CE 16:0	1.8415	0.88084	0.017891	1.7474
PE O-38:2	2.4201	1.2751	0.01792	1.7467
HexCer 32:6;O3	1.711	0.77488	0.018004	1.7446
HBMP 60:2; HBMP 20:0-22:1-18:1; [M+NH4]+	0.14448	-2.7911	0.018092	1.7425
PE 18:1_26:4	0.55769	-0.84245	0.018201	1.7399
TG 77:1;O3	1.8278	0.87009	0.018212	1.7396
DG 60:5	3.8823	1.9569	0.018439	1.7343
PC O-22:3_26:1	2.271	1.1833	0.018483	1.7332
LPG O-33:4	0.38818	-1.3652	0.018503	1.7328
TG 50:0;O	3.11	1.6369	0.018585	1.7308
TG 12:0_14:0_16:0	2.9155	1.5437	0.018659	1.7291
DG 40:0	2.3694	1.2445	0.018659	1.7291
LPG O-31:5	0.30133	-1.7306	0.018663	1.729
DG 46:3	3.7911	1.9226	0.01867	1.7289
CE 26:2	0.27981	-1.8375	0.018674	1.7288
PA 26:0	0.36112	-1.4694	0.018881	1.724
DG 16:0_32:2	4.2679	2.0935	0.01892	1.7231
DG O-39:3	2.2278	1.1556	0.018954	1.7223
HexCer 45:0;O5	2.2031	1.1395	0.019001	1.7212
PG O-44:8	1.4956	0.58071	0.019046	1.7202
TG 14:0_16:0_22:6	4.5122	2.1738	0.019164	1.7175
TG 16:1_18:1_22:1	5.7699	2.5285	0.019419	1.7118
CL 74:6	0.69683	-0.52112	0.019484	1.7103
PE 44:3;O	0.43082	-1.2148	0.019503	1.7099

LPS 18:1	0.66	-0.59947	0.019602	1.7077
MG O-34:2	0.51321	-0.96237	0.020027	1.6984
PE 42:0;O	0.47916	-1.0614	0.020328	1.6919
TG 55:2	3.0277	1.5982	0.020654	1.685
PI-Cer 49:2;O3	0.16348	-2.6128	0.020738	1.6832
PG 38:1	2.4525	1.2943	0.020836	1.6812
Cer 40:5;O2	1.5244	0.60825	0.020904	1.6798
DG 59:5	5.4874	2.4561	0.02093	1.6792
HexCer 52:6;O3	2.1804	1.1246	0.020975	1.6783
TG 50:3	3.3761	1.7553	0.021036	1.677
HexCer 42:3;O3	1.8507	0.88807	0.021038	1.677
MG 22:1	0.38581	-1.374	0.021188	1.6739
MG O-19:1	0.53609	-0.89946	0.02123	1.673
TG 46:2;O	3.0993	1.632	0.02133	1.671
PI-Cer 39:2;O2	0.3819	-1.3887	0.021651	1.6645
Hex2Cer 28:1;O5	0.50385	-0.98894	0.021762	1.6623
PI O-18:4_16:1	0.60833	-0.71708	0.021846	1.6606
PI 40:3	0.67153	-0.57447	0.021867	1.6602
TG 14:0_16:1_18:1	7.0189	2.8112	0.021892	1.6597
DG O-38:3	1.7291	0.79	0.022084	1.6559
PG 18:1_20:2	0.42892	-1.2212	0.022171	1.6542
PI O-16:0_18:2	0.40959	-1.2878	0.022205	1.6536
TG 51:2;O	3.8922	1.9606	0.022487	1.6481
PC 43:11;O	0.16418	-2.6067	0.022544	1.647
DG 32:2	2.7121	1.4394	0.022552	1.6468
PA O-39:4	0.52966	-0.91687	0.022695	1.6441
DG O-35:0;O2	0.23349	-2.0985	0.022876	1.6406
TG O-14:0_18:0_20:2	2.1705	1.118	0.022951	1.6392
DG O-44:3	2.1758	1.1216	0.023474	1.6294
TG 95:5;O	1.8257	0.86845	0.023499	1.629
Cer 51:1;O4	1.6708	0.74052	0.023541	1.6282
PI-Cer 37:1;O2	1.6944	0.76076	0.023663	1.6259
PC O-18:1_17:0	1.7815	0.8331	0.023696	1.6253
MG 34:1;O	0.078257	-3.6756	0.023707	1.6251
HexCer 45:5;O4	2.2674	1.181	0.023756	1.6242
PI O-38:5	0.47411	-1.0767	0.023911	1.6214
ST 27:3;O2;F2	1.9078	0.93192	0.023921	1.6212
PE 54:5;O	2.0711	1.0504	0.024021	1.6194
Cer 41:6;O3	1.7541	0.81072	0.024077	1.6184
LPE 24:0	0.51576	-0.95522	0.024184	1.6165
FA 30:5	2.4346	1.2837	0.02419	1.6164

