



Supplementary Materials: Metabolite Changes in Maternal and Fetal Plasma Following Spontaneous Labour at Term in Humans Using Untargeted Metabolomics Analysis: A Pilot Study

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Table S1. Fold-change in cord plasma (VC/EC) for metabolites (xenobiotics excluded) with significant p (≤ 0.05) and q (≤ 0.10), ordered according to fold-change (greatest to smallest), with corresponding sub-pathway and super-pathway.

Metabolite	Sub-Pathway	Super-Pathway	Fold-Change (VC/EC)	p - Value	q - Value
Heme	Hemoglobin and Porphyrin Metabolism	Cofactors and Vitamins	14.30	0.0239	0.0918
Fibrinopeptide A, Phosphono-Ser	Fibrinogen Cleavage Peptide	Peptide	11.71	0.0144	0.0689
Glucuronide Of C10H18O2	Partially Characterized Molecules	Partially Characterised Molecules	9.98	0.0159	0.0734
Spermidine	Polyamine Metabolism	Amino Acid	7.26	0.0172	0.0764
Adenosine 5'-Diphosphoribose (Adp-Ribose)	Nicotinate and Nicotinamide Metabolism	Cofactors and Vitamins	7.25	0.0180	0.0784
Glycerol 3-Phosphate	Glycerolipid Metabolism	Lipid	7.13	0.0064	0.0435
Glucuronide Of C10H18O2	Partially Characterized Molecules	Partially Characterised Molecules	7.07	0.0214	0.0887
Inosine	Purine Metabolism, (Hypo)Xanthine/Inosine containing	Nucleotide	6.01	0.0016	0.0194
Cysteine-Glutathione Disulfide	Glutathione Metabolism	Amino Acid	5.13	0.0035	0.0312
Cortisol	Corticosteroids	Lipid	3.57	0.0000	0.0015
Adenosine 3',5'-Cyclic Monophosphate (Camp)	Purine Metabolism, Adenine containing	Nucleotide	3.53	0.0009	0.0141
Maltose	Glycogen Metabolism	Carbohydrate	3.39	0.0254	0.0925
Trans-Urocanate	Histidine Metabolism	Amino Acid	3.23	0.0012	0.0148
Corticosterone	Corticosteroids	Lipid	3.09	0.0002	0.0070
Cortisone 21-Sulfate	Corticosteroids	Lipid	3.02	0.0001	0.0051
Hypoxanthine	Purine Metabolism, (Hypo)Xanthine/Inosine containing	Nucleotide	2.96	0.0001	0.0049
Androstenediol (3Alpha, 17Alpha) Monosulfate	Androgenic Steroids	Lipid	2.80	0.0110	0.0583
3-Phosphoglycerate	Glycolysis, Gluconeogenesis and Pyruvate Metabolism	Carbohydrate	2.77	0.0233	0.0918
5Alpha-Androstan-3Alpha,17Beta-Diol Monosulfate	Androgenic Steroids	Lipid	2.63	0.0141	0.0677
N-Formylphenylalanine	Tyrosine Metabolism	Amino Acid	2.56	0.0056	0.0403
Xanthine	Purine Metabolism, (Hypo)Xanthine/Inosine containing	Nucleotide	2.55	0.0000	0.0008
Palmitoleate (16:1N7)	Long Chain Monounsaturated Fatty Acid	Lipid	2.52	0.0190	0.0805
1,2-Dipalmitoyl-Gpe (16:0/16:0)	Phosphatidylethanolamine (PE)	Lipid	2.51	0.0269	0.0955
Margaroylcarnitine (C17)	Fatty Acid Metabolism (Acyl Carnitine, Long Chain Saturated)	Lipid	2.47	0.0105	0.0579
Eicosenoylcarnitine (C20:1)	Fatty Acid Metabolism (Acyl Carnitine, Monounsaturated)	Lipid	2.43	0.0045	0.0362
5-Dodecenoate (12:1N7)	Medium Chain Fatty Acid	Lipid	2.41	0.0018	0.0209
3-Hydroxylaurate	Fatty Acid, Monohydroxy	Lipid	2.40	0.0000	0.0020

S-Adenosylhomocysteine (Sah)	Methionine, Cysteine, SAM and Taurine Metabolism	Amino Acid	2.34	0.0223	0.0898
Gamma-Glutamylglutamate	Gamma-glutamyl Amino Acid	Peptide	2.33	0.0286	0.0988
Galactonate	Fructose, Mannose and Galactose Metabolism	Carbohydrate	2.31	0.0185	0.0796
Androsterone Sulfate	Androgenic Steroids	Lipid	2.27	0.0007	0.0128
Cysteinyglycine	Glutathione Metabolism	Amino Acid	2.21	0.0123	0.0625
Lactate	Glycolysis, Gluconeogenesis and Pyruvate Metabolism	Carbohydrate	2.13	0.0000	0.0018
Alpha-Ketoglutarate	TCA Cycle	Energy	2.13	0.0011	0.0148
Adenosine 5'-Monophosphate (Amp)	Purine Metabolism, Adenine containing	Nucleotide	2.12	0.0246	0.0918
Hexadecadienoate (16:2N6)	Long Chain Polyunsaturated Fatty Acid (n3 and n6)	Lipid	2.09	0.0004	0.0094
Stearoylcarnitine (C18)	Fatty Acid Metabolism (Acyl Carnitine, Long Chain Saturated)	Lipid	2.08	0.0256	0.0925
Myristoleate (14:1N5)	Long Chain Monounsaturated Fatty Acid	Lipid	2.03	0.0165	0.0745
3-Hydroxydecanoate	Fatty Acid, Monohydroxy	Lipid	2.01	0.0002	0.0066
Glycerophosphoinositol	Phospholipid Metabolism	Lipid	1.98	0.0134	0.0653
(16 Or 17)-Methylstearate (A19:0 Or I19:0)	Fatty Acid, Branched	Lipid	1.96	0.0041	0.0353
Fructose	Fructose, Mannose and Galactose Metabolism	Carbohydrate	1.96	0.0186	0.0796
Palmitoleoylcarnitine (C16:1)	Fatty Acid Metabolism (Acyl Carnitine, Monounsaturated)	Lipid	1.95	0.0009	0.0141
1-Palmitoyl-2-Oleoyl-Gpe (16:0/18:1)	Phosphatidylethanolamine (PE)	Lipid	1.93	0.0095	0.0554
Oleoylcarnitine (C18:1)	Fatty Acid Metabolism (Acyl Carnitine, Monounsaturated)	Lipid	1.90	0.0010	0.0145
Laurate (12:0)	Medium Chain Fatty Acid	Lipid	1.90	0.0010	0.0146
Acetylcarnitine (C2)	Fatty Acid Metabolism (Acyl Carnitine, Short Chain)	Lipid	1.89	0.0004	0.0094
10-Heptadecenoate (17:1N7)	Long Chain Monounsaturated Fatty Acid	Lipid	1.89	0.0026	0.0282
Pantothenate	Pantothenate and CoA Metabolism	Cofactors and Vitamins	1.89	0.0241	0.0918
N-Acetylglucosamine/N-Acetylgalactosamine	Aminosugar Metabolism	Carbohydrate	1.88	0.0033	0.0304
Malate	TCA Cycle	Energy	1.86	0.0012	0.0148
Ribulonate/Xylulonate	Pentose Metabolism	Carbohydrate	1.85	0.0009	0.0141
Cortisone	Corticosteroids	Lipid	1.85	0.0010	0.0145
Dihomo-Linoleoylcarnitine (C20:2)	Fatty Acid Metabolism (Acyl Carnitine, Polyunsaturated)	Lipid	1.84	0.0059	0.0413
Oleate/Vaccenate (18:1)	Long Chain Monounsaturated Fatty Acid	Lipid	1.84	0.0067	0.0438
Linolenate [Alpha Or Gamma; (18:3N3 Or 6)]	Long Chain Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.83	0.0067	0.0438
Xanthosine	Purine Metabolism, (Hypo)Xanthine/Inosine containing	Nucleotide	1.82	0.0005	0.0104
10-Nonadecenoate (19:1N9)	Long Chain Monounsaturated Fatty Acid	Lipid	1.81	0.0012	0.0151
Linoleate (18:2N6)	Long Chain Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.81	0.0032	0.0301
Laurylcarnitine (C12)	Fatty Acid Metabolism (Acyl Carnitine, Medium Chain)	Lipid	1.80	0.0084	0.0518
Caprate (10:0)	Medium Chain Fatty Acid	Lipid	1.79	0.0031	0.0299
Succinate	TCA Cycle	Energy	1.78	0.0098	0.0565
2-Hydroxyglutarate	Fatty Acid, Dicarboxylate	Lipid	1.76	0.0024	0.0275
Myristate (14:0)	Long Chain Saturated Fatty Acid	Lipid	1.75	0.0071	0.0450
Estrone 3-Sulfate	Estrogenic Steroids	Lipid	1.74	0.0132	0.0651
Myristoleoylcarnitine (C14:1)	Fatty Acid Metabolism (Acyl Carnitine, Monounsaturated)	Lipid	1.72	0.0077	0.0483
Palmitoylcarnitine (C16)	Fatty Acid Metabolism (Acyl Carnitine, Long Chain Saturated)	Lipid	1.72	0.0115	0.0597
Eicosenoate (20:1)	Long Chain Monounsaturated Fatty Acid	Lipid	1.69	0.0030	0.0298
Glycerol	Glycerolipid Metabolism	Lipid	1.68	0.0000	0.0003
N-Acetyltaurine	Methionine, Cysteine, SAM and Taurine Metabolism	Amino Acid	1.68	0.0016	0.0194

