

Raw Data										
Groups	NC	HFD+DSS	L-THL	H-THL		Groups	NC	HFD+DSS	L-THL	H-THL
Mean of D-mannitol(ng/ml)	130.97	227.52	184.53	156.50		Body wieght increment(g)	6.40	12.30	6.10	5.60
	158.36	212.57	164.91	174.25			4.70	13.80	8.70	4.40
	154.63	203.69	195.75	171.92			7.70	13.10	6.00	6.70
	147.64	204.61	180.33	157.90			5.60	12.70	6.60	3.50
	150.35	223.60	170.23	156.03			7.50	10.00	6.40	5.30
	151.90	202.29	178.42	163.35			5.30	8.50	6.80	6.00
							7.00	11.90	6.70	3.50
							8.00	13.40	6.90	3.70
							6.30	9.30	7.60	6.00
							7.40	9.10	7.60	7.50
							5.30	10.00	6.60	6.10
Groups	NC	HFD+DSS	L-THL	H-THL		Groups	NC	HFD+DSS	L-THL	H-THL
serum TNF-a(pg/ml)	66.26	287.69	80.55	204.83		serum IL-6(pg/ml)	29.40	76.39	35.04	25.64
	64.83	248.40	141.26	147.69			24.68	32.78	33.16	24.89
	105.55	284.12	199.83	141.98			23.76	49.32	30.90	30.53
	76.83	221.98	94.12	212.12			26.77	52.33	24.14	34.66
	100.35	196.98	96.98	136.12			23.38	46.69	18.12	32.78
	83.17	303.56	126.13	165.28			24.89	50.37	18.12	30.17
Groups	NC	HFD+DSS	L-THL	H-THL		Groups	NC	HFD+DSS	L-THL	H-THL
serum IL-1b(pg/ml)	54.03	80.42	48.19	64.44		Liver TNF-a(pg/ml)	609.15	753.30	852.40	730.77
	60.28	75.42	51.94	65.83			582.13	1111.41	751.05	489.13
	58.19	59.58	52.64	63.06			589.78	995.19	645.19	778.33
	65.14	60.97	53.33	63.75			521.38	811.86	521.32	271.32

	55.33	63.06	52.64	65.83			582.13	1023.57	693.28	255.55
	58.32	67.91	51.29	64.44			302.85	934.31	737.35	372.67
Groups liver IL-6(pg/ml)	NC	HFD+DSS	L-THL	H-THL		Groups liver IL-1b(pg/ml)	NC	HFD+DSS	L-THL	H-THL
	137.96	312.72	133.50	138.18			473.05	1440.42	1031.21	697.26
	101.83	250.58	231.62	194.76			443.58	1343.58	1121.47	363.05
	150.58	259.32	193.30	101.49			783.58	1001.47	1339.37	963.58
	50.58	210.78	164.66	171.46			671.10	1053.05	701.47	637.26
	88.45	236.99	151.07	112.23			861.47	1297.26	1141.47	387.79
	85.05	253.17	172.43	109.81			799.37	1224.31	866.74	611.24
Groups colon length(cm)	NC	HFD+DSS	L-THL	H-THL		Groups Serum AST (U/L)	NC	HFD+DSS	L-THL	H-THL
	10.10	8.35	9.65	9.50			153.60	146.40	149.60	95.20
	9.80	7.25	9.30	9.25			168.00	155.40	169.80	93.00
	9.75	8.95	9.00	9.00			139.80	233.20	161.60	128.00
	9.80	7.75	9.30	9.00			153.60	201.20	129.50	134.00
	9.35	8.80	9.75	8.95			165.40	193.40	175.40	144.20
	10.15	8.90	8.95	9.35			157.10	186.20	157.30	117.90
	9.90	7.45	9.57	9.32						
Groups Serum TG (mmol/L)	NC	HFD+DSS	L-THL	H-THL		Groups Serum TC (mmol/L)	NC	HFD+DSS	L-THL	H-THL
	1.22	1.12	0.62	0.94			4.02	5.92	5.76	5.64
	0.94	1.02	0.72	0.76			3.30	5.58	5.96	4.52
	1.2	1.28	0.78	0.86			4.10	6.94	5.62	3.91
	1.32	1.04	0.9	0.52			3.60	5.74	6.05	4.24
	1.15	1.68	0.56	0.73			3.50	6.04	3.12	1.72
	1.19	1.58	0.98	0.68			3.08	7.56	4.20	2.82

Groups	NC	HFD+DSS	L-THL	H-THL	Groups	NC	HFD+DSS	L-THL	H-THL
Serum TBA (umol/L)					Serum MCP-1(pg/mL)				
	87.40	108.2	14.00	75.6		63.50	130.34	81.83	60.17
	94.20	118.2	12.60	93.8		50.17	146.30	85.17	58.50
	85.20	113.4	75.60	86		56.83	122.04	75.17	66.83
	64.20	128.8	93.80	91.68		85.02	136.72	45.17	67.15
	76.20	126.8	97.80	97.8		74.17	132.89	83.11	69.70
	82.10	118.08	58.53	104.7		68.43	91.40	74.13	76.72
Groups	NC	HFD+DSS	L-THL	H-THL	Groups	NC	HFD+DSS	L-THL	H-THL
Liver TG (mmol/L)					Liver TC(mmol/L)				
	0.60	2.13	1.48	1.37		0.18	0.31	0.20	0.22
	0.46	2.04	0.44	2.41		0.08	0.28	0.39	0.37
	0.43	1.91	1.19	1.77		0.07	0.49	0.35	0.21
	0.70	1.77	1.15	0.74		0.08	0.39	0.24	0.38
	0.53	1.90	1.08	1.02		0.14	0.55	0.26	0.05
	0.54	1.96	0.58	0.67		0.09	0.41	0.29	0.06
Groups	NC	HFD+DSS	L-THL	H-THL	Groups	NC	HFD+DSS	L-THL	H-THL
Serum LPS(EU/ML)									
	0.6486	1.3708	0.4984	0.3071					
	0.5805	0.8755	0.4848	0.4780					
	0.6626	1.2857	0.5213	0.5343					
	0.5758	0.7600	0.4963	0.4316					
	0.5325	0.7188	0.4737	0.4959					
	0.6242	0.6314	0.5741	0.3266					

Groups	NC	HFD+DSS	L-THL	H-THL	Groups	NC	HFD+DSS	L-THL	H-THL
Liver SOD(U/ mgprot)	20.15	20.19	20.79	21.06	Liver MDA(nmol/mgprot)	3.35	3.06	1.91	2.13
	15.86	24.55	24.42	35.31		0.62	4.53	1.78	1.95
	27.80	23.81	18.15	27.32		2.35	3.27	1.63	1.29
	20.44	24.53	35.59	27.18		4.65	5.43	1.84	1.92
	24.63	18.87	26.56	27.87		2.25	4.49	1.79	1.09
	37.42	22.53	19.56	28.83		1.25	4.26	2.06	2.87
Groups	NC	HFD+DSS	L-THL	H-THL	Groups	NC	HFD+DSS	L-THL	H-THL
Serum LDL-C(mmol/L)	1.70	1.98	1.66	1.76	Serum HDL-C(mmol/L)	4.32	2.84	4.16	3.64
	1.80	1.92	1.60	1.26		4.02	2.52	3.74	3.14
	1.48	2.38	1.72	1.31		5.02	3.06	3.72	4.52
	1.68	2.08	1.80	1.52		4.00	2.52	4.05	3.68
	1.40	2.00	1.06	0.84		4.28	2.40	3.91	4.64
	1.08	2.78	1.72	1.14		5.38	2.32	3.76	3.94
Groups	NC	HFD+DSS	L-THL	H-THL	Groups	NC	HFD+DSS	L-THL	H-THL
Faece Acetic acid(mg/ml)	133.95	37.52	139.74	395.82	Faece Propionic acid(mg/ml)	62.42	22.07	34.89	33.10
	135.20	35.89	171.41	384.19		57.86	22.63	35.00	35.90
	155.06	64.22	223.41	207.03		76.87	18.99	24.32	38.34
	121.11	15.12	145.26	376.63		47.42	20.88	28.58	38.14
	162.08	43.36	232.08	173.45		69.38	25.77	55.55	32.96