TG O-42:1	2.5388	1.3442	0.024331	1.6138
HexCer 50:2;O3	1.8446	0.88335	0.024598	1.6091
PE 44:2	0.61933	-0.69121	0.024671	1.6078
Cer 38:0;O6	1.7455	0.80362	0.024739	1.6066
DG O-45:5	2.5937	1.375	0.024808	1.6054
HexCer 45:5;O2	0.42987	-1.218	0.024973	1.6025
ACer 64:2;O4	3.2044	1.6801	0.025	1.6021
TG 100:10;O2	2.3684	1.2439	0.025228	1.5981
TG 18:1_19:0_21:4	7.3185	2.8716	0.025417	1.5949
PI 38:10; PI 18:5-20:5; [M-H]-	0.51878	-0.94682	0.025516	1.5932
PA 41:1	4.4557	2.1556	0.025544	1.5927
PE 54:2;O	1.8434	0.88239	0.025816	1.5881
PIP 68:8;O	0.42416	-1.2373	0.025991	1.5852
PI-Cer 34:1;O2	1.4872	0.57264	0.02604	1.5844
CerP 32:4;O2	1.6547	0.72653	0.026118	1.5831
DG 56:2	0.41473	-1.2697	0.026161	1.5823
PE 44:0	0.60464	-0.72585	0.026176	1.5821
TG O-45:2	0.32674	-1.6138	0.026229	1.5812
TG 98:18	2.1518	1.1056	0.026271	1.5805
HexCer 49:3;O5	2.0724	1.0513	0.026277	1.5804
PE 16:1_20:1	3.2862	1.7164	0.026284	1.5803
HexCer 40:6;O4	2.4229	1.2767	0.026369	1.5789
Hex2Cer 30:0;O3	1.6931	0.75968	0.026841	1.5712
TG 15:0_16:1_18:1	2.1653	1.1146	0.027031	1.5681
PE-Cer 32:1;O;P	1.4846	0.57009	0.027271	1.5643
DG 53:5	3.4328	1.7794	0.027442	1.5616
Car 20:4	0.51822	-0.94837	0.027468	1.5612
MG O-32:1	0.54132	-0.88545	0.027553	1.5598
ST 20:5;O4;GlcA	1.8439	0.88278	0.027626	1.5587
PG O-56:0;O	0.56564	-0.82204	0.027663	1.5581
Cer 18:0;O2/4:0	1.9447	0.95954	0.027681	1.5578
PI O-38:2	0.24617	-2.0223	0.02776	1.5566
PG 48:2;O	1.9356	0.95281	0.027784	1.5562
PC O-66:0	8.1597	3.0285	0.027801	1.5559
PG 56:4;O	0.51205	-0.96565	0.02782	1.5556
PE 52:5	1.723	0.7849	0.028153	1.5505
PC 26:0_18:1	2.6107	1.3844	0.028196	1.5498
TG 16:1_18:0_20:2	5.7495	2.5234	0.028204	1.5497
Car 32:0;O4	0.64383	-0.63525	0.028287	1.5484
FA 21:2;O	1.7763	0.82886	0.028663	1.5427
PA O-56:7	1.6408	0.71442	0.028774	1.541