Caprylate (8:0)	Medium Chain Fatty Acid	Lipid	1.67	0.0160	0.0734
Dihomo-Linoleate (20:2N6)	Long Chain Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.65	0.0045	0.0362
Linoleoylcarnitine (C18:2)	Fatty Acid Metabolism (Acyl Carnitine, Polyunsaturated)	Lipid	1.64	0.0003	0.0087
(14 Or 15)-Methylpalmitate (A17:0 Or I17:0)	Fatty Acid, Branched	Lipid	1.64	0.0029	0.0298
Uracil	Pyrimidine Metabolism, Uracil containing	Nucleotide	1.64	0.0109	0.0583
Myristoylcarnitine (C14)	Fatty Acid Metabolism (Acyl Carnitine, Long Chain Saturated)	Lipid	1.63	0.0010	0.0146
Pyruvate	Glycolysis, Gluconeogenesis and Pyruvate Metabolism	Carbohydrate	1.62	0.0031	0.0298
(S)-3-Hydroxybutyrylcarnitine	Fatty Acid Metabolism (Acyl Carnitine, Hydroxy)	Lipid	1.61	0.0236	0.0918
Glutamate, Gamma-Methyl Ester	Glutamate Metabolism	Amino Acid	1.59	0.0287	0.0988
Decanoylcarnitine (C10)	Fatty Acid Metabolism (Acyl Carnitine, Medium Chain)	Lipid	1.58	0.0131	0.0651
5-Dodecenoylcarnitine (C12:1)	Fatty Acid Metabolism (Acyl Carnitine, Monounsaturated)	Lipid	1.57	0.0245	0.0918
Arachidonoylcarnitine (C20:4)	Fatty Acid Metabolism (Acyl Carnitine, Polyunsaturated)	Lipid	1.55	0.0006	0.0105
Palmitate (16:0)	Long Chain Saturated Fatty Acid	Lipid	1.54	0.0065	0.0435
Isocitric Lactone	TCA Cycle	Energy	1.54	0.0221	0.0898
Margarate (17:0)	Long Chain Saturated Fatty Acid	Lipid	1.53	0.0049	0.0373
5,6-Dihydrouracil	Pyrimidine Metabolism, Uracil containing	Nucleotide	1.53	0.0094	0.0554
(12 Or 13)-Methylmyristate (A15:0 Or I15:0)	Fatty Acid, Branched	Lipid	1.53	0.0100	0.0570
1-Stearoyl-2-Oleoyl-Gpi (18:0/18:1)	Phosphatidylinositol (PI)	Lipid	1.51	0.0264	0.0943
Phenyllactate (Pla)	Phenylalanine Metabolism	Amino Acid	1.50	0.0054	0.0392
Vanillactate	Tyrosine Metabolism	Amino Acid	1.49	0.0005	0.0099
Imidazole Lactate	Histidine Metabolism	Amino Acid	1.47	0.0256	0.0925
Stearoyl-Arachidonoyl-Glycerol (18:0/20:4)	Diacylglycerol	Lipid	1.44	0.0161	0.0734
Docosadienoate (22:2N6)	Long Chain Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.43	0.0053	0.0391
Isocitrate	TCA Cycle	Energy	1.43	0.0202	0.0850
Creatine	Creatinine Metabolism	Amino Acid	1.41	0.0029	0.0298
Fumarate	TCA Cycle	Energy	1.41	0.0043	0.0358
2-Hydroxy-3-Methylvalerate	Leucine, Isoleucine and Valine Metabolism	Amino Acid	1.41	0.0130	0.0650
Stearate (18:0)	Long Chain Saturated Fatty Acid	Lipid	1.31	0.0068	0.0440
Glucose	Glycolysis, Gluconeogenesis and Pyruvate Metabolism	Carbohydrate	1.31	0.0105	0.0579
Oleoyl Ethanolamide	Endocannabinoid	Lipid	1.31	0.0226	0.0904
Pentadecanoate (15:0)	Long Chain Saturated Fatty Acid	Lipid	1.30	0.0043	0.0358
5-Oxoproline	Glutathione Metabolism	Amino Acid	1.18	0.0035	0.0312
Serine	Glycerine, Serine and Threonine Metabolism	Amino Acid	0.85	0.0113	0.0591
Tryptophan	Tryptophan Metabolism	Amino Acid	0.83	0.0243	0.0918
Arginine	Urea cycle, Arginine and Proline Metabolism	Amino Acid	0.82	0.0103	0.0579
Histidine	Histidine Metabolism	Amino Acid	0.80	0.0047	0.0368
Citrulline	Urea cycle, Arginine and Proline Metabolism	Amino Acid	0.80	0.0213	0.0887
Gamma-Glutamylleucine	Gamma-glutamyl Amino Acid	Peptide	0.80	0.0257	0.0925
N1-Methylinosine	Purine Metabolism, (Hypo)Xanthine/Inosine containing	Nucleotide	0.79	0.0275	0.0967
Indole-3-Carboxylic acid	Tryptophan Metabolism	Amino Acid	0.74	0.0086	0.0526
Carnosine	Histidine Metabolism	Amino Acid	0.73	0.0232	0.0918
Gamma-Glutamyl-Alpha-Lysine	Gamma-glutamyl Amino Acid	Peptide	0.72	0.0180	0.0784
Picolinate	Tryptophan Metabolism	Amino Acid	0.69	0.0047	0.0368

