Electronic Supplementary Material (ESI) for Molecular BioSystems.

Table 1S. Assignment of the peaks in ^{1}H NMR spectra obtained on lypophilic fraction of follicular fluids in controls and in endometriosis patients with stage I-II and stage III-IV. In details, we report for each peak the metabolite name, chemical group, and chemical shift.

Metabolites	Moieties	Chemical shift
Cholesterol	$C_{18}H_3$	0.67
Cholesterol	$C_{26}H_3$,$C_{27}H_3$	0.88
Fatty acid residues	ω-CH_3	0.89
Fatty acid residues	ω-CH_3 in omega-3	0.98
Cholesterol	$C_{19}H_3$	1.01
Lipids	$CH_3CH_2CH_2$	1.21
Fatty acid residues	$(CH_2)_n$	1.30
Lipids	$CH_2CH_2C=C$	1.46
Lipids	CH_2CH_2CO	1.57
Fatty acid residues	$COCH_2$-CH_2	1.60
Fatty acid residues	β-CH_2 of arachidonic and eicosapentaenoic acids	1.68
Lipids	$CH=CHCH_2$	1.97
Fatty acid residues	-CH_2-CH=	2.04
Fatty acid residues	-CO-CH_2	2.30
Fatty acid residues	α and β CH_2 of docosahexaenoic acid	2.39
Fatty acid residues	-CH=CH-CH_2-CH=CH- of linoleic acid	2.76

Fatty acid residues	$(CH=CH-CH_2-CH=CH)_{n<1}$	2.80
Phospholipids	$(-CH_2-NH_2)$ of phoshatidylethanolamine	3.14
Phospholipids	$(-CH_2-N-(CH_3)_3)$of sphingomyelin and phospahtidylcholine	3.33
Cholesterol	C_3H	3.5
Triglycerides	C_1H and C_3H of glycerol	4.15
Triglycerides	C_1H and C_3H of glycerol	4.29
Triglycerides	C_2H of glycerol	5.25
Fatty acid residues	CH=CH	5.36
Cholesterol	C_6H	5.37

Table 2S. Assignment of the peaks in ^{1}H NMR spectra obtained on polar fraction of follicular fluids in controls and in endometriosis patients with I-II stage and III-IVstage. In details, we report for each peak the metabolite name, chemical group, and chemical shift.

Metabolites	Group	Chemical shift
Leucine	δCH_3	0.96
Valine	γCH_3	0.97
Valine	βCH_3	1.04
Threonine	γCH_3	1.34
Lactate	βCH_3	1.34
Alanine	βCH_3	1.48
Leucine	βCH_2	1.72
Lysine	δCH_2	1.72
Lysine	βCH_2	1.90
Acetate	CH_3	1.91
Arginine	βCH_2	1.91
Proline	γH	2.00
Proline	$\beta 1H$	2.04
Glutamate	βCH	2.06
Glutamine	βCH_2	2.15
Valine	βCH	2.28
Proline	$\beta 1H$	2.34
Glutamate	γCH_2	2.35
Glutamine	γCH_2	2.43
Aspartate	βCH_2	2.66
Aspartate	$\beta' CH_2$	2.79

Phenylalanine	βCH_{2u}	3.12
Choline	$N(CH_3)_3$	3.19
Phosphocholine	NH	3.20
Arginine	δCH_2	3.22
β-Glucose	C2H	3.26
Phenylalanine	βCH_{2d}	3.29
Proline	δ1H	3.35
β-Glucose	C4H	3.40
Proline	δ2H	3.41
α-Glucose	C4H	3.42
β-Glucose	C5H	3.47
β-Glucose	C3H	3.48
α-Glucose	C2H	3.54
Glycine	CH_2	3.56
Threonine	αCH	3.59
Valine	αCH	3.63
Phosphocholine	βH	3.65
α-Glucose	C3H	3.72
Alanine	αCH	3.75
Glutamine	αCH	3.76
Glutamate	αCH	3.77
α-Glucose	C6H	3.78
α-Glucose	C5H	3.84
β-Glucose	C6H	3.90
Phenylalanine	αCH	4.02
Lactate	αCH	4.11

Proline	αCH	4.12
Phosphocholine	αH	4.28
β-Glucose	C1H	5.2
α-Glucose	C1H	5.4
Phenylalanine	C4H ring	7.33
Phenylalanine	C2,6H ring	7.39
Phenylalanine	C3,5H ring	7.43
Formate	$HCOO^-$	8.46