

**Supplementary Figure S1**. PLS-DA classification using different number of components. The red asterisk indicates the best classifier with Q2 value close to 0.8.



**Supplementary Figure S2**. The PLS-DA loadings plot for components 1 and 2. Bins with higher loading includes: 3-hydroxybutyrate (bins: 1.2), lactate (bin: 1.36), alanine (bin: 1.52), leucine (bin: 1.76), isoleucine (bin: 0.96, 1.04, 2.04, 2.08), lysine (bin: 3.04), D-glucose (bins: 3.28, 3.8, 3.44, 3.92), glycerophosphatidylcholine (bin: 3.68), 2-hydroxybutyrate (bin:4.0), leucine (bin: 1.0, 1.76), valine (1.08), histidine (bin: 4.04), lipid (0.88, 0.92, 1.28, 1.32, 1.4, 2.8), unsaturated lipid (5.36, 5.4), acetone (2.28), ornithine and creatine (3.08), succinate (2.4) and threonine (3.6).



**Supplementary Figure S3.** Summary of pathway analysis with Metaboanalyst. (a) Arginine and proline metabolism, (b) Lysine degradation, (c) Pyruvate metabolism, (d) Lysine biosynthesis (e) Glycine, serine and threonine metabolism.

**Supplementary Table S1.** Bins corresponding to metabolites with high VIP score (>1) contributing to the discrimination between serum of endometriosis patients and controls.

Bin	Metabolite
1.32	LDL and VLDL
3.4	Could not be identified
0.92	LDL and VLDL
1.28	LDL and VLDL
0.88	Cholesterol
1.36	Lactate
3.28	D-Glucose
1.4	Could not be identified
5.36	Unsaturated lipid (-CH=CH-)
1.52	L- alanine
4.84	Bins arising from water suppression
3.68	Glycerophosphatidylcholine
4.16	Lactate
5.32	Unsaturated lipid (-CH=CH-)
1.2	3-hydroxybutyrate
1.0	L-leucine
3.8	D-Glucose
4.8	Bin arising from water suppression
2.04	L-isoleucine
2.08	L-isoleucine
0.96	L-isoleucine
4.0	2-hydroxybutyrate
2.4	Succinic acid
3.04	L-lysine
1.6	Adipic acid
1.76	L-leucine
1.72	L-Leucine
1.96	Could not be identified
3.6	L-threonine
2.8	Lipid (C=C-CH2-C=C)
1.04	L-isoleucine+ L-valine
5.4	Unsaturated lipid (-CH=CH-)
3.44	Glucose
1.08	L-valine
1.64	L-arginine
1.32	LDL and VLDL
3.4	Could not be identified
0.92	LDL and VLDL