2'-Deoxyuridine	Pyrimidine Metabolism, Uracil containing	Nucleotide	0.69	0.0251	0.0925
1-Methylnicotinamide	Nicotinate and Nicotinamide Metabolism	Cofactors and Vitamins	0.68	0.0239	0.0918
5-Methyluridine (Ribothymidine)	Pyrimidine Metabolism, Uracil containing	Nucleotide	0.66	0.0037	0.0324
Xanthurenate	Tryptophan Metabolism	Amino Acid	0.66	0.0152	0.0719
N-Acetyltyrosine	Tyrosine Metabolism	Amino Acid	0.62	0.0053	0.0391
N1-Methyl-4-Pyridone-3-Carboxamide	Nicotinate and Nicotinamide Metabolism	Cofactors and Vitamins	0.60	0.0286	0.0988
N1-Methyl-2-Pyridone-5-Carboxamide	Nicotinate and Nicotinamide Metabolism	Cofactors and Vitamins	0.56	0.0110	0.0583
1-Stearoyl-Gpi (18:0)	Lysophospholipid	Lipid	0.54	0.0170	0.0759
Isoleucylglycine	Dipeptide	Peptide	0.51	0.0003	0.0081
N-Acetylkynurenine	Tryptophan Metabolism	Amino Acid	0.51	0.0119	0.0611
N-Acetyl-2-Aminooctanoate	Fatty Acid, Amino	Lipid	0.47	0.0110	0.0583
Cholate	Primary Bile Acid Metabolism	Lipid	0.44	0.0221	0.0898
Valylglycine	Dipeptide	Peptide	0.38	0.0003	0.0081
3-Dehydrocholate	Secondary Bile Acid Metabolism	Lipid	0.29	0.0001	0.0065
Palmitoylcholine	Fatty Acid Metabolism (Acyl Choline)	Lipid	0.18	0.0093	0.0554
Arachidonoylcholine	Fatty Acid Metabolism (Acyl Choline)	Lipid	0.08	0.0029	0.0298

Table S2. Fold-change in maternal (intervillous) plasma (VM/EM) for metabolites (xenobiotics excluded) with significant p (≤ 0.05) and q (≤ 0.10), ordered according to fold-change (greatest to smallest), with corresponding sub-pathway and super-pathway.

Metabolite	Sub-Pathway	Super-Pathway	Fold-Change (VM/EM)	p -Value	q -Value
Glucuronide Of C10H18O2	Partially Characterized Molecules	Partially Characterized Molecules	10.85	0.0113	0.053
Maleate	Fatty Acid, Dicarboxylate	Lipid	10.42	0.0359	0.0857
Adipate (C6-Dc)	Fatty Acid, Dicarboxylate	Lipid	8.06	0.0178	0.0625
N-Acetylaspartate (Naa)	Alanine and Aspartate Metabolism	Amino Acid	7.14	0.0007	0.0113
Caproate (6:0)	Medium Chain Fatty Acid	Lipid	6.71	0.012	0.0539
Glucuronide Of C10H18O2	Partially Characterized Molecules	Partially Characterized Molecules	6.44	0.0267	0.0759
Corticosterone	Corticosteroids	Lipid	5.41	0.0001	0.0076
Cortisol	Corticosteroids	Lipid	5.02	0.0003	0.0079
1-Oleoylglycerol (18:1)	Monoacylglycerol	Lipid	4.49	0.0069	0.0417
Arachidoylcarnitine (C20)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	4.24	0.0128	0.0559
Androsterone Sulfate	Androgenic Steroids	Lipid	3.99	0.0042	0.0325
Epiandrosterone Sulfate	Androgenic Steroids	Lipid	3.7	0.0132	0.0565
Androstenediol (3Alpha, 17Alpha) Monosulfate	Androgenic Steroids	Lipid	3.45	0.0089	0.0476
Glucuronate	Aminosugar Metabolism	Carbohydrate	3.31	0.0314	0.08
12-Hete	Eicosanoid	Lipid	3.21	0.0053	0.0357
5Alpha-Androstan-3Beta,17Beta-Diol Disulfate	Androgenic Steroids	Lipid	3.09	0.0347	0.0839
Oleoyl-Linoleoyl-Glycerol (18:1/18:2)	Diacylglycerol	Lipid	2.93	0.0407	0.0919
9,10-Dihome	Fatty Acid, Dihydroxy	Lipid	2.9	0.0091	0.0476
Lactosyl-N-Nervonoyl-Sphingosine (D18:1/24:1)	Ceramides	Lipid	2.83	0.0024	0.0261
1-Stearoyl-2-Oleoyl-Gpe (18:0/18:1)	Phosphatidylethanolamine (PE)	Lipid	2.81	0.0211	0.0693

Androsterone Glucuronide	Androgenic Steroids	Lipid	2.74	0.0138	0.0565
1-Linoleoyl-Gpi (18:2)	Lysophospholipid	Lipid	2.72	0.0005	0.0109
Palmitoleoyl-Linoleoyl-Glycerol (16:1/18:2)	Diacylglycerol	Lipid	2.7	0.0358	0.0857
3-Methyladipate	Fatty Acid, Dicarboxylate	Lipid	2.68	0.0295	0.078
Eicosenoylcarnitine (C20:1)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	2.58	0.0003	0.0079
Erucate (22:1N9)	Long Chain Fatty Acid	Lipid	2.58	0.001	0.0144
P-Cresol-Glucuronide	Tyrosine Metabolism	Amino Acid	2.57	0.0461	0.0942
Palmitoyl-Linoleoyl-Glycerol (16:0/18:2)	Diacylglycerol	Lipid	2.57	0.0265	0.0759
Oleoyl-Linoleoyl-Glycerol (18:1/18:2)	Diacylglycerol	Lipid	2.49	0.0121	0.0539
2-Hydroxybehenate	Fatty Acid, Monohydroxy	Lipid	2.49	0.0304	0.0792
Oleoyl-Oleoyl-Glycerol (18:1/18:1)	Diacylglycerol	Lipid	2.47	0.0449	0.0934
Pristanate	Fatty Acid, Branched	Lipid	2.45	0.0439	0.0934
Xanthosine	Purine Metabolism, (Hypo)Xanthine/Inosine containing	Nucleotide	2.4	0.0171	0.0615
Oleoyl-Oleoyl-Glycerol (18:1/18:1)	Diacylglycerol	Lipid	2.38	0.0066	0.0414
Maltose	Glycogen Metabolism	Carbohydrate	2.36	0.0178	0.0625
Lignoceroylcarnitine (C24)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	2.35	0.0044	0.0338
Ribulonate/Xylulonate	Pentose Metabolism	Carbohydrate	2.34	0.0003	0.0079
5Alpha-Pregnan-3Beta,20Alpha-Diol Monosulfate (1)	Progestin Steroids	Lipid	2.31	0.0049	0.0353
12,13-Dihome	Fatty Acid, Dihydroxy	Lipid	2.31	0.043	0.0934
Fructose	Fructose, Mannose and Galactose Metabolism	Carbohydrate	2.28	0.0326	0.0809
Diacylglycerol (16:1/18:2, 16:0/18:3)	Diacylglycerol	Lipid	2.26	0.0094	0.0477
Ximenoylcarnitine (C26:1)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	2.25	0.0025	0.0261
5Alpha-Pregnan-3Beta,20Alpha-Diol Monosulfate (2)	Progestin Steroids	Lipid	2.25	0.0039	0.0318
Eicosenoate (20:1)	Long Chain Fatty Acid	Lipid	2.23	0.002	0.024
Diacylglycerol (12:0/18:1, 14:0/16:1, 16:0/14:1)	Diacylglycerol	Lipid	2.21	0.0424	0.0934
Campesterol	Sterol	Lipid	2.18	0.0113	0.053
1-Palmitoyl-2-Oleoyl-Gpe (16:0/18:1)	Phosphatidylethanolamine (PE)	Lipid	2.18	0.0225	0.0728
Dihomo-Linoleoylcarnitine (C20:2)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	2.17	0.0307	0.0792
Laurate (12:0)	Medium Chain Fatty Acid	Lipid	2.16	0.0001	0.0065
5Alpha-Pregnan-3Beta,20Beta-Diol Monosulfate (1)	Progestin Steroids	Lipid	2.13	0.0053	0.0357
Palmitoyl-Oleoyl-Glycerol (16:0/18:1)	Diacylglycerol	Lipid	2.12	0.0168	0.0614
13-Hode + 9-Hode	Fatty Acid, Monohydroxy	Lipid	2.11	0.0146	0.057
5,6-Dihydrouacil	Pyrimidine Metabolism, Uracil containing	Nucleotide	2.06	0.0278	0.076
Alpha-Ketoglutarate	TCA Cycle	Energy	2.05	0.0106	0.0517
3Beta-Hydroxy-5-Cholestenoate	Sterol	Lipid	2.03	0.0147	0.057
1-Stearoyl-2-Docosahexaenoyl-Gpe (18:0/22:6)	Phosphatidylethanolamine (PE)	Lipid	2.03	0.0363	0.0858
Behenate (22:0)	Long Chain Fatty Acid	Lipid	2	0.003	0.0271
Diacylglycerol (14:0/18:1, 16:0/16:1)	Diacylglycerol	Lipid	2	0.0271	0.076
Pyruvate	Glycolysis, Gluconeogenesis, and Pyruvate Metabolism	Carbohydrate	1.98	0.0002	0.0079
1-Palmitoleoyl-2-Linolenoyl-Gpc (16:1/18:3)	Phosphatidylcholine (PC)	Lipid	1.98	0.0323	0.0809
Lactate	Glycolysis, Gluconeogenesis, and Pyruvate Metabolism	Carbohydrate	1.96	0	0.0015
Myristoyl-Linoleoyl-Glycerol (14:0/18:2)	Diacylglycerol	Lipid	1.96	0.0138	0.0565
Lactosyl-N-Palmitoyl-Sphingosine (D18:1/16:0)	Ceramides	Lipid	1.93	0.0013	0.0177