DG 30:2	2.5312	1.3398	0.029125	1.5357
ST 20:3;O7;T	1.7676	0.82182	0.029149	1.5354
DG 18:0_28:0	3.042	1.605	0.029164	1.5352
MG 34:0	2.6826	1.4236	0.029237	1.5341
PR 53:11;O2	0.2705	-1.8863	0.029343	1.5325
PIP3 24:0	0.19244	-2.3775	0.029379	1.532
PG 16:1_17:1	0.52044	-0.94221	0.029393	1.5318
TG 13:0_14:0_16:0	1.4581	0.54412	0.029438	1.5311
TG 82:4;O3	0.52771	-0.92218	0.029444	1.531
CPA 18:1	0.37872	-1.4008	0.029598	1.5287
CerP 52:0;O5	2.7122	1.4394	0.029625	1.5283
DG O-18:1_22:6	2.6716	1.4177	0.029657	1.5279
ST 24:2;O6	0.55181	-0.85775	0.02968	1.5275
PIP 30:7	0.27521	-1.8614	0.030111	1.5213
WE 41:1	1.8121	0.85767	0.030249	1.5193
TG 57:10	2.3036	1.2039	0.030319	1.5183
SL 25:0;O/26:2;O	2.3797	1.2508	0.030477	1.516
PI-Cer 38:0;O4	0.33975	-1.5575	0.030478	1.516
DG O-41:4	2.6658	1.4146	0.03073	1.5124
FA 17:0	0.63453	-0.65624	0.031107	1.5071
DG 54:5	4.7613	2.2514	0.031374	1.5034
PA 16:1_20:1	0.35184	-1.507	0.031393	1.5032
DG 60:10	9.8794	3.3044	0.03151	1.5016
TG 62:2	3.1952	1.6759	0.031663	1.4994
GlcADG 14:0_18:0	8.0855	3.0153	0.03201	1.4947
Cer 44:6;O	0.31549	-1.6643	0.032056	1.4941
SHexCer 42:1;O2	2.5687	1.361	0.032352	1.4901
HexCer 45:2;O4	0.43162	-1.2122	0.032375	1.4898
FAHFA 33:1;O	2.2111	1.1448	0.032384	1.4897
DG 38:4	2.413	1.2708	0.032488	1.4883
ST 27:3;F	0.42783	-1.2249	0.032573	1.4871
DG 62:10	6.123	2.6142	0.03261	1.4866
PG 42:2;O	0.54494	-0.87583	0.032815	1.4839
TG O-57:3	1.8361	0.87666	0.033065	1.4806
HexCer 44:2;O4	1.5902	0.66922	0.03312	1.4799
SM 36:4;O4	3.328	1.7347	0.033167	1.4793
SM 44:4;O4	2.5663	1.3597	0.03319	1.479
LPC 22:5	0.21575	-2.2126	0.03329	1.4777
MGDG O-11:0_16:0	2.0924	1.0651	0.033416	1.476
NAE 17:0	0.5133	-0.96213	0.033662	1.4729
PI-Cer 34:0;O4	0.69351	-0.52801	0.033681	1.4726