	102.28	29.49	183.24	306.89		56.94	23.97	35.80	35.37
Groups					Groups				
Faece Butyric acid(mg/ml)	NC	HFD+DSS	L-THL	H-THL	Faece total SCFA(mg/ml)	NC	HFD+DSS	L-THL	H-THL
	13.54	9.30	9.25	7.62		187.34	142.90	189.97	389.37
	11.97	7.08	11.27	9.84		127.85	115.87	124.16	432.19
	12.75	8.83	12.51	7.46		258.75	97.04	259.73	256.80
	16.70	8.01	11.19	12.49		200.08	51.16	189.74	230.12
	17.08	8.75	13.09	16.72		147.80	92.13	138.19	225.26
						143.52	58.75	181.22	306.25
Groups					Groups				
colon IL-6(pg/mL)	NC	HFD+DSS	L-THL	H-THL	colon TNF-a(pg/mL)	NC	HFD+DSS	L-THL	H-THL
	102.13	149.63	48.38	76.63		338.52	548.00	330.33	409.82
	90.88	127.13	40.88	47.38		464.75	482.55	364.75	649.82
	75.84	127.94	37.13	44.13		371.31	471.64	366.39	478.91
	108.38	130.88	63.38	53.90		318.85	700.73	274.59	544.36
	42.19	125.88	44.24	35.38		338.52	744.36	318.85	337.09
	34.13	109.63	30.88	66.63		366.73	587.12	279.51	483.31
Groups					Groups				
liver weight/body weight(%)	NC	HFD+DSS	L-THL	H-THL	Lactobacillus Relative abundance	NC	HFD+DSS	H-THL	
	4.26	5	5.38	4.3		0.009058	0.001253	0.002102	
	3.52	4.78	4.71	4.07		0.008755	0.001863	0.007743	
	4.46	5.26	3.04	3.8		0.010695	0.001977	0.001793	
	4.56	4.67	4.85	3.5		0.011070	0.000480	0.013918	

Liver	NC	HFD+DSS	L-THL	H-THL		Liver	NC	HFD+DSS	L-THL	H-THL
NQO1	0.91	0.76	0.79	2.02		HO-1	1.47	0.58	0.18	1.03
	1.59	0.62	0.98	1.76			0.98	0.55	0.17	0.74
	1.03	0.84	0.83	2.13			0.96	0.42	0.16	1.21
	1.38	0.68	1.07	1.91			1.53	0.57	0.41	1.03
Colon	NC	HFD+DSS	L-THL	H-THL		Colon	NC	HFD+DSS	L-THL	H-THL
Keap1	0.87	1.21	0.78	0.78		Nrf2	0.94	0.58	0.97	1.33
	0.83	1.25	0.98	0.63			1.07	0.48	1.09	1.36
	0.91	1.16	0.87	0.98			1.39	0.47	1.12	1.38
	0.98	1.03	0.85	0.87			1.14	0.39	0.89	1.31
Colon	NC	HFD+DSS	L-THL	H-THL		Colon	NC	HFD+DSS	L-THL	H-THL
NQO1	1.12	0.84	0.88	0.72		HO-1	1.35	0.85	0.76	1.95
	1.10	0.76	1.00	1.06			1.49	1.04	0.85	0.94
	1.19	0.71	0.91	1.25			0.93	0.78	0.69	1.33
	1.06	0.69	0.95	1.17			0.97	0.92	0.83	1.69
Colon	NC	HFD+DSS	L-THL	H-THL		Colon	NC	HFD+DSS	L-THL	H-THL
GCLC	0.98	0.90	0.65	1.33		ZO-1(TJP-1)	1.05	0.43	0.13	0.45
	1.16	0.93	0.87	1.44			1.02	0.28	0.61	1.33
	1.16	1.02	1.20	1.27			1.04	0.41	0.15	0.62
	1.10	0.91	0.64	1.23			0.95	0.37	0.47	1.07
Colon	NC	HFD+DSS	L-THL	H-THL						
occludin	1.16	0.24	0.49	0.30						
	1.23	0.30	0.61	0.64						
	0.85	0.40	0.50	0.67						
	0.84	0.26	0.58	0.89						

			Body Weight(g)									
weeks	unit: g					NC						
1	18.6	18.6	18.7	19.3	19.6	20	20	20.4	20	20.8	19.7	
2	19.7	19	19.6	20.4	20.3	20	20.3	20.1	20.2	22	20.9	
3	20.3	20	20	21.3	21.1	22.2	22.6	23.2	22.8	22.9	21.5	
4	20	20	20.3	21	21.5	21.2	21.6	22.1	23.3	23.7	21.8	
5	20.8	20.8	20.6	21.7	22.3	21.8	22.3	22.6	23.3	24.5	22.3	
6	20.9	21.3	20.5	22.3	22.9	23.1	23.2	23.9	23.3	24.6	22.6	
7	20.8	21.6	21.4	22.9	22.5	22.2	23.2	23.5	24.3	25.1	22.1	
8	21.7	23	22.5	23	23.3	22.6	23.3	23.9	25.1	25.1	22.5	
9	22	21.7	21.7	22.6	21.9	23	23.6	24.5	24.8	25.9	22.9	
10	22.5	22.3	22	23	23.7	23.5	23.6	24.4	24.7	27	23	
11	22.5	22.9	22.8	23.7	24.2	24.2	22.8	24.5	25.7	26.8	23.5	
12	24.5	24.5	25.5	25	25.5	25	25.5	27.5	28.5	27	24	
13	24.8	25	25.9	25.4	26	24.5	23.5	25	25.5	28	23	
14	24.5	23.9	24.2	24.6	25	24	23.7	25.4	26.2	27.3	23.5	
15	24	23.7	24	24.4	25	24.2	24.9	25.2	25.8	28.1	23.6	
16	25	23.3	26.4	24.9	27.1	25.3	27	28.4	26.3	28.2	25	
weeks	unit: g				HFD+DSS							
1	18.8	18.7	19.2	19.4	19.6	19.7	20	19.9	19.6	20.9	21.5	
2	19.4	19.2	19.9	20.1	20.4	20.4	21	20.4	20.9	22.2	22.5	
3	20.3	20	20.8	21	21.5	21.6	22.2	21.4	22	23.2	23.2	
4	20.7	20.7	21.2	21.6	21.7	22.5	22.8	21.7	22	24.3	24.4	
5	20.8	20.9	22.2	22.1	22.2	23.1	23.4	21.3	21.6	24.4	24.4	
6	20.8	21.3	22.5	22.4	23.1	23.5	24	24.1	22.7	24.9	24.5	
7	23.6	22.5	24.9	24.7	23.9	25.5	25.2	25.1	24.6	25.6	26.9	
8	23.4	23.1	25.2	25.2	24.7	25.8	26.4	26.3	26.3	26.3	28.5	
9	24.2	23.4	25.4	25.9	25.3	26	25.9	26.4	27.7	28.1	30	
10	25.6	24.6	26.2	27.3	26.5	26.7	27.7	27.3	28.6	27.6	29.7	
11	24.3	23.7	25.7	26.8	25.8	27	27.6	26.9	27.7	25.1	27.8	
12	26	25	28	28.5	26.5	28	29.5	29	30.5	28	31	
13	25.5	24.5	28.3	27.5	25	27	27	28.5	27.5	27.5	28.5	
14	26.6	25.7	27.4	29.3	26.8	27.9	28.7	29	29.2	28.7	30	
15	25.8	25	27.1	27.9	26.9	26.9	28	28.1	28.1	28.8	30	
16	31.1	32.5	32.3	32.1	29.6	28.2	31.9	33.3	28.9	30	31.5	