10-Nonadecenoate (19:1N9)	Long Chain Fatty Acid	Lipid	1.92	0.0051	0.0357
Glycerol	Glycerolipid Metabolism	Lipid	1.91	0.0002	0.0079
Ceramide (D18:1/17:0, D17:1/18:0)	Ceramides	Lipid	1.88	0.0443	0.0934
Cystine	Methionine, Cysteine, SAM and Taurine Metabolism	Amino Acid	1.87	0.0054	0.0357
10-Heptadecenoate (17:1N7)	Long Chain Fatty Acid	Lipid	1.87	0.0027	0.0265
Decanoylcarnitine (C10)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	1.86	0.0006	0.0113
Lactosyl-N-Behenoyl-Sphingosine (D18:1/22:0)	Sphingolipid Metabolism	Lipid	1.86	0.0311	0.0797
2,3-Dihydroxy-2-Methylbutyrate	Leucine, Isoleucine and Valine Metabolism	Amino Acid	1.84	0.0211	0.0693
Docosadienoate (22:2N6)	Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.84	0.0002	0.0079
1-Palmitoyl-2-Docosahexaenoyl-Gpe (16:0/22:6)	Phosphatidylethanolamine (PE)	Lipid	1.83	0.0332	0.0811
Nervonate (24:1N9)	Long Chain Fatty Acid	Lipid	1.81	0.0015	0.0195
Margarate (17:0)	Long Chain Fatty Acid	Lipid	1.81	0.0026	0.0261
Linolenate [Alpha Or Gamma; (18:3N3 Or 6)]	Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.8	0.0145	0.057
Tricosanoyl Sphingomyelin (D18:1/23:0)	Sphingolipid Metabolism	Lipid	1.8	0.0241	0.074
Laurylcarnitine (C12)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	1.78	0.0009	0.0144
Dihomo-Linoleate (20:2N6)	Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.78	0.0048	0.0353
Palmitoleate (16:1N7)	Long Chain Fatty Acid	Lipid	1.78	0.0084	0.0461
N-Stearoyl-Sphingosine (D18:1/18:0)	Ceramides	Lipid	1.78	0.009	0.0476
1-Palmitoleoyl-2-Linoleoyl-Gpc (16:1/18:2)	Phosphatidylcholine (PC)	Lipid	1.78	0.0116	0.0532
Caprylate (8:0)	Medium Chain Fatty Acid	Lipid	1.78	0.0236	0.0734
5-Dodecenoate (12:1N7)	Medium Chain Fatty Acid	Lipid	1.78	0.0244	0.0745
Hexadecadienoate (16:2N6)	Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.78	0.0321	0.0809
1-Stearoyl-Gpi (18:0)	Lysophospholipid	Lipid	1.76	0.0031	0.0273
Cholesterol	Sterol	Lipid	1.76	0.0049	0.0353
Octadecenedioate (C18:1-Dc)	Fatty Acid, Dicarboxylate	Lipid	1.75	0.0201	0.0685
Docosapentaenoate (N3 Dpa; 22:5N3)	Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.74	0.0026	0.0261
Sphingomyelin (D18:2/23:0, D18:1/23:1, D17:1/24:1)	Sphingolipid Metabolism	Lipid	1.74	0.0056	0.0362
1-Palmitoyl-Gpi (16:0)	Lysophospholipid	Lipid	1.74	0.0166	0.061
Caprate (10:0)	Medium Chain Fatty Acid	Lipid	1.74	0.0389	0.09
N-Stearoyl-Sphingadienine (D18:2/18:0)	Ceramides	Lipid	1.73	0.0087	0.0471
Nonadecanoate (19:0)	Long Chain Fatty Acid	Lipid	1.71	0.001	0.0148
Sphingomyelin (D18:1/21:0, D17:1/22:0, D16:1/23:0)	Sphingolipid Metabolism	Lipid	1.71	0.0162	0.0601
17-Methylstearate (I19:0)	Fatty Acid, Branched	Lipid	1.7	0.0003	0.0079
Oleate/Vaccenate (18:1)	Long Chain Fatty Acid	Lipid	1.7	0.0041	0.0325
15-Methylpalmitate (I17:0)	Fatty Acid, Branched	Lipid	1.7	0.005	0.0356
Oleoylcarnitine (C18:1)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	1.7	0.0068	0.0416
Glycosyl-N-Behenoyl-Sphingadienine (D18:2/22:0)	Ceramides	Lipid	1.69	0.0449	0.0934
13-Methylmyristate (I15:0)	Fatty Acid, Branched	Lipid	1.67	0.0076	0.0435
Linoleate (18:2N6)	Polyunsaturated Fatty Acid (n3 and n6)	Lipid	1.67	0.0104	0.0513
Carotene Diol	Vitamin A Metabolism	Cofactors and Vitamins	1.66	0.027	0.076
5-Dodecenoylcarnitine (C12:1)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	1.66	0.0011	0.015
Arachidate (20:0)	Long Chain Fatty Acid	Lipid	1.66	0.0037	0.0318
Myristate (14:0)	Long Chain Fatty Acid	Lipid	1.65	0.0141	0.0565