PG 54:4	0.55576	-0.84745	0.033682	1.4726
DG O-38:0	2.348	1.2314	0.033947	1.4692
CerP 32:1;O2	2.2759	1.1864	0.033949	1.4692
Cer 36:0;O2	1.9314	0.94963	0.03395	1.4692
FA 24:2	0.46942	-1.091	0.033984	1.4687
Cer 46:1;O3	0.23108	-2.1135	0.034006	1.4684
Cer 43:1;O3	0.46294	-1.1111	0.034041	1.468
TG 16:1_18:1_18:2	2.6173	1.3881	0.034159	1.4665
MG 31:1	0.55742	-0.84317	0.0342	1.466
ST 24:2;O2	0.36135	-1.4685	0.034282	1.4649
DG 40:6;O	1.6318	0.70649	0.034361	1.4639
TG 51:4;O2	1.8107	0.85654	0.034793	1.4585
HexCer 18:0;O2/24:1	1.9681	0.97677	0.034933	1.4568
TG 54:3	3.8188	1.9331	0.034956	1.4565
TG 88:13;O2	0.26772	-1.9012	0.035034	1.4555
DG dO-40:2	2.259	1.1757	0.035455	1.4503
TG 94:4;O2	2.4281	1.2799	0.035529	1.4494
TG O-18:0_14:0_16:1	1.7919	0.84146	0.035605	1.4485
PC 30:0;O	2.114	1.08	0.035984	1.4439
Hex2Cer 34:2;O2	0.34254	-1.5457	0.036072	1.4428
PG O-39:0	1.4581	0.54406	0.036195	1.4413
HBMP 18:0_20:3_18:0	0.57399	-0.80089	0.036484	1.4379
TG 52:1;O	2.5242	1.3358	0.036625	1.4362
Hex(5)-HexNAc(3)-Cer 34:1;O2	1.6222	0.69795	0.036808	1.4341
PG 34:2	0.56457	-0.82477	0.036809	1.4341
CerP 48:5;O3	4.521	2.1766	0.036824	1.4339
HexCer 44:2;O5	0.55798	-0.84172	0.036852	1.4335
PC O-36:3	3.9103	1.9673	0.03686	1.4334
NAT 19:2	0.58346	-0.77729	0.036936	1.4326
TG 58:7	3.3081	1.726	0.036955	1.4323
TG O-55:2	2.1756	1.1214	0.037005	1.4317
Car 34:0	0.30541	-1.7112	0.03716	1.4299
HexCer 38:2;O2	2.0844	1.0596	0.037196	1.4295
PE-Cer 28:2;O2	2.4782	1.3093	0.037626	1.4245
TG 15:0_21:2_22:6	4.0253	2.0091	0.037878	1.4216
HexCer 15:3;O2/28:7	1.6414	0.71493	0.038234	1.4175
HexCer 37:2;O6	0.36974	-1.4354	0.03831	1.4167
Cer 42:5;O	0.5134	-0.96184	0.038326	1.4165
TG 16:1_18:1_19:1	5.0027	2.3227	0.038405	1.4156
PG O-54:0;O	0.57467	-0.79919	0.03844	1.4152

TG 16:0_18:2_20:2	2.7694	1.4696	0.038971	1.4093
HexCer 38:3;O2	2.1819	1.1256	0.039024	1.4087
PC 15:0_18:3	1.8558	0.89203	0.039086	1.408
MG 34:2	0.54796	-0.86785	0.039117	1.4076
DG 45:3	1.9378	0.95444	0.039302	1.4056
DG O-18:1_20:4	2.5483	1.3495	0.03971	1.4011
PI O-40:3	0.53613	-0.89935	0.039821	1.3999
DG 52:5	3.8987	1.963	0.040016	1.3978
PE 30:1;O	2.0498	1.0355	0.040027	1.3976
TG 44:2	1.5824	0.66216	0.040058	1.3973
TG O-39:0	1.8791	0.91008	0.040192	1.3959
TG 55:8;O	2.2086	1.1431	0.040409	1.3935
Cer 18:0;O3/42:1;(2OH)	2.3511	1.2333	0.040501	1.3925
PI-Cer 35:0;O4	0.35675	-1.487	0.040669	1.3907
DG 50:5	4.7915	2.2605	0.040669	1.3907
DG 59:6	8.439	3.0771	0.040769	1.3897
PG O-40:0;O	4.6074	2.204	0.040835	1.389
PC O-18:1_24:2	0.46368	-1.1088	0.040866	1.3886
TG 85:1;O3	1.9331	0.95095	0.041055	1.3866
PI 37:2	0.61927	-0.69136	0.041131	1.3858
CerP 51:3;O2	3.8092	1.9295	0.04116	1.3855
CerP 54:1;O5	2.9518	1.5616	0.041267	1.3844
DG 56:6	3.5258	1.8179	0.041338	1.3836
LPS O-26:0;O	0.64924	-0.62319	0.041428	1.3827
FA 18:2	0.43208	-1.2106	0.041783	1.379
CL 71:6	0.62998	-0.66663	0.041788	1.379
PA O-45:2	5.1843	2.3741	0.042102	1.3757
Cer 35:3;O3	0.63558	-0.65386	0.042118	1.3755
PIP 64:5;O	0.46337	-1.1098	0.042359	1.3731
PE 22:5	11.949	3.5788	0.042413	1.3725
PE-Cer 32:3;O5	1.8197	0.86371	0.042827	1.3683
SM 41:1;O2	0.14142	-2.822	0.042876	1.3678
Hex(4)-HexNAc-Fuc-Cer 42:1;O2	0.71175	-0.49055	0.0433	1.3635
ACer 58:4;O2	0.52432	-0.93148	0.043352	1.363
TG 60:3	4.9033	2.2938	0.043357	1.3629
NAT 32:0;O	1.7292	0.79013	0.043391	1.3626
HexCer 43:4;O5	1.9303	0.94882	0.043454	1.362
PC O-52:9	0.18136	-2.4631	0.043459	1.3619
PE 41:1;O	0.45702	-1.1297	0.043587	1.3606
HexCer 39:3;O6	1.5275	0.61114	0.043749	1.359