Groups											
Summed OGTT AUC(mmol/L)	NC	HFD+DL	THL	H-THL							
	744	1926	1080	1464							
	1208	2051	1370	1416							
	1108	1799	1422	1817							
	1139	1953	1369	948.8							
	1163	1875	1574	1211							
	1218	2061	1499	1473							

Groups	NC	HFD	HFD+DS	L-THL	H-THL							
Mean of D-mannitol (ng/ml)	130.97	193.41	227.52	184.53	156.50							
	158.36	195.28	212.57	164.91	174.25							
	154.63	172.85	203.69	195.75	171.92							
	147.64	163.04	204.61	180.33	157.90							
	150.35	164.44	223.60	170.23	156.03							
	151.90	224.72	202.29	178.42	163.35							
Groups	NC	HFD	HFD+DS	L-THL	H-THL							
Body weight increment (g)	6.40	10.60	12.30	6.10	5.60							
	4.70	10.90	13.80	8.70	4.40							
	7.70	9.90	13.10	6.00	6.70							
	5.60	9.40	12.70	6.60	3.50							
	7.50	9.80	10.00	6.40	5.30							
	5.30	10.60	8.50	6.80	6.00							
	7.00	9.10	11.90	6.70	3.50							
	8.00	13.00	13.40	6.90	3.70							
	6.30	9.10	9.30	7.60	6.00							
	7.40	13.00	9.10	7.60	7.50							
	5.30	8.80	10.00	6.60	6.10							
Body weight												
	unit: g					NC						
weeks												
1	18.60	18.60	18.70	19.30	19.60	20.00	20.00	20.40	20.00	20.80	19.70	
2	19.70	19.00	19.60	20.40	20.30	20.00	20.30	20.10	20.20	22.00	20.90	
3	20.30	20.00	20.00	21.30	21.10	22.20	22.60	23.20	22.80	22.90	21.50	
4	20.00	20.00	20.30	21.00	21.50	21.20	21.60	22.10	23.30	23.70	21.80	

6	20.80	21.30	22.50	22.40	23.10	23.50	24.00	24.10	22.70	24.90	24.50	
7	23.60	22.50	24.90	24.70	23.90	25.50	25.20	25.10	24.60	25.60	26.90	
8	23.40	23.10	25.20	25.20	24.70	25.80	26.40	26.30	26.30	26.30	28.50	
9	24.20	23.40	25.40	25.90	25.30	26.00	25.90	26.40	27.70	28.10	30.00	
10	25.60	24.60	26.20	27.30	26.50	26.70	27.70	27.30	28.60	27.60	29.70	
11	24.30	23.70	25.70	26.80	25.80	27.00	27.60	26.90	27.70	25.10	27.80	
12	26.00	25.00	28.00	28.50	26.50	28.00	29.50	29.00	30.50	28.00	31.00	
13	25.50	24.50	28.30	27.50	25.00	27.00	27.00	28.50	27.50	27.50	28.50	
14	26.60	25.70	27.40	29.30	26.80	27.90	28.70	29.00	29.20	28.70	30.00	
15	25.80	25.00	27.10	27.90	26.90	26.90	28.00	28.10	28.10	28.80	30.00	
16	31.10	32.50	32.30	32.10	29.60	28.20	31.90	33.30	28.90	30.00	31.50	
weeks	unit: g					L-THL						
1	19.00	18.90	18.60	19.00	20.60	20.00	20.70	19.90	20.70	20.40	20.80	
2	19.40	20.30	18.50	20.00	20.50	19.70	21.30	19.90	21.60	21.30	21.50	
3	20.00	20.00	19.50	20.00	21.40	20.30	21.60	20.40	21.70	21.30	20.80	
4	20.10	20.60	20.50	21.60	21.50	21.90	22.70	21.50	23.30	22.90	22.50	
5	21.30	21.80	21.30	21.10	21.50	21.90	23.20	21.60	23.00	22.30	22.80	
6	21.70	21.90	21.70	22.00	23.40	23.00	23.20	22.60	23.10	23.30	23.50	
7	22.30	22.90	21.60	22.30	25.80	23.00	24.40	24.00	24.30	24.20	23.90	
8	22.70	23.50	22.30	24.00	25.90	23.70	25.10	25.30	25.90	25.90	25.10	
9	23.90	25.80	23.80	22.90	26.00	24.30	25.70	25.00	25.10	26.20	25.30	
10	24.70	24.50	24.00	23.70	27.20	24.60	26.30	25.70	25.10	27.30	25.40	
11	24.80	25.50	25.30	25.40	28.80	26.20	26.70	25.80	26.90	26.60	26.30	
12	24.50	26.00	25.50	26.50	29.00	27.50	27.50	26.50	27.00	27.00	26.50	
13	24.00	26.50	24.50	26.00	28.50	27.00	27.00	24.90	28.00	29.00	26.00	
14	25.10	26.80	25.10	25.90	27.20	26.90	27.60	26.70	27.10	28.10	27.30	
15	24.70	24.90	23.90	25.40	27.00	26.00	25.60	25.50	26.10	26.60	25.30	
16	25.10	27.60	24.60	25.80	27.00	26.80	27.40	26.80	28.30	28.00	27.40	
weeks	unit: g					H-THL						
1	20.00	20.90	20.30	20.60	20.60	21.60	21.40	21.30	21.80	21.10	21.10	
2	19.00	20.80	18.90	20.70	20.00	21.40	20.10	20.80	20.80	19.90	20.40	
3	20.00	22.00	20.00	21.90	22.00	22.90	21.70	21.20	22.00	21.40	20.80	
4	20.30	21.90	20.40	22.00	22.50	22.50	21.00	23.10	23.80	23.50	22.70	
5	20.40	21.60	21.10	22.20	22.30	23.40	21.60	21.70	24.20	22.40	21.40	
6	21.50	23.50	22.60	21.60	21.90	21.50	21.80	23.60	23.00	25.00	23.50	
7	22.10	23.40	22.70	23.70	23.60	25.50	22.60	24.20	24.70	26.00	24.20	
8	23.20	24.00	24.30	24.30	25.00	25.50	23.90	25.20	24.80	26.60	24.20	

9	24.20	24.70	24.60	24.20	25.30	27.30	24.20	24.50	24.80	26.20	24.30	
10	24.40	25.00	23.90	24.60	25.30	27.20	23.60	24.60	26.30	27.30	24.20	
11	25.20	25.10	26.70	23.40	24.40	26.80	25.90	25.40	27.80	28.20	25.40	
12	26.00	26.50	26.00	24.50	26.00	28.50	27.00	26.50	29.50	29.50	27.50	
13	25.50	24.00	25.00	23.00	24.80	27.00	27.60	27.00	28.30	29.90	28.00	
14	25.40	26.50	26.20	23.80	26.80	27.40	25.60	26.00	27.00	28.00	25.70	
15	24.80	25.60	27.30	24.20	26.80	27.20	25.10	26.50	26.50	27.60	26.30	
16	25.60	25.30	27.00	24.10	25.90	27.60	24.90	25.00	27.80	28.60	27.20	
Groups												
Blood Glucose Time(min)			NC						HFD+DSS			
0	6.5	9.1	7	7.5	7.2	8.1	11.2	9.2	9.4	9.3	10.9	12.8
15	6.7	12.2	11.9	11.5	15.7	12.1	19.3	22.2	20.4	23.7	20.6	24.1
30	6.4	8.4	11.3	8.8	8.8	11.3	17.9	16.8	17.6	17.1	17.3	17.6
60	6.3	10.8	9.3	10.4	10.2	10.9	15.3	17.9	13.7	15.8	15.1	17.9
90	6.2	10.5	8.5	10.6	9.1	10.2	18.7	17.2	13.3	16.2	14.7	16.3
120	5.3	8.6	5.9	5.5	6.4	7.7	13.4	13.9	13.6	12.2	11.2	12.1
				L-THL					H-THL			
	8.9	12.3	9.9	10.2	9.8	12.9	8.2	6.3	9.7	7.6	10	9.8
	14.3	15.2	14.7	15.3	14.6	19	21.1	20.3	21.3	14.6	20.3	16.8
	13.6	12.9	13.7	13.3	13.5	12.9	11.2	12.3	18.2	10.7	11.4	12.2
	13.7	10.4	11.7	10.7	13.2	10.7	10.7	11.2	14.8	9.3	12.6	12.3
	13.1	10.1	11	9.7	14.3	12.2	12.8	9.9	12.9	10.2	13.1	10.6
	9.8	9.6	9.2	9.4	10.2	9.3	8.6	10.3	12.3	9.1	10.2	12.4
Groups												
Summed OGTT AUC(mmol/L·min)	NC	HFD	HFD+DSS	L-THL	H-THL							
	744	1385	1926	1080	1464							
	1208	1867	2051	1370	1416							
	1108	984	1799	1422	1817							
	1139	1029	1953	1369	948.8							

