

1 **Supplementary material**

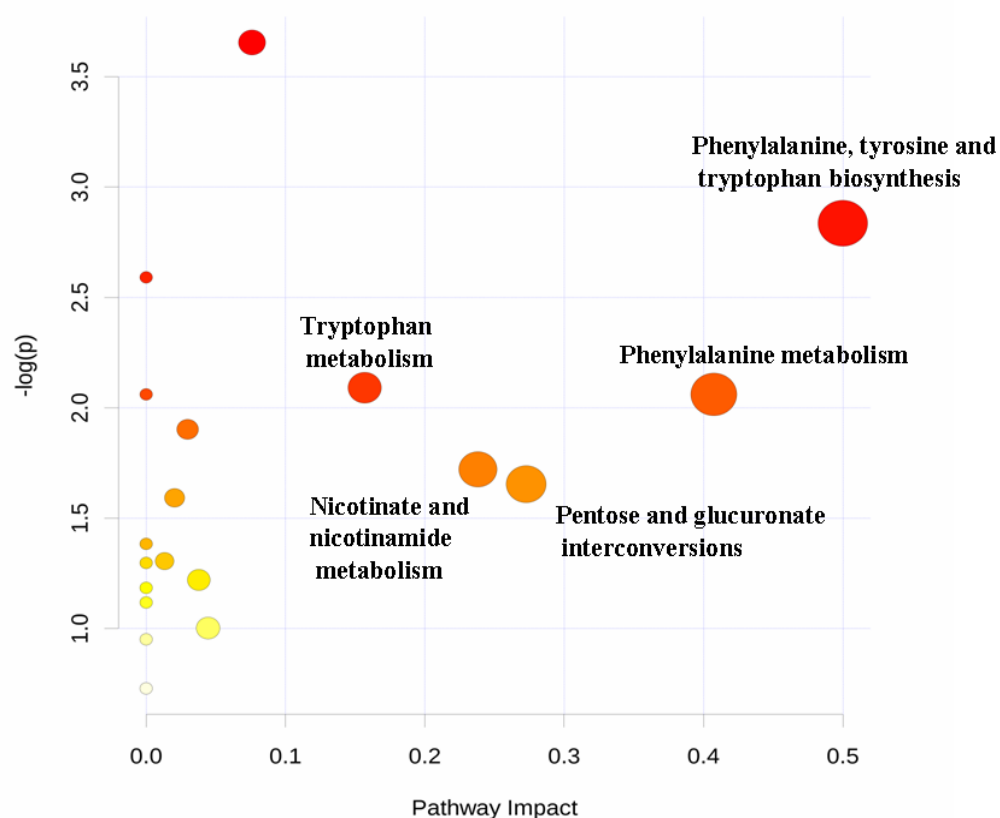
2 **Table S1.** The metabolic pathways matched according to p values from pathway
 3 enrichment analysis and pathway impact values from pathway topology analysis on
 4 MetaboAnalyst 2.0 (<http://www.metaboanalyst.ca/MetaboAnalyst/>)

Pathway Name	Total	Expected	p	-log(p)	Impact	Details
Arginine and proline metabolism	44	0.65906	0.025849	3.6555	0.07598	KEGG
Phenylalanine, tyrosine and tryptophan biosynthesis	4	0.059914	0.058643	2.8363	0.5	KEGG
Aminoacyl-tRNA biosynthesis	67	1.0036	0.07494	2.5911	0.0	KEGG
Tryptophan metabolism	41	0.61412	0.12356	2.091	0.15684	KEGG
Ascorbate and aldarate metabolism	9	0.13481	0.12735	2.0608	0.0	KEGG
Phenylalanine metabolism	9	0.13481	0.12735	2.0608	0.40741	KEGG
Primary bile acid biosynthesis	46	0.68902	0.14922	1.9023	0.02976	KEGG
Nicotinate and nicotinamide metabolism	13	0.19472	0.17885	1.7212	0.2381	KEGG
Pentose and glucuronate interconversions	14	0.2097	0.19126	1.6541	0.27273	KEGG
Pantothenate and CoA biosynthesis	15	0.22468	0.2035	1.5921	0.02041	KEGG
beta-Alanine metabolism	19	0.28459	0.2507	1.3835	0.0	KEGG
Purine metabolism	68	1.0185	0.27107	1.3054	0.01324	KEGG
Sphingolipid metabolism	21	0.31455	0.27329	1.2972	0.0	KEGG
Starch and sucrose metabolism	23	0.34451	0.29523	1.22	0.03778	KEGG
Alanine, aspartate and glutamate	24	0.35949	0.30597	1.1843	0.0	KEGG

metabolism						
Glutathione metabolism	26	0.38944	0.32697	1.1179	0.0	KEGG
Glycerophospholipid metabolism	30	0.44936	0.36716	1.0019	0.04444	KEGG
Glycine, serine and threonine metabolism	32	0.47932	0.38639	0.9509	0.0	KEGG
Fatty acid biosynthesis	43	0.64408	0.48261	0.72855	0.0	KEGG

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6 **Figure S1.** Overview of pathway analysis according to p values from pathway
 7 enrichment analysis and pathway impact values from pathway topology analysis on
 8 MetaboAnalyst 2.0 (<http://www.metaboanalyst.ca/MetaboAnalyst/>).



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