SHexCer 43:4;O3	0.46923	-1.0916	0.043908	1.3575
Cer 18:2;O2/26:2;O	0.4328	-1.2082	0.043929	1.3572
NA 22:0	1.6787	0.74731	0.043935	1.3572
PA 30:0	2.4319	1.2821	0.044118	1.3554
FA 18:1	0.57146	-0.80728	0.04521	1.3448
DG 36:3	3.6703	1.8759	0.045416	1.3428
PA 45:4	0.44053	-1.1827	0.045439	1.3426
DG 58:6	5.6583	2.5004	0.045734	1.3398
DG O-32:0	0.59991	-0.73719	0.045778	1.3393
PI 54:4;O	0.40888	-1.2903	0.045981	1.3374
CE 26:3;O	0.17506	-2.5141	0.046133	1.336
PG 56:3;O	0.59357	-0.75251	0.046171	1.3356
DG 61:8	3.4718	1.7957	0.046194	1.3354
TG 57:9;O3	0.36809	-1.4419	0.046301	1.3344
DG O-56:8	2.2384	1.1625	0.04634	1.334
PG 14:1_18:1	0.48644	-1.0397	0.046442	1.3331
TG 97:7;O3	0.27572	-1.8587	0.046712	1.3306
Cer 49:6;O4	1.6523	0.72448	0.046741	1.3303
TG 58:4;O2	1.81	0.85596	0.046886	1.329
DG 39:0;O2	2.1263	1.0883	0.047086	1.3271
TG 54:2;O2	10.31	3.366	0.047087	1.3271
Cer 40:0;O3	0.41294	-1.276	0.047152	1.3265
PE-Cer 54:0;O5	1.5031	0.58796	0.047186	1.3262
TG 82:1;O	0.43532	-1.1999	0.047337	1.3248
CE 27:7	0.28076	-1.8326	0.047352	1.3247
SHexCer 41:3;O3	2.4872	1.3145	0.047438	1.3239
PI 18:0_22:2	0.67035	-0.577	0.047649	1.3219
MG 18:2;O	0.15425	-2.6967	0.047804	1.3205
MIPC 39:6;O3	0.53973	-0.88969	0.047831	1.3203
DG 44:3	1.7757	0.8284	0.047864	1.32
PE O-20:3_27:0	0.35952	-1.4759	0.048143	1.3175
PC 28:0	0.35596	-1.4902	0.048334	1.3158
TG 51:3;O2	1.9574	0.96896	0.048355	1.3156
TG 15:1_18:1_18:1	0.26636	-1.9086	0.048394	1.3152
DG 36:1	2.0571	1.0406	0.04843	1.3149
PE 20:1_34:2	1.4075	0.49316	0.048457	1.3146
DG 49:3	1.6152	0.69169	0.048475	1.3145
DG 33:3	2.33	1.2203	0.048621	1.3132
PE O-18:2_22:3	2.0581	1.0413	0.048774	1.3118
DG O-48:3	3.4256	1.7764	0.048865	1.311
HexCer 39:1;O4	1.9759	0.98249	0.04908	1.3091