	1163	1845	1875	1574	1211							
	1218	1727	2061	1499	1473							
Groups Liver TG (mmol/L)	NC	HFD	HFD+DSS	L-THL	H-THL	Groups Liver TC (mmol/L)	NC	HFD	HFD+DSS	L-THL	H-THL	
	0.60	1.30	2.13	1.48	1.37		0.18	0.41	0.31	0.20	0.22	
	0.46	2.15	2.04	0.44	2.41		0.08	0.37	0.28	0.39	0.37	
	0.43	1.02	1.91	1.19	1.77		0.07	0.38	0.49	0.35	0.21	
	0.70	1.08	1.77	1.15	0.74		0.08	0.30	0.39	0.24	0.38	
	0.53	1.10	1.90	1.08	1.02		0.14	0.38	0.55	0.26	0.05	
	0.54	1.33	1.96	0.58	0.67		0.09	0.37	0.41	0.29	0.06	
Groups Serum LDL-C(mmol/L)	NC	HFD	HFD+DSS	L-THL	H-THL	Groups Serum HDL-C (mmol/L)	NC	HFD	HFD+DSS	L-THL	H-THL	
	1.70	1.7	1.98	1.66	1.76		4.32	3.04	2.84	4.16	3.64	
	1.80	1.8	1.92	1.60	1.26		4.02	3.46	2.52	3.74	3.14	
	1.48	2.28	2.38	1.72	1.31		5.02	3.72	3.06	3.72	4.52	
	1.68	1.74	2.08	1.80	1.52		4.00	3.66	2.52	4.05	3.68	
	1.40	1.78	2.00	1.06	0.84		4.28	3.62	2.40	3.91	4.64	
	1.08	1.7	2.78	1.72	1.14		5.38	3.53	2.32	3.76	3.94	
Groups Food intake (g/day)	NC							HFD+DSS				
	4.30	5.20	5.20					6.20	5.30	4.30		
	5.30	5.30	5.40					4.60	5.00	5.30		

spearman correlation analysis of some parameters and microbita in THL group

Data1	Data2	rho	pvalue	relation
Liver_TC	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.4286	0.4194	positive
Liver_TG	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.6983	0.1228	positive
Liver_PPAR_a	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.6957	0.1248	positive
Liver_PPAR_γ	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.7590	0.0801	positive
Liver_SREBP_1c	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.8804	0.0206	positive
Liver_Keap1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.9411	0.0051	positive
Liver_Nrf2	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.9411	0.0051	positive
Liver_NQO1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.4395	0.3832	positive
Liver_HO_1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.9258	0.0080	positive
Liver_ACC_1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.7590	0.0801	positive
Serum_LDL_C	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.7714	0.1028	positive
Serum_HD_C	D_4_Verrucomicrobiaceae;D_5_Akkermansia	-0.0286	1.0000	negtive
Serum_TBA	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.8804	0.0206	positive
Serum_LPS	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.8804	0.0206	positive
Serum_AST	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.3719	0.4679	positive
Serum_MCP_1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	-0.7143	0.1361	negtive
Serum_IL_1β	D_4_Verrucomicrobiaceae;D_5_Akkermansia	-0.5591	0.2488	negtive
Serum_IL_6	D_4_Verrucomicrobiaceae;D_5_Akkermansia	-0.0857	0.9194	negtive
Serum_TNF_a	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.7590	0.0801	positive
Serum_OGTT_AUC	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.5429	0.2972	positive
Colon_Keap1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.8117	0.0499	positive
Colon_Nrf2	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.4395	0.3832	positive
Colon_NQO1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.7590	0.0801	positive
Colon_HO_1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.3719	0.4679	positive
Colon_occludin	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.8804	0.0206	positive
Colon_TJP_1	D_4_Verrucomicrobiaceae;D_5_Akkermansia	0.3719	0.4679	positive
Liver_TC	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.4286	0.4194	positive
Liver_TG	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.1518	0.7741	positive
Liver_PPAR_a	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.3189	0.5379	positive
Liver_PPAR_γ	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.3947	0.4387	positive
Liver_SREBP_1c	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.1518	0.7741	positive
Liver_Keap1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.3947	0.4387	positive
Liver_Nrf2	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.3947	0.4387	positive
Liver_NQO1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.2704	0.6042	negtive
Liver_HO_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.2777	0.5941	positive
Liver_ACC_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.3947	0.4387	positive
Serum_LDL_C	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.2571	0.6583	positive
Serum_HD_C	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.5429	0.2972	positive
Serum_TBA	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.5161	0.2946	positive
Serum_LPS	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.5161	0.2946	positive
Serum_AST	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.1352	0.7984	negtive
Serum_MCP_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.3714	0.4972	negtive
Serum_IL_1β	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.5002	0.3123	negtive
Serum_IL_6	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.6000	0.2417	positive
Serum_TNF_a	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.0304	0.9545	positive
Serum_OGTT_AUC	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.0857	0.9194	negtive
Colon_Keap1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.7827	0.0657	positive
Colon_Nrf2	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.2704	0.6042	negtive
Colon_NQO1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.3947	0.4387	positive
Colon_HO_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.1352	0.7984	negtive
Colon_occludin	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	0.5161	0.2946	positive
Colon_TJP_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae NK4A136 group	-0.1352	0.7984	negtive
Liver_TC	D_4_Prevotellaceae;D_5_Alloprevotella	-0.4286	0.4194	negtive
Liver_TG	D_4_Prevotellaceae;D_5_Alloprevotella	0.3947	0.4387	positive
Liver_PPAR_a	D_4_Prevotellaceae;D_5_Alloprevotella	0.1739	0.7417	positive
Liver_PPAR_γ	D_4_Prevotellaceae;D_5_Alloprevotella	0.2732	0.6004	positive
Liver_SREBP_1c	D_4_Prevotellaceae;D_5_Alloprevotella	0.6375	0.1733	positive
Liver_Keap1	D_4_Prevotellaceae;D_5_Alloprevotella	0.5161	0.2946	positive