1-(1-Enyl-Palmitoyl)-2-Linoleoyl-Gpc (P-16:0/18:2)	Plasmalogen	Lipid	1.65	0.014	0.0565
1-Stearoyl-2-Arachidonoyl-Gpc (18:0/20:4)	Phosphatidylethanolamine (PE)	Lipid	1.65	0.0207	0.0693
Pregnanediol-3-Glucuronide	Progesterin Steroids	Lipid	1.65	0.045	0.0934
Imidazole Lactate	Histidine Metabolism	Amino Acid	1.64	0.0115	0.0532
1-Myristoyl-2-Arachidonoyl-Gpc (14:0/20:4)	Phosphatidylcholine (PC)	Lipid	1.64	0.0201	0.0685
Oleoyl-Arachidonoyl-Glycerol (18:1/20:4)	Diacylglycerol	Lipid	1.64	0.0283	0.076
Carotene Diol	Vitamin A Metabolism	Cofactors and Vitamins	1.63	0.0266	0.0759
3-Hydroxylaurate	Fatty Acid, Monohydroxy	Lipid	1.63	0.0274	0.076
Ceramide (D18:1/20:0, D16:1/22:0, D20:1/18:0)	Ceramides	Lipid	1.61	0.033	0.0811
N-Behenoyl-Sphingadienine (D18:2/22:0)	Sphingolipid Metabolism	Lipid	1.61	0.0435	0.0934
Glycosyl Ceramide (D18:1/20:0, D16:1/22:0)	Ceramides	Lipid	1.61	0.0457	0.0942
1-Palmitoyl-2-Arachidonoyl-Gpc (16:0/20:4)	Phosphatidylethanolamine (PE)	Lipid	1.58	0.0231	0.0734
Sphingomyelin (D18:2/21:0, D16:2/23:0)	Sphingolipid Metabolism	Lipid	1.56	0.0007	0.0113
Sphingomyelin (D18:1/19:0, D19:1/18:0)	Sphingolipid Metabolism	Lipid	1.56	0.0006	0.0113
Octanoylcarnitine (C8)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	1.56	0.0281	0.076
Glycosyl-N-Stearoyl-Sphingosine (D18:1/18:0)	Ceramides	Lipid	1.55	0.0464	0.0942
Pentadecanoate (15:0)	Long Chain Fatty Acid	Lipid	1.54	0.0029	0.027
Ceramide (D18:2/24:1, D18:1/24:2)	Ceramides	Lipid	1.53	0.0397	0.091
5Alpha-Pregnan-3Beta-OL,20-One Sulfate	Progesterin Steroids	Lipid	1.52	0.0405	0.0919
Sphingomyelin (D17:2/16:0, D18:2/15:0)	Sphingolipid Metabolism	Lipid	1.51	0.0254	0.075
Glycosyl-N-Palmitoyl-Sphingosine (D18:1/16:0)	Ceramides	Lipid	1.51	0.0305	0.0792
N-Palmitoyl-Sphinganine (D18:0/16:0)	Sphingolipid Metabolism	Lipid	1.51	0.0447	0.0934
2-Hydroxynervonate	Fatty Acid, Monohydroxy	Lipid	1.5	0.0111	0.0529
Ceramide (D16:1/24:1, D18:1/22:1)	Ceramides	Lipid	1.5	0.0429	0.0934
Beta-Hydroxyisovalerate	Leucine, Isoleucine and Valine Metabolism	Amino Acid	1.49	0.0252	0.075
Aconitate [Cis Or Trans]	TCA Cycle	Energy	1.47	0.0059	0.0377
1-Palmitoyl-2-Linoleoyl-Gpc (16:0/18:2)	Phosphatidylcholine (PC)	Lipid	1.46	0.0287	0.0766
4-Hydroxy-2-Oxoglutaric Acid	Fatty Acid, Dicarboxylate	Lipid	1.46	0.0325	0.0809
Stearate (18:0)	Long Chain Fatty Acid	Lipid	1.45	0.0022	0.0259
Palmitate (16:0)	Long Chain Fatty Acid	Lipid	1.45	0.0084	0.0461
Cis-4-Decenoylcarnitine (C10:1)	Fatty Acid Metabolism(Acyl Carnitine)	Lipid	1.45	0.0161	0.0601
3-Hydroxy-2-Ethylpropionate	Leucine, Isoleucine and Valine Metabolism	Amino Acid	1.44	0.0003	0.0079
Glucose	Glycolysis, Gluconeogenesis, and Pyruvate Metabolism	Carbohydrate	1.44	0.0025	0.0261
Alpha-Tocopherol	Tocopherol Metabolism	Cofactors and Vitamins	1.41	0.0219	0.0714
Sphingomyelin (D18:2/14:0, D18:1/14:1)	Sphingolipid Metabolism	Lipid	1.41	0.014	0.0565
1-Palmitoyl-2-Gamma-Linolenoyl-Gpc (16:0/18:3N6)	Phosphatidylcholine (PC)	Lipid	1.41	0.0204	0.0688
1-Linoleoyl-2-Arachidonoyl-Gpc (18:2/20:4N6)	Phosphatidylcholine (PC)	Lipid	1.39	0.0363	0.0858
Thyroxine	Tyrosine Metabolism	Amino Acid	1.38	0.015	0.0572
1-Stearoyl-2-Arachidonoyl-Gpi (18:0/20:4)	Phosphatidylinositol (PI)	Lipid	1.37	0.043	0.0934
Sphingomyelin (D18:2/18:1)	Sphingolipid Metabolism	Lipid	1.36	0.002	0.024
9-Hydroxystearate	Fatty Acid, Monohydroxy	Lipid	1.36	0.0303	0.0792
Sphingomyelin (D17:1/16:0, D18:1/15:0, D16:1/17:0)	Sphingolipid Metabolism	Lipid	1.34	0.0134	0.0565
Behenoyl Sphingomyelin (D18:1/22:0)	Sphingolipid Metabolism	Lipid	1.33	0.0237	0.0734