GM3(d18:1/16:0)	2.022	1.0158	0.049145	1.3085
Hex2Cer 36:2;O2	0.51147	-0.96727	0.049212	1.3079
CL 14:0_18:2_14:0_18:2	0.54204	-0.88354	0.049356	1.3067
DG 58:1	2.9511	1.5613	0.049494	1.3054
DG 16:0_20:3	2.2698	1.1826	0.049503	1.3054
Cer 18:2;O2/26:7;O	1.5639	0.64517	0.049662	1.304
Car 20:4;O2	1.6006	0.67863	0.049788	1.3029

Supplemental Table 7. LPS cell:EV and NT cell:EV ratios volcano plot extended statistics. Extended statistics corresponding to Figure 5A in main text. Extended statistics include fold change (FC), log 2 fold change (log2(FC)), the raw p value (raw.pval) and the -log10 of the p-value (-log10(p)).

Contents of Report

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Separation Workflow 1
- Overall study design . . . 1
- Lipid extraction . . . 1
- Analytical platform . . . 2
- Quality control . . . 2
- Method qualification and validation . . . 2
- Reporting . . . 2

Sample Descriptions 3
- BV2 Cells / Mouse / Cells . . . 3

Separation Workflow

Overall study design

Title of the study	Lipidomic signatures in microglial extracellular vesicles during acute inflammation: a gateway to neurological biomarkers		
Document creation date	08/21/2025	Corresponding Email	nollenbi@uwo.ca
Principal investigator	Dr. Shawn Whitehead	Is the workflow targeted or untargeted?	Untargeted
Institution	Western University	Clinical	No

Lipid extraction

Extraction method	2-phase system	Were internal standards used?	Yes
pH adjustment	None	Deposition method	Aliquoted with samples
2-phase system	Folch	Internal standards used	NovaMT LipidRep Internal Standard Basic Mix for Tissue/Cells (Catalog No. IDG-7002-IS)
Special conditions	Sonicated		

Analytical platform

Ionizaton additives	Ammonium formate	Resolution at m/z 200 at MS^1	30000
Number of separation dimensions	One dimension	Mass accuracy in ppm at MS^1	20
Separation type 1	LC	Recording mode of raw data at MS^1	Profile mode
Separation mode 1 (liquid)	RP	Mass window for precursor ion isolation (in Da total isolation window)	1
Detector	Mass spectrometer	Mass resolution for detected ion at MS^2	High resolution
MS type	QTOF	Resolution at m/z 200 at MS^2	30000
MS vendor	Agilent	Mass accuracy in ppm at MS^2	20
Ion source	ESI	Recording mode of raw data at MS^2	Centroid mode
MS Level	MS^1, MS^2	Was/Were additional dimension/techniques used	No
Mass resolution for detected ion at MS^1	High resolution		

Quality control

Blanks	Yes	Quality control	Yes
Type of Blanks	Internal standard blank	Type of QC sample	Reference material

Method qualification and validation

Method validation	Yes	Precision	No
Lipid recovery	No	Accuracy	No
Dynamic quantification range	No	Guidelines followed	None
Limit of quantitation (LOQ)/Limit of detection (LOD)	Yes		

Reporting

Are reported raw data uploaded into repository?	Available on request	Raw data upload	Available on request
Are metadata available?	Available on request		

Sample Descriptions

BV2 Cells / Mouse / Cells

Storage and collection conditions	Available	Instant sample preparation	No
Provided preanalytical information	Preservation method	Storage temperature	-20 °C
Temperature handling original sample	-20 °C	Additives	None

Supplemental Table 8. Lipidomics minimal reporting checklist. To enhance reproducibility a Lipidomics Minimal Reporting Checklist (Kopczynski et al. 2024) from the Lipidomics Standards Initiative has been included.