Liver_Nrf2	D_4_Prevotellaceae;D_5_Alloprevotella	0.5161	0.2946	positive
Liver_NQO1	D_4_Prevotellaceae;D_5_Alloprevotella	0.5071	0.3046	positive
Liver_HO_1	D_4_Prevotellaceae;D_5_Alloprevotella	0.5864	0.2213	positive
Liver_ACC_1	D_4_Prevotellaceae;D_5_Alloprevotella	0.2732	0.6004	positive
Serum_LDL_C	D_4_Prevotellaceae;D_5_Alloprevotella	0.7714	0.1028	positive
Serum_HD_C	D_4_Prevotellaceae;D_5_Alloprevotella	0.3714	0.4972	positive
Serum_TBA	D_4_Prevotellaceae;D_5_Alloprevotella	0.3339	0.5177	positive
Serum_LPS	D_4_Prevotellaceae;D_5_Alloprevotella	0.3339	0.5177	positive
Serum_AST	D_4_Prevotellaceae;D_5_Alloprevotella	0.3043	0.5577	positive
Serum_MCP_1	D_4_Prevotellaceae;D_5_Alloprevotella	-0.3143	0.5639	negative
Serum_IL_1 β	D_4_Prevotellaceae;D_5_Alloprevotella	0.2648	0.6121	positive
Serum_IL_6	D_4_Prevotellaceae;D_5_Alloprevotella	-0.0286	1.0000	negative
Serum_TNF_a	D_4_Prevotellaceae;D_5_Alloprevotella	0.5768	0.2307	positive
Serum_OGTT_AUC	D_4_Prevotellaceae;D_5_Alloprevotella	0.2571	0.6583	positive
Colon_Keap1	D_4_Prevotellaceae;D_5_Alloprevotella	-0.0580	0.9131	negative
Colon_Nrf2	D_4_Prevotellaceae;D_5_Alloprevotella	0.5071	0.3046	positive
Colon_NQO1	D_4_Prevotellaceae;D_5_Alloprevotella	0.2732	0.6004	positive
Colon_HO_1	D_4_Prevotellaceae;D_5_Alloprevotella	0.3043	0.5577	positive
Colon_occludin	D_4_Prevotellaceae;D_5_Alloprevotella	0.3339	0.5177	positive
Colon_TJP_1	D_4_Prevotellaceae;D_5_Alloprevotella	0.3043	0.5577	positive
Liver_TC	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.3143	0.5639	negative
Liver_TG	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.9411	0.0051	negative
Liver_PPAR_a	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.3769	0.4615	negative
Liver_PPAR_ γ	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8804	0.0206	negative
Liver_SREBP_1c	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.7590	0.0801	negative
Liver_Keap1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.6983	0.1228	negative
Liver_Nrf2	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.6983	0.1228	negative
Liver_NQO1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.7775	0.0687	negative
Liver_HO_1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.7407	0.0922	negative
Liver_ACC_1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8804	0.0206	negative
Serum_LDL_C	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8286	0.0583	negative
Serum_HD_C	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.0286	1.0000	negative
Serum_TBA	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.7590	0.0801	negative
Serum_LPS	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.7590	0.0801	negative
Serum_AST	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8452	0.0341	negative
Serum_MCP_1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	0.9429	0.0167	positive
Serum_IL_1 β	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.2942	0.5714	negative
Serum_IL_6	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	0.1429	0.8028	positive
Serum_TNF_a	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8804	0.0206	negative
Serum_OGTT_AUC	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.0857	0.9194	negative
Colon_Keap1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.2609	0.6175	negative
Colon_Nrf2	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.7775	0.0687	negative
Colon_NQO1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8804	0.0206	negative
Colon_HO_1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8452	0.0341	negative
Colon_occludin	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.7590	0.0801	negative
Colon_TJP_1	D_4_Desulfovibrionaceae;D_5_Desulfovibrio	-0.8452	0.0341	negative
Liver_TC	D_4_Lachnospiraceae;D_5_Blautia	-0.6000	0.2417	negative
Liver_TG	D_4_Lachnospiraceae;D_5_Blautia	-0.9411	0.0051	negative
Liver_PPAR_a	D_4_Lachnospiraceae;D_5_Blautia	-0.5798	0.2278	negative
Liver_PPAR_ γ	D_4_Lachnospiraceae;D_5_Blautia	-0.8804	0.0206	negative
Liver_SREBP_1c	D_4_Lachnospiraceae;D_5_Blautia	-0.7590	0.0801	negative
Liver_Keap1	D_4_Lachnospiraceae;D_5_Blautia	-0.6983	0.1228	negative
Liver_Nrf2	D_4_Lachnospiraceae;D_5_Blautia	-0.6983	0.1228	negative
Liver_NQO1	D_4_Lachnospiraceae;D_5_Blautia	-0.7775	0.0687	negative
Liver_HO_1	D_4_Lachnospiraceae;D_5_Blautia	-0.7407	0.0922	negative
Liver_ACC_1	D_4_Lachnospiraceae;D_5_Blautia	-0.8804	0.0206	negative
Serum_LDL_C	D_4_Lachnospiraceae;D_5_Blautia	-0.7714	0.1028	negative
Serum_HD_C	D_4_Lachnospiraceae;D_5_Blautia	0.0857	0.9194	positive
Serum_TBA	D_4_Lachnospiraceae;D_5_Blautia	-0.7590	0.0801	negative
Serum_LPS	D_4_Lachnospiraceae;D_5_Blautia	-0.7590	0.0801	negative
Serum_AST	D_4_Lachnospiraceae;D_5_Blautia	-0.8452	0.0341	negative
Serum_MCP_1	D_4_Lachnospiraceae;D_5_Blautia	1.0000	0.0028	positive

Serum_IL_1β	D_4_Lachnospiraceae;D_5_Blautia	-0.0883	0.8679	negtive
Serum_IL_6	D_4_Lachnospiraceae;D_5_Blautia	0.0857	0.9194	positive
Serum_TNF_a	D_4_Lachnospiraceae;D_5_Blautia	-0.8804	0.0206	negtive
Serum_OGTT_AUC	D_4_Lachnospiraceae;D_5_Blautia	-0.0286	1.0000	negtive
Colon_Keap1	D_4_Lachnospiraceae;D_5_Blautia	-0.4638	0.3542	negtive
Colon_Nrf2	D_4_Lachnospiraceae;D_5_Blautia	-0.7775	0.0687	negtive
Colon_NQO1	D_4_Lachnospiraceae;D_5_Blautia	-0.8804	0.0206	negtive
Colon_HO_1	D_4_Lachnospiraceae;D_5_Blautia	-0.8452	0.0341	negtive
Colon_occludin	D_4_Lachnospiraceae;D_5_Blautia	-0.7590	0.0801	negtive
Colon_TJP_1	D_4_Lachnospiraceae;D_5_Blautia	-0.8452	0.0341	negtive
Liver_TC	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.7714	0.1028	negtive
Liver_TG	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.1518	0.7741	negtive
Liver_PPAR_a	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.4058	0.4247	negtive
Liver_PPAR_γ	D_4_Desulfovibrionaceae;D_5_Bilophila	0.0304	0.9545	positive
Liver_SREBP_1c	D_4_Desulfovibrionaceae;D_5_Bilophila	0.1518	0.7741	positive
Liver_Keap1	D_4_Desulfovibrionaceae;D_5_Bilophila	0.3339	0.5177	positive
Liver_Nrf2	D_4_Desulfovibrionaceae;D_5_Bilophila	0.3339	0.5177	positive
Liver_NQO1	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.3719	0.4679	negtive
Liver_HO_1	D_4_Desulfovibrionaceae;D_5_Bilophila	0.2469	0.6372	positive
Liver_ACC_1	D_4_Desulfovibrionaceae;D_5_Bilophila	0.0304	0.9545	positive
Serum_LDL_C	D_4_Desulfovibrionaceae;D_5_Bilophila	0.0857	0.9194	positive
Serum_HD_C	D_4_Desulfovibrionaceae;D_5_Bilophila	0.1429	0.8028	positive
Serum_TBA	D_4_Desulfovibrionaceae;D_5_Bilophila	0.2732	0.6004	positive
Serum_LPS	D_4_Desulfovibrionaceae;D_5_Bilophila	0.2732	0.6004	positive
Serum_AST	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.4395	0.3832	negtive
Serum_MCP_1	D_4_Desulfovibrionaceae;D_5_Bilophila	0.3714	0.4972	positive
Serum_IL_1β	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.2648	0.6121	negtive
Serum_IL_6	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.3143	0.5639	negtive
Serum_TNF_a	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.0911	0.8638	negtive
Serum_OGTT_AUC	D_4_Desulfovibrionaceae;D_5_Bilophila	0.8286	0.0583	positive
Colon_Keap1	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.0580	0.9131	negtive
Colon_Nrf2	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.3719	0.4679	negtive
Colon_NQO1	D_4_Desulfovibrionaceae;D_5_Bilophila	0.0304	0.9545	positive
Colon_HO_1	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.4395	0.3832	negtive
Colon_occludin	D_4_Desulfovibrionaceae;D_5_Bilophila	0.2732	0.6004	positive
Colon_TJP_1	D_4_Desulfovibrionaceae;D_5_Bilophila	-0.4395	0.3832	negtive
Liver_TC	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.0286	1.0000	negtive
Liver_TG	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.3339	0.5177	negtive
Liver_PPAR_a	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.0580	0.9131	negtive
Liver_PPAR_γ	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.2125	0.6860	negtive
Liver_SREBP_1c	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.3339	0.5177	negtive
Liver_Keap1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.2125	0.6860	negtive
Liver_Nrf2	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.2125	0.6860	negtive
Liver_NQO1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.4395	0.3832	negtive
Liver_HO_1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.2777	0.5941	negtive
Liver_ACC_1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.2125	0.6860	negtive
Serum_LDL_C	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.0286	1.0000	negtive
Serum_HD_C	D_4_Coriobacteriaceae;D_5_Enterorhabdus	0.8857	0.0333	positive
Serum_TBA	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.1518	0.7741	negtive
Serum_LPS	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.1518	0.7741	negtive
Serum_AST	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.3719	0.4679	negtive
Serum_MCP_1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	0.0857	0.9194	positive
Serum_IL_1β	D_4_Coriobacteriaceae;D_5_Enterorhabdus	0.0294	0.9559	positive
Serum_IL_6	D_4_Coriobacteriaceae;D_5_Enterorhabdus	0.8857	0.0333	positive
Serum_TNF_a	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.3947	0.4387	negtive
Serum_OGTT_AUC	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.6000	0.2417	negtive
Colon_Keap1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	0.1739	0.7417	positive
Colon_Nrf2	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.4395	0.3832	negtive
Colon_NQO1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.2125	0.6860	negtive
Colon_HO_1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.3719	0.4679	negtive
Colon_occludin	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.1518	0.7741	negtive
Colon_TJP_1	D_4_Coriobacteriaceae;D_5_Enterorhabdus	-0.3719	0.4679	negtive