1-Stearoyl-2-Linoleoyl-Gpc (18:0/18:2)	Phosphatidylcholine (PC)	Lipid	1.33	0.0325	0.0809
Lignoceroyl Sphingomyelin (D18:1/24:0)	Sphingolipid Metabolism	Lipid	1.32	0.017	0.0615
Sphingomyelin (D18:2/23:1)	Sphingolipid Metabolism	Lipid	1.3	0.0039	0.0318
1-Palmitoyl-2-Oleoyl-Gpc (16:0/18:1)	Phosphatidylcholine (PC)	Lipid	1.28	0.0013	0.0177
Sphingomyelin (D18:1/24:1, D18:2/24:0)	Sphingolipid Metabolism	Lipid	1.28	0.0028	0.027
Sphingomyelin (D18:1/14:0, D16:1/16:0)	Sphingolipid Metabolism	Lipid	1.27	0.0124	0.0547
Sphingomyelin (D18:1/17:0, D17:1/18:0, D19:1/16:0)	Sphingolipid Metabolism	Lipid	1.24	0.004	0.0318
1-Oleoyl-2-Docosahexaenoyl-Gpc (18:1/22:6)	Phosphatidylcholine (PC)	Lipid	1.24	0.0066	0.0414
Palmitoyl Sphingomyelin (D18:1/16:0)	Sphingolipid Metabolism	Lipid	1.23	0.0138	0.0565
3-Methyl-2-Oxobutyrate	Leucine, Isoleucine and Valine Metabolism	Amino Acid	1.21	0.0236	0.0734
Sphingomyelin (D18:1/22:2, D18:2/22:1, D16:1/24:2)	Sphingolipid Metabolism	Lipid	1.21	0.0331	0.0811
Citrate	TCA Cycle	Energy	1.2	0.0249	0.0749
Sphingomyelin (D18:1/20:0, D16:1/22:0)	Sphingolipid Metabolism	Lipid	1.2	0.0254	0.075
Palmitoyl Ethanolamide	Endocannabinoid	Lipid	1.19	0.0093	0.0477
Sphingomyelin (D18:2/24:1, D18:1/24:2)	Sphingolipid Metabolism	Lipid	1.14	0.0073	0.0424
1-Palmitoyl-2-Palmitoleoyl-Gpc (16:0/16:1)	Phosphatidylcholine (PC)	Lipid	1.14	0.04	0.0912
Arginine	Urea cycle; Arginine and Proline Metabolism	Amino Acid	0.8	0.0444	0.0934
Trans-4-Hydroxyproline	Urea cycle; Arginine and Proline Metabolism	Amino Acid	0.77	0.0289	0.0768
Histidine	Histidine Metabolism	Amino Acid	0.76	0.0156	0.0587
Serine	Glycine, Serine and Threonine Metabolism	Amino Acid	0.75	0.0201	0.0685
Citrulline	Urea cycle; Arginine and Proline Metabolism	Amino Acid	0.73	0.0081	0.0457
Threonine	Glycine, Serine and Threonine Metabolism	Amino Acid	0.72	0.0275	0.076
Ornithine	Urea cycle; Arginine and Proline Metabolism	Amino Acid	0.69	0.0348	0.0839
Tryptophan	Tryptophan Metabolism	Amino Acid	0.69	0.0493	0.0997
Indole-3-Carboxylic Acid	Tryptophan Metabolism	Amino Acid	0.66	0.0078	0.0445
Tetradecanedioate (C14-Dc)	Fatty Acid, Dicarboxylate	Lipid	0.66	0.0281	0.076
Lysine	Lysine Metabolism	Amino Acid	0.64	0.0053	0.0357
S-1-Pyrroline-5-Carboxylate	Glutamate Metabolism	Amino Acid	0.63	0.0393	0.0905
Picolinate	Tryptophan Metabolism	Amino Acid	0.61	0.0135	0.0565
Hexadecenedioate (C16:1-Dc)	Fatty Acid, Dicarboxylate	Lipid	0.61	0.0098	0.0491
Gamma-Glutamyl-Alpha-Lysine	Gamma-glutamyl Amino Acid	Peptide	0.59	0.0039	0.0318
Indolebutyrate	Tryptophan Metabolism	Amino Acid	0.58	0.0444	0.0934
5-Methyluridine (Ribothymidine)	Pyrimidine Metabolism, Uracil containing	Nucleotide	0.58	0.0005	0.0104
Bilirubin (Z,Z)	Hemoglobin and Porphyrin Metabolism	Cofactors and Vitamins	0.57	0.015	0.0572
N-Palmitoylserine	Endocannabinoid	Lipid	0.56	0.0419	0.0934
Homoarginine	Urea cycle; Arginine and Proline Metabolism	Amino Acid	0.51	0.021	0.0693
Phosphoethanolamine	Phospholipid Metabolism	Lipid	0.5	0.0255	0.075
Glycohyocholate	Secondary Bile Acid Metabolism	Lipid	0.5	0.0443	0.0934
Bilirubin (E,Z Or Z,E)	Hemoglobin and Porphyrin Metabolism	Cofactors and Vitamins	0.46	0.0261	0.0759
Bilirubin (E,E)	Hemoglobin and Porphyrin Metabolism	Cofactors and Vitamins	0.39	0.0095	0.0479
Androstenediol (3Beta,17Beta) Disulfate (2)	Androgenic Steroids	Lipid	0.37	0.0422	0.0934
Pyridoxal	Vitamin B6 Metabolism	Cofactors and Vitamins	0.34	0.0453	0.0937
Adenosine	Purine Metabolism, Adenine containing	Nucleotide	0.33	0.0228	0.0731

Estriol 3-Sulfate	Estrogenic Steroids	Lipid	0.32	0.0189	0.0657
17Alpha-Hydroxypregnenolone 3-Sulfate	Pregnenolone Steroids	Lipid	0.31	0.0266	0.0759
Androstenediol (3Beta,17Beta) Disulfate (1)	Androgenic Steroids	Lipid	0.31	0.0464	0.0942
N-Acetylkynurenine	Tryptophan Metabolism	Amino Acid	0.3	0.0145	0.057
21-Hydroxypregnenolone Monosulfate	Pregnenolone Steroids	Lipid	0.3	0.0278	0.076
N-Acetyl-2-Aminooctanoate	Fatty Acid, Amino	Lipid	0.27	0.0031	0.0273
Andro Steroid Monosulfate C19H28O6S	Androgenic Steroids	Lipid	0.26	0.0174	0.0619
16A-Hydroxy Dhea 3-Sulfate	Androgenic Steroids	Lipid	0.22	0.0071	0.042
3-Dehydrocholate	Secondary Bile Acid Metabolism	Lipid	0.13	0.0022	0.0259

Table S3. Fold-change in cord plasma (VC/EC) for xenobiotics with significant p (≤ 0.05) and q (≤ 0.10), ordered according to fold-change (greatest to smallest), with corresponding sub-pathway and super-pathway (of note, the fold-change for Metronidazole is recorded as 0 as there was 0 quantity recorded in the VC group, however the p -value is the smallest).

Metabolite	Sub-Pathway	Super-Pathway	Fold-Change (VC/EC)	p -Value	q -Value
Triethanolamine	Chemical	Xenobiotics	39.65	0.0028	0.0298
4-Acetamidophenol	Drug - Analgesics, Anesthetics	Xenobiotics	16.03	0.0000	0.0031
4-Acetaminophen Sulfate	Drug - Analgesics, Anesthetics	Xenobiotics	7.73	0.0004	0.0093
4-Acetamidophenylglucuronide	Drug - Analgesics, Anesthetics	Xenobiotics	5.60	0.0003	0.0093
2-Hydroxyacetaminophen Sulfate	Drug - Analgesics, Anesthetics	Xenobiotics	5.60	0.0005	0.0100
2-Methoxyacetaminophen Sulfate	Drug - Analgesics, Anesthetics	Xenobiotics	5.09	0.0002	0.0081
2-Methoxyacetaminophen Glucuronide	Drug - Analgesics, Anesthetics	Xenobiotics	4.13	0.0004	0.0093
3-(Cystein-S-Yl)Acetaminophen	Drug - Analgesics, Anesthetics	Xenobiotics	3.99	0.0005	0.0099
3-(N-Acetyl-L-Cystein-S-Yl) Acetaminophen	Drug - Analgesics, Anesthetics	Xenobiotics	3.71	0.0087	0.0526
Ibuprofen	Drug - Analgesics, Anesthetics	Xenobiotics	2.71	0.0011	0.0146
Benzoate	Benzoate Metabolism	Xenobiotics	2.26	0.0158	0.0734
Ranitidine	Drug - Gastrointestinal	Xenobiotics	0.54	0.0059	0.0413
Acesulfame	Food Component/Plant	Xenobiotics	0.31	0.0061	0.0424
Saccharin	Food Component/Plant	Xenobiotics	0.04	0.0000	0.0000
Metronidazole	Drug - Antibiotic	Xenobiotics	0.00	0.0000	0.0000

Table S4. Fold-change in maternal (intervillous) plasma (VM/EM) for xenobiotics with significant p (≤ 0.05) and q (≤ 0.10), ordered according to fold-change (greatest to smallest) (of note, the fold-change for Metronidazole is recorded as 0 as there was 0 quantity recorded in the VC group, however the p -value is the smallest).