Liver_TC	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.2571	0.6583	positive
Liver_TG	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.8804	0.0206	positive
Liver_PPAR_a	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.2609	0.6175	positive
Liver_PPAR_γ	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.9411	0.0051	positive
Liver_SREBP_1c	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.6983	0.1228	positive
Liver_Keap1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.7590	0.0801	positive
Liver_Nrf2	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.7590	0.0801	positive
Liver_NQO1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.5409	0.2678	positive
Liver_HO_1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.7407	0.0922	positive
Liver_ACC_1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.9411	0.0051	positive
Serum_LDL_C	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.7714	0.1028	positive
Serum_HD_C	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.1429	0.8028	positive
Serum_TBA	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.8804	0.0206	positive
Serum_LPS	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.8804	0.0206	positive
Serum_AST	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.6761	0.1404	positive
Serum_MCP_1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	-0.8857	0.0333	negative
Serum_IL_1β	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.1471	0.7809	positive
Serum_IL_6	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	-0.0857	0.9194	negative
Serum_TNF_a	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.7590	0.0801	positive
Serum_OGTT_AUC	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.2000	0.7139	positive
Colon_Keap1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.3769	0.4615	positive
Colon_Nrf2	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.5409	0.2678	positive
Colon_NQO1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.9411	0.0051	positive
Colon_HO_1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.6761	0.1404	positive
Colon_occludin	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.8804	0.0206	positive
Colon_TJP_1	D_4_Ruminococcaceae;D_5_[Eubacterium]	coprostanoligenes group	0.6761	0.1404	positive
Liver_TC	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.3714	0.4972	negative
Liver_TG	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.6983	0.1228	negative
Liver_PPAR_a	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.6957	0.1248	negative
Liver_PPAR_γ	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.7590	0.0801	negative
Liver_SREBP_1c	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.8804	0.0206	negative
Liver_Keap1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.9411	0.0051	negative
Liver_Nrf2	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.9411	0.0051	negative
Liver_NQO1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.4395	0.3832	negative
Liver_HO_1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.9258	0.0080	negative
Liver_ACC_1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.7590	0.0801	negative
Serum_LDL_C	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.8857	0.0333	negative
Serum_HD_C	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.2571	0.6583	negative
Serum_TBA	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.8804	0.0206	negative
Serum_LPS	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.8804	0.0206	negative
Serum_AST	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.3719	0.4679	negative
Serum_MCP_1	D_4_Ruminococcaceae;D_5_Anaerotruncus		0.7714	0.1028	positive
Serum_IL_1β	D_4_Ruminococcaceae;D_5_Anaerotruncus		0.4414	0.3809	positive
Serum_IL_6	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.1429	0.8028	negative
Serum_TNF_a	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.7590	0.0801	negative
Serum_OGTT_AUC	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.3714	0.4972	negative
Colon_Keap1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.8117	0.0499	negative
Colon_Nrf2	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.4395	0.3832	negative
Colon_NQO1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.7590	0.0801	negative
Colon_HO_1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.3719	0.4679	negative
Colon_occludin	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.8804	0.0206	negative
Colon_TJP_1	D_4_Ruminococcaceae;D_5_Anaerotruncus		-0.3719	0.4679	negative
Liver_TC	D_4_Lactobacillaceae;D_5_Lactobacillus		0.4857	0.3556	positive
Liver_TG	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.2125	0.6860	negative
Liver_PPAR_a	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.1160	0.8268	negative
Liver_PPAR_γ	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.2732	0.6004	negative
Liver_SREBP_1c	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.6375	0.1733	negative
Liver_Keap1	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.6983	0.1228	negative
Liver_Nrf2	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.6983	0.1228	negative
Liver_NQO1	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.1014	0.8484	negative
Liver_HO_1	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.6789	0.1381	negative
Liver_ACC_1	D_4_Lactobacillaceae;D_5_Lactobacillus		-0.2732	0.6004	negative

Serum_LDL_C	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.5429	0.2972	negtive
Serum_HD_C	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.0857	0.9194	negtive
Serum_TBA	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.5161	0.2946	negtive
Serum_LPS	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.5161	0.2946	negtive
Serum_AST	D_4_Lactobacillaceae;D_5_Lactobacillus	0.1014	0.8484	positive
Serum_MCP_1	D_4_Lactobacillaceae;D_5_Lactobacillus	0.0286	1.0000	positive
Serum_IL_1 β	D_4_Lactobacillaceae;D_5_Lactobacillus	0.3825	0.4542	positive
Serum_IL_6	D_4_Lactobacillaceae;D_5_Lactobacillus	0.3143	0.5639	positive
Serum_TNF_a	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.3947	0.4387	negtive
Serum_OGTT_AUC	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.8857	0.0333	negtive
Colon_Keap1	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.2319	0.6584	negtive
Colon_Nrf2	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.1014	0.8484	negtive
Colon_NQO1	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.2732	0.6004	negtive
Colon_HO_1	D_4_Lactobacillaceae;D_5_Lactobacillus	0.1014	0.8484	positive
Colon_occludin	D_4_Lactobacillaceae;D_5_Lactobacillus	-0.5161	0.2946	negtive
Colon_TJP_1	D_4_Lactobacillaceae;D_5_Lactobacillus	0.1014	0.8484	positive
Liver_TC	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	0.0857	0.9194	positive
Liver_TG	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.5768	0.2307	negtive
Liver_PPAR_a	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	0.3479	0.4993	positive
Liver_PPAR_ γ	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.6375	0.1733	negtive
Liver_SREBP_1c	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.2732	0.6004	negtive
Liver_Keap1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.3339	0.5177	negtive
Liver_Nrf2	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.3339	0.5177	negtive
Liver_NQO1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.3043	0.5577	negtive
Liver_HO_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.3086	0.5518	negtive
Liver_ACC_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.6375	0.1733	negtive
Serum_LDL_C	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.0857	0.9194	negtive
Serum_HD_C	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	0.6571	0.1750	positive
Serum_TBA	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.5161	0.2946	negtive
Serum_LPS	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.5161	0.2946	negtive
Serum_AST	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.5071	0.3046	negtive
Serum_MCP_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	0.3143	0.5639	positive
Serum_IL_1 β	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.2648	0.6121	negtive
Serum_IL_6	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	0.8857	0.0333	positive
Serum_TNF_a	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.3947	0.4387	negtive
Serum_OGTT_AUC	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.6000	0.2417	negtive
Colon_Keap1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	0.2319	0.6584	positive
Colon_Nrf2	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.3043	0.5577	negtive
Colon_NQO1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.6375	0.1733	negtive
Colon_HO_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.5071	0.3046	negtive
Colon_occludin	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.5161	0.2946	negtive
Colon_TJP_1	D_4_Lachnospiraceae;D_5_Lachnospiraceae UCG-006	-0.5071	0.3046	negtive
Liver_TC	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.4286	0.4194	negtive
Liver_TG	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.5768	0.2307	negtive
Liver_PPAR_a	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.1449	0.7841	negtive
Liver_PPAR_ γ	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.3339	0.5177	negtive
Liver_SREBP_1c	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.2125	0.6860	negtive
Liver_Keap1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	0.0304	0.9545	positive
Liver_Nrf2	D_4_Lachnospiraceae;D_5_Lachnoclostridium	0.0304	0.9545	positive
Liver_NQO1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.7775	0.0687	negtive
Liver_HO_1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.0926	0.8615	negtive
Liver_ACC_1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.3339	0.5177	negtive
Serum_LDL_C	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.0857	0.9194	negtive
Serum_HD_C	D_4_Lachnospiraceae;D_5_Lachnoclostridium	0.7714	0.1028	positive
Serum_TBA	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.0304	0.9545	negtive
Serum_LPS	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.0304	0.9545	negtive
Serum_AST	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.8452	0.0341	negtive
Serum_MCP_1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	0.4857	0.3556	positive
Serum_IL_1 β	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.5296	0.2798	negtive
Serum_IL_6	D_4_Lachnospiraceae;D_5_Lachnoclostridium	0.6000	0.2417	positive
Serum_TNF_a	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.5161	0.2946	negtive
Serum_OGTT_AUC	D_4_Lachnospiraceae;D_5_Lachnoclostridium	0.1429	0.8028	positive

Colon_Keap1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	0.3189	0.5379	positive
Colon_Nrf2	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.7775	0.0687	negative
Colon_NQO1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.3339	0.5177	negative
Colon_HO_1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.8452	0.0341	negative
Colon_occludin	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.0304	0.9545	negative
Colon_TJP_1	D_4_Lachnospiraceae;D_5_Lachnoclostridium	-0.8452	0.0341	negative
Liver_TC	D_4_Rikenellaceae;D_5_Alistipes	-0.7143	0.1361	negative
Liver_TG	D_4_Rikenellaceae;D_5_Alistipes	0.0304	0.9545	positive
Liver_PPAR_a	D_4_Rikenellaceae;D_5_Alistipes	-0.6377	0.1731	negative
Liver_PPAR_γ	D_4_Rikenellaceae;D_5_Alistipes	0.2125	0.6860	positive
Liver_SREBP_1c	D_4_Rikenellaceae;D_5_Alistipes	-0.0304	0.9545	negative
Liver_Keap1	D_4_Rikenellaceae;D_5_Alistipes	0.1518	0.7741	positive
Liver_Nrf2	D_4_Rikenellaceae;D_5_Alistipes	0.1518	0.7741	positive
Liver_NQO1	D_4_Rikenellaceae;D_5_Alistipes	-0.2704	0.6042	negative
Liver_HO_1	D_4_Rikenellaceae;D_5_Alistipes	0.0617	0.9075	positive
Liver_ACC_1	D_4_Rikenellaceae;D_5_Alistipes	0.2125	0.6860	positive
Serum_LDL_C	D_4_Rikenellaceae;D_5_Alistipes	0.1429	0.8028	positive
Serum_HD_C	D_4_Rikenellaceae;D_5_Alistipes	0.4857	0.3556	positive
Serum_TBA	D_4_Rikenellaceae;D_5_Alistipes	0.2732	0.6004	positive
Serum_LPS	D_4_Rikenellaceae;D_5_Alistipes	0.2732	0.6004	positive
Serum_AST	D_4_Rikenellaceae;D_5_Alistipes	-0.1352	0.7984	negative
Serum_MCP_1	D_4_Rikenellaceae;D_5_Alistipes	0.0857	0.9194	positive
Serum_IL_1β	D_4_Rikenellaceae;D_5_Alistipes	0.3531	0.4924	positive
Serum_IL_6	D_4_Rikenellaceae;D_5_Alistipes	-0.0286	1.0000	negative
Serum_TNF_a	D_4_Rikenellaceae;D_5_Alistipes	-0.0911	0.8638	negative
Serum_OGTT_AUC	D_4_Rikenellaceae;D_5_Alistipes	0.2571	0.6583	positive
Colon_Keap1	D_4_Rikenellaceae;D_5_Alistipes	-0.2899	0.5774	negative
Colon_Nrf2	D_4_Rikenellaceae;D_5_Alistipes	-0.2704	0.6042	negative
Colon_NQO1	D_4_Rikenellaceae;D_5_Alistipes	0.2125	0.6860	positive
Colon_HO_1	D_4_Rikenellaceae;D_5_Alistipes	-0.1352	0.7984	negative
Colon_occludin	D_4_Rikenellaceae;D_5_Alistipes	0.2732	0.6004	positive
Colon_TJP_1	D_4_Rikenellaceae;D_5_Alistipes	-0.1352	0.7984	negative
Liver_TC	D_4_Alcaligenaceae;D_5_Parasutterella	0.0286	1.0000	positive
Liver_TG	D_4_Alcaligenaceae;D_5_Parasutterella	-0.0304	0.9545	negative
Liver_PPAR_a	D_4_Alcaligenaceae;D_5_Parasutterella	-0.2609	0.6175	negative
Liver_PPAR_γ	D_4_Alcaligenaceae;D_5_Parasutterella	-0.1518	0.7741	negative
Liver_SREBP_1c	D_4_Alcaligenaceae;D_5_Parasutterella	-0.3947	0.4387	negative
Liver_Keap1	D_4_Alcaligenaceae;D_5_Parasutterella	-0.5161	0.2946	negative
Liver_Nrf2	D_4_Alcaligenaceae;D_5_Parasutterella	-0.5161	0.2946	negative
Liver_NQO1	D_4_Alcaligenaceae;D_5_Parasutterella	0.1352	0.7984	positive
Liver_HO_1	D_4_Alcaligenaceae;D_5_Parasutterella	-0.4629	0.3552	negative
Liver_ACC_1	D_4_Alcaligenaceae;D_5_Parasutterella	-0.1518	0.7741	negative
Serum_LDL_C	D_4_Alcaligenaceae;D_5_Parasutterella	-0.1429	0.8028	negative
Serum_HD_C	D_4_Alcaligenaceae;D_5_Parasutterella	0.2571	0.6583	positive
Serum_TBA	D_4_Alcaligenaceae;D_5_Parasutterella	-0.3947	0.4387	negative
Serum_LPS	D_4_Alcaligenaceae;D_5_Parasutterella	-0.3947	0.4387	negative
Serum_AST	D_4_Alcaligenaceae;D_5_Parasutterella	0.2704	0.6042	positive
Serum_MCP_1	D_4_Alcaligenaceae;D_5_Parasutterella	-0.0857	0.9194	negative
Serum_IL_1β	D_4_Alcaligenaceae;D_5_Parasutterella	0.7945	0.0590	positive
Serum_IL_6	D_4_Alcaligenaceae;D_5_Parasutterella	0.3143	0.5639	positive
Serum_TNF_a	D_4_Alcaligenaceae;D_5_Parasutterella	-0.1518	0.7741	negative
Serum_OGTT_AUC	D_4_Alcaligenaceae;D_5_Parasutterella	-0.8286	0.0583	negative
Colon_Keap1	D_4_Alcaligenaceae;D_5_Parasutterella	-0.4928	0.3206	negative
Colon_Nrf2	D_4_Alcaligenaceae;D_5_Parasutterella	0.1352	0.7984	positive
Colon_NQO1	D_4_Alcaligenaceae;D_5_Parasutterella	-0.1518	0.7741	negative
Colon_HO_1	D_4_Alcaligenaceae;D_5_Parasutterella	0.2704	0.6042	positive
Colon_occludin	D_4_Alcaligenaceae;D_5_Parasutterella	-0.3947	0.4387	negative
Colon_TJP_1	D_4_Alcaligenaceae;D_5_Parasutterella	0.2704	0.6042	positive
Liver_TC	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	-0.2571	0.6583	negative
Liver_TG	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.5768	0.2307	positive
Liver_PPAR_a	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	-0.3479	0.4993	negative
Liver_PPAR_γ	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.6375	0.1733	positive