Metabolite	Sub-Pathway	Super-Pathway	Fold-Change (VM/EM)	p -Value	q -Value
Triethanolamine	Chemical	Xenobiotics	19.54	0.0121	0.0539
4-Acetamidophenol	Drug - Analgesics, Anesthetics	Xenobiotics	18.20	0.0000	0.0039
3-(Cystein-S-Yl) Acetaminophen	Drug - Analgesics, Anesthetics	Xenobiotics	10.15	0.0007	0.0113
4-Acetaminophen Sulfate	Drug - Analgesics, Anesthetics	Xenobiotics	10.09	0.0002	0.0079
2-Methoxyacetaminophen Sulfate	Drug - Analgesics, Anesthetics	Xenobiotics	9.91	0.0001	0.0066
4-Acetamidophenylglucuronide	Drug - Analgesics, Anesthetics	Xenobiotics	8.84	0.0002	0.0078
3-(N-Acetyl-L-Cystein-S-Yl) Acetaminophen	Drug - Analgesics, Anesthetics	Xenobiotics	8.27	0.0070	0.0417
2-Hydroxyacetaminophen Sulfate	Drug - Analgesics, Anesthetics	Xenobiotics	8.06	0.0003	0.0079
2-Methoxyacetaminophen Glucuronide	Drug - Analgesics, Anesthetics	Xenobiotics	7.39	0.0001	0.0070
4-Hydroxybenzoate	Benzoate Metabolism	Xenobiotics	6.14	0.0107	0.0517
Morphine-6-Glucuronide	Drug - Analgesics, Anesthetics	Xenobiotics	3.91	0.0370	0.0870
Morphine-3-Glucuronide	Drug - Analgesics, Anesthetics	Xenobiotics	3.05	0.0380	0.0885
Ibuprofen	Drug - Analgesics, Anesthetics	Xenobiotics	2.90	0.0004	0.0082
Benzoate	Benzoate Metabolism	Xenobiotics	2.78	0.0444	0.0934
Salicyluric Glucuronide	Drug - Analgesics, Anesthetics	Xenobiotics	2.75	0.0000	0.0003
Phytanate	Food Component/Plant	Xenobiotics	2.51	0.0025	0.0261
3-Methylxanthine	Xanthine Metabolism	Xenobiotics	2.19	0.0233	0.0734
7-Methylxanthine	Xanthine Metabolism	Xenobiotics	1.78	0.0247	0.0748
Umbelliferone Sulfate	Food Component/Plant	Xenobiotics	0.32	0.0376	0.0878
Saccharin	Food Component/Plant	Xenobiotics	0.14	0.0007	0.0113
Metronidazole	Drug - Antibiotic	Xenobiotics	0.00	0.0000	0.0000

Table S5. Fold-change in cord plasma (VC/EC) and maternal (intervillous) plasma (VM/EM) for sphingolipids, with corresponding p and q values (significant when $p \leq 0.05$ and $q \leq 0.10$).

Sphingolipid	Fold-Change (VC/EC)	p -Value	q -Value	Fold-Change (VM/EM)	p -Value	q -Value
Sphinganine	1.54	NS	0.3393	1.28	NS	0.362
Sphinganine-1-Phosphate	1.28	NS	0.2858	1.53	NS	0.197
N-Palmitoyl-Sphinganine (D18:0/16:0)	1.42	NS	0.1602	1.51	0.045	0.093
N-Palmitoyl-Sphingadienine (D18:2/16:0)	1.21	NS	0.494	1.28	NS	0.213
N-Behenoyl-Sphingadienine (D18:2/22:0)	1.06	NS	0.5461	1.61	0.044	0.093
Myristoyl Dihydrosphingomyelin (D18:0/14:0)	1.17	NS	0.216	1.02	NS	0.498
Palmitoyl Dihydrosphingomyelin (D18:0/16:0)	1.04	NS	0.4674	0.98	NS	0.452
Behenoyl Dihydrosphingomyelin (D18:0/22:0)	1.06	NS	0.5635	0.9	NS	0.261
Palmitoyl Sphingomyelin (D18:1/16:0)	1.06	NS	0.2737	1.23	0.014	0.057
Stearoyl Sphingomyelin (D18:1/18:0)	0.9	NS	0.3165	1.02	NS	0.466

Behenoyl Sphingomyelin (D18:1/22:0)	0.94	NS	0.4308	1.33	0.024	0.073
Tricosanoyl Sphingomyelin (D18:1/23:0)	1.05	NS	0.5663	1.8	0.024	0.074
Lignoceroyl Sphingomyelin (D18:1/24:0)	1.06	NS	0.5133	1.32	0.017	0.062
Sphingomyelin (D18:1/14:0, D16:1/16:0)	1.05	NS	0.4497	1.27	0.012	0.055
Sphingomyelin (D18:2/14:0, D18:1/14:1)	1.08	NS	0.4942	1.41	0.014	0.057
Sphingomyelin (D17:1/16:0, D18:1/15:0, D16:1/17:0)	1.12	NS	0.2597	1.34	0.013	0.057
Sphingomyelin (D18:2/16:0, D18:1/16:1)	1.03	NS	0.5712	1.09	NS	0.118
Sphingomyelin (D18:1/17:0, D17:1/18:0, D19:1/16:0)	1.09	NS	0.3643	1.24	0.004	0.032
Sphingomyelin (D18:1/18:1, D18:2/18:0)	0.98	NS	0.5218	0.88	NS	0.335
Sphingomyelin (D18:1/20:0, D16:1/22:0)	0.92	NS	0.3642	1.2	0.025	0.075
Sphingomyelin (D18:1/20:1, D18:2/20:0)	0.93	NS	0.4066	0.91	NS	0.388
Sphingomyelin (D18:1/21:0, D17:1/22:0, D16:1/23:0)	1.14	NS	0.4942	1.71	0.016	0.06
Sphingomyelin (D18:1/22:1, D18:2/22:0, D16:1/24:1)	1	NS	0.5663	1.09	NS	0.351
Sphingomyelin (D18:2/23:0, D18:1/23:1, D17:1/24:1)	1.28	NS	0.1998	1.74	0.006	0.036
Sphingomyelin (D18:1/24:1, D18:2/24:0)	1.06	NS	0.4865	1.28	0.003	0.027
Sphingomyelin (D18:2/24:1, D18:1/24:2)	1	NS	0.579	1.14	0.007	0.042
Sphingosine	1.83	NS	0.1642	0.98	NS	0.539
Sphingosine 1-Phosphate	1.27	NS	0.1783	1.38	NS	0.109
Sphingomyelin (D18:2/23:1)	1.12	NS	0.3657	1.3	0.004	0.032
Sphingomyelin (D18:2/21:0, D16:2/23:0)	1.23	NS	0.2532	1.56	0.001	0.011
Sphingomyelin (D18:1/20:2, D18:2/20:1, D16:1/22:2)	1.06	NS	0.5133	1.18	NS	0.208
Sphingomyelin (D18:2/24:2)	0.89	NS	0.2953	0.94	NS	0.468
Sphingomyelin (D18:1/25:0, D19:0/24:1, D20:1/23:0, D19:1/24:0)	1.64	0.046	0.1299	1.14	NS	0.314
Sphingomyelin (D18:1/22:2, D18:2/22:1, D16:1/24:2)	0.92	NS	0.3643	1.21	0.033	0.081
Sphingomyelin (D18:0/20:0, D16:0/22:0)	1.16	NS	0.5509	0.92	NS	0.309
Sphingomyelin (D18:0/18:0, D19:0/17:0)	1.01	NS	0.5748	0.81	NS	0.22
Sphingomyelin (D17:2/16:0, D18:2/15:0)	1.09	NS	0.4276	1.51	0.025	0.075
Sphingomyelin (D18:2/18:1)	1.07	NS	0.4308	1.36	0.002	0.024
Sphingomyelin (D18:1/19:0, D19:1/18:0)	1.09	NS	0.4352	1.56	0.001	0.011
N-Palmitoyl-Heptadecaspingosine (D17:1/16:0)	1.15	NS	0.4012	1.54	NS	0.188
N-Stearoyl-Sphinganine (D18:0/18:0)	1.12	NS	0.5295	1.16	NS	0.49
Sphingadienine	1.35	NS	0.5274	0.58	NS	0.264
Lactosyl-N-Behenoyl-Sphingosine (D18:1/22:0)	1.94	NS	0.2146	1.86	0.031	0.08

Table S6. Fold-change in cord plasma (VC/EC) and maternal (intervillous) plasma (VM/EM) for pregnenolone steroids, with corresponding *p* and *q* values (significant when $p \leq 0.05$ and $q \leq 0.10$).