Liver_SREBP_1c	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.2732	0.6004	positive
Liver_Keap1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.3339	0.5177	positive
Liver_Nrf2	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.3339	0.5177	positive
Liver_NQO1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.3043	0.5577	positive
Liver_HO_1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.3086	0.5518	positive
Liver_ACC_1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.6375	0.1733	positive
Serum_LDL_C	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.4286	0.4194	positive
Serum_HD_C	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.2000	0.7139	positive
Serum_TBA	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.5161	0.2946	positive
Serum_LPS	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.5161	0.2946	positive
Serum_AST	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.5071	0.3046	positive
Serum_MCP_1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	-0.4857	0.3556	negative
Serum_IL_1β	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.6179	0.1911	positive
Serum_IL_6	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	-0.2000	0.7139	negative
Serum_TNF_a	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.3947	0.4387	positive
Serum_OGTT_AUC	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.0857	0.9194	positive
Colon_Keap1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	-0.2319	0.6584	negative
Colon_Nrf2	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.3043	0.5577	positive
Colon_NQO1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.6375	0.1733	positive
Colon_HO_1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.5071	0.3046	positive
Colon_occludin	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.5161	0.2946	positive
Colon_TJP_1	D_4_Peptostreptococcaceae;D_5_Peptoclostridium	0.5071	0.3046	positive

The top 30 microflora of OTU in THL group

ID	RT1	RT2	RT3	RT4	RT5	RT6
D_4__Verrucomicrobiaceae;D_5__Akkermansia	0.4434	0.4308	0.4511	0.3412	0.2148	0.2991
D_4__Lachnospiraceae;D_5__Lachnospiraceae NK4A136 group	0.0275	0.0466	0.1121	0.1119	0.0399	0.0165
D_4__Prevotellaceae;D_5__Alloprevotella	0.1542	0.0194	0.0604	0.0061	0.0877	0.0183
D_4__Desulfovibrionaceae;D_5__Desulfovibrio	0.0159	0.0152	0.0223	0.0534	0.0293	0.0570
D_4__Lachnospiraceae;D_5__Blautia	0.0012	0.0012	0.0026	0.0098	0.0245	0.0469
D_4__Desulfovibrionaceae;D_5__Bilophila	0.0057	0.0051	0.0140	0.0009	0.0065	0.0114
D_4__Coriobacteriaceae;D_5__Enterorhabdus	0.0118	0.0143	0.0165	0.0208	0.0226	0.0113
D_4__Ruminococcaceae;D_5__[Eubacterium] coprostanoligenes group	0.0240	0.0254	0.0244	0.0069	0.0143	0.0028
D_4__Ruminococcaceae;D_5__Anaerotruncus	0.0043	0.0047	0.0017	0.0087	0.0131	0.0453
D_4__Lactobacillaceae;D_5__Lactobacillus	0.0021	0.0077	0.0018	0.0139	0.0047	0.0039
D_4__Lachnospiraceae;D_5__Lachnospiraceae UCG-006	0.0035	0.0014	0.0025	0.0058	0.0044	0.0022
D_4__Lachnospiraceae;D_5__Lachnoclostridium	0.0062	0.0056	0.0122	0.0065	0.0069	0.0065
D_4__Rikenellaceae;D_5__Alistipes	0.0039	0.0049	0.0050	0.0039	0.0103	0.0042
D_4__Alcaligenaceae;D_5__Parasutterella	0.0043	0.0073	0.0029	0.0044	0.0138	0.0042
D_4__Peptostreptococcaceae;D_5__Peptoclostridium	0.0067	0.0263	0.0098	0.0060	0.0162	0.0067
D_4__Bacteroidaceae;D_5__Bacteroides	0.0053	0.0021	0.0024	0.0048	0.0104	0.0075
D_4__Ruminococcaceae;D_5__Ruminococcaceae UCG-014	0.0025	0.0355	0.0094	0.0154	0.0019	0.0009
D_4__Erysipelotrichaceae;D_5__Turicibacter	0.0001	0.0050	0.0008	0.0388	0.0038	0.0090
D_4__Porphyromonadaceae;D_5__Parabacteroides	0.0002	0.0017	0.0004	0.0007	0.0032	0.0010
D_4__Peptostreptococcaceae;D_5__Intestinibacter	0.0034	0.0151	0.0073	0.0055	0.0109	0.0055
D_4__Erysipelotrichaceae;D_5__Erysipelatoclostridium	0.0038	0.0151	0.0021	0.0040	0.0059	0.0169
D_4__Ruminococcaceae;D_5__Ruminiclostridium 9	0.0041	0.0151	0.0035	0.0008	0.0034	0.0011
D_4__Ruminococcaceae;D_5__Ruminiclostridium 5	0.0033	0.0151	0.0023	0.0032	0.0030	0.0056
D_4__Lachnospiraceae;D_5__Coprococcus 1	0.0042	0.0151	0.0027	0.0005	0.0010	0.0004
D_4__Coriobacteriaceae;D_5__Senegalimassilia	0.0000	0.0151	0.0001	0.0004	0.0006	0.0002
D_4__Bifidobacteriaceae;D_5__Bifidobacterium	0.0006	0.0151	0.0027	0.0151	0.0040	0.0076
D_4__Lachnospiraceae;D_5__[Ruminococcus] torques group	0.0040	0.0151	0.0003	0.0001	0.0009	0.0024
D_4__Carnobacteriaceae;D_5__Atopostipes	0.0024	0.0151	0.0017	0.0005	0.0132	0.0013
D_4__Erysipelotrichaceae;D_5__Faecalibaculum	0.0012	0.0151	0.0025	0.0085	0.0042	0.0044
D_4__Lachnospiraceae;D_5__Roseburia	0.0009	0.0151	0.0002	0.0006	0.0016	0.0023

abundance of family and phylum			
family	NC	HFD+DSS	THL
D_5_Akkermansia	0.0311	0.3236	0.3634
D_5_Lachnospiraceae NK4A136 group	0.1375	0.0869	0.0591
D_5_Alloprevotella	0.0095	0.0711	0.0577
D_5_Desulfovibrio	0.0562	0.0329	0.0322
D_5_Blautia	0.0178	0.0129	0.0144
D_5_Bilophila	0.0175	0.0093	0.0073
D_5_Enterorhabdus	0.0090	0.0077	0.0162
D_5_[Eubacterium] coprostanoligenes group	0.0020	0.0138	0.0163
D_5_Anaerotruncus	0.0072	0.0070	0.0130
D_5_Lactobacillus	0.0170	0.0014	0.0057
D_5_Lachnospiraceae UCG-006	0.0092	0.0136	0.0033
D_5_Lachnoclostridium	0.0114	0.0057	0.0073
D_5_Alistipes	0.0078	0.0065	0.0054
D_5_Parasutterella	0.0037	0.0102	0.0062
D_5_Peptoclostridium	0.0001	0.0011	0.0119
Phylum	NC	HFD+DSS	THL
D_1_Bacteroidetes	0.4525	0.3689	0.2835
D_1_Firmicutes	0.4169	0.2427	0.2794
D_1_Verrucomicrobia	0.0311	0.3236	0.3634
D_1_Proteobacteria	0.0791	0.0534	0.0480
D_1_Actinobacteria	0.0162	0.0091	0.0233
D_1_Saccharibacteria	0.0020	0.0008	0.0016