Pregnenolone Steroids	Fold-Change (VC/EC)	<i>p</i> -Value	<i>q</i> -Value	Fold-Change (VM/EM)	<i>p</i> -Value	<i>q</i> -Value
Pregnenolone Sulfate	1.10	NS	0.5121	0.39	0.055	0.108
17alpha-Hydroxypregnenolone 3-Sulfate	1.23	NS	0.5178	0.31	0.027	0.076
17alpha-Hydroxypregnenolone Glucuronide	0.85	NS	0.2681	0.9	NS	0.435
21-Hydroxypregnenolone Monosulfate	0.78	NS	0.2146	0.3	0.028	0.076
21-Hydroxypregnenolone Disulfate	0.94	NS	0.5039	0.44	NS	0.15
21-Hydroxypregnanolone Disulfate	1.12	NS	0.4033	1	NS	0.417
Pregnen-Diol Disulfate C21H34O8S2	1.37	NS	0.5635	1.01	NS	0.47
Pregn Steroid Monosulfate C21H34O5S	1.41	NS	0.3514	0.86	NS	0.451

Table S7. Fold-change in cord plasma (VC/EC) and maternal (intervillous) plasma (VM/EM) for progestin steroids, with corresponding *p* and *q* values (significant when $p \leq 0.05$ and $q \leq 0.10$).

Progestin Steroids	Fold-Change (VC/EC)	<i>p</i> -Value	Q-Value	Fold-Change (VM/EM)	<i>p</i> -Value	<i>q</i> -Value
Progesterone	1.42	NS	0.1545	1.38	NS	0.532
5alpha-Pregnan-3beta-Ol,20-One Sulfate	1.11	NS	0.4856	1.52	0.041	0.092
5alpha-Pregnan-3beta,20beta-Diol Monosulfate	1.34	NS	0.3011	2.13	0.005	0.036
5alpha-Pregnan-3beta,20alpha-Diol Monosulfate 1	1.36	NS	0.2510	2.31	0.005	0.035
5alpha-Pregnan-3beta,20alpha-Diol Monosulfate 2	1.52	NS	0.3514	2.25	0.004	0.032
5alpha-Pregnan-3beta,20alpha-Diol Disulfate	1.12	NS	0.3907	1.34	NS	0.309
5alpha-pregnan-diol disulfate	1.05	NS	0.4194	1.69	NS	0.3101
5alpha-Pregnan-3alpha,20beta-Diol Disulfate	1.43	NS	0.1853	0.86	NS	0.314
Pregnanediol-3-Glucuronide	0.95	NS	0.5413	1.65	0.045	0.093
Pregnanolone/Allopregnanolone Sulfate	1.08	NS	0.5635	1.67	0.059	0.111

Table S8. Fold-change in cord plasma (VC/EC) and maternal (intervillous) plasma (VM/EM) for endocannabinoid steroids, with corresponding *p* and *q* values (significant when $p \leq 0.05$ and $q \leq 0.10$).

Endocannabinoid Steroids	Fold-Change (VC/EC)	<i>p</i> -Value	<i>q</i> -Value	Fold-Change (VM/EM)	<i>p</i> -Value	<i>q</i> -Value
Palmitoyl Ethanolamide (PEA)	1.19	0.0357	0.1158	1.19	0.009	0.048
N-Palmitoylserine	0.93	NS	0.4460	0.56	0.042	0.093
Oleoyl Ethanolamide (OEA)	1.31	0.0226	0.0904	1.39	NS	0.209
Arachidonoyl Ethanolamide (AEA/Andamide)	1.48	0.0296	0.1015	1.25	NS	0.277
Linoleoyl Ethanolamide	1.34	0.0707	0.1642	1.32	NS	0.226
N-Stearoyltaurine	0.96	NS	0.5605	1.22	NS	0.413
N-Palmitoyltaurine	0.97	NS	0.5321	0.81	NS	0.255
N-Linoleoyltaurine	0.98	NS	0.5461	0.83	NS	0.196
N-Oleoylserine	0.94	NS	0.5133	0.77	NS	0.311

Table S9. Fold-change in cord plasma (VC/EC) and maternal (intervillous) plasma (VM/EM) for ceramides, with corresponding *p* and *q* values (significant when $p \leq 0.05$ and $q \leq 0.10$).

Ceramide	Fold-Change (VC/EC)	<i>p</i> -Value	<i>q</i> -Value	Fold-Change (VM/EM)	<i>p</i> -Value	<i>q</i> -Value
N-Palmitoyl-Sphingosine (D18:1/16:0)	1.38	NS	0.1455	1.49	NS	0.135
N-Stearoyl-Sphingosine (D18:1/18:0)	1.27	NS	0.3510	1.78	0.009	0.048
N-Stearoyl-Sphingadienine (D18:2/18:0)	1.49	NS	0.1491	1.73	0.009	0.047
Ceramide (D16:1/24:1, D18:1/22:1)	1.26	NS	0.3228	1.5	0.043	0.093
Ceramide (D18:1/14:0, D16:1/16:0)	1.28	NS	0.3303	1.53	NS	0.119
Ceramide (D18:1/17:0, D17:1/18:0)	1.79	NS	0.1950	1.88	0.044	0.093
Ceramide (D18:1/20:0, D16:1/22:0, D20:1/18:0)	1.05	NS	0.5688	1.61	0.033	0.081
Ceramide (D18:2/24:1, D18:1/24:2)	1.34	NS	0.2513	1.53	0.04	0.091
Glycosyl-N-Palmitoyl-Sphingosine (D18:1/16:0)	1.35	NS	0.1674	1.51	0.031	0.079
Glycosyl-N-Stearoyl-Sphingosine (D18:1/18:0)	1.21	NS	0.4308	1.55	0.046	0.094
Glycosyl-N-Beheoyl-Sphingadienine (D18:2/22:0)	1.38	NS	0.4688	1.69	0.045	0.093
Glycosyl-N-(2-Hydroxynervonoyl)-Sphingosine (D18:1/24:1(2OH))	0.57	NS	0.5276	1.99	NS	0.121
Lactosyl-N-Palmitoyl-Sphingosine (D18:1/16:0)	1.73	NS	0.1461	1.93	0.001	0.018
Lactosyl-N-Nervonoyl-Sphingosine (D18:1/24:1)	2.99	NS	0.1762	2.83	0.002	0.026
Glycosyl Ceramide (D18:1/20:0, D16:1/22:0)	1.22	NS	0.5114	1.61	0.046	0.094
Glycosyl Ceramide (D18:1/23:1, D17:1/24:1)	1.67	NS	0.3228	1.36	NS	0.324
Glycosyl Ceramide (D18:2/24:1, D18:1/24:2)	1.33	NS	0.3755	1.5	NS	0.112

