

Supplementary Table S3. HC versus ICU-COV(-) (MaAsLin2 test)

feature	metadata	value	coef	stderr	N	N.not0	pval	qval
1 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Oscillospira_	SampleStatus_typeICU.Patient_R	-4.5106973	0.4895552	49	28	4	2.0E-12	1.05E-10
2 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Lachnospira_	SampleStatus_typeICU.Patient_R	-4.3953994	0.579291	49	30	1	0.6E-09	2.03E-08
3 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Faecalibacterium_	SampleStatus_typeICU.Patient_R	-4.1830705	0.9830144	49	29	9	8.8E-05	0.000437
4 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Christensenellaceae_	SampleStatus_typeICU.Patient_R	-4.0292137	0.8126631	49	33	9	6.9E-06	5.57E-05
5 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Lachnospira_	SampleStatus_typeICU.Patient_R	-3.9242846	0.7325831	49	17	2	4.9E-06	1.59E-05
6 k_Bacteria.p_Tenericutes.c_Mollicutes.o_RF39_	SampleStatus_typeICU.Patient_R	-3.5715735	0.5766499	49	17	1	1.37E-07	1.58E-06
7 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Ruminococcus_	SampleStatus_typeICU.Patient_R	-3.2905102	0.7255781	49	36	3	9.7E-05	0.0002077
8 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales_	SampleStatus_typeICU.Patient_R	-3.2155575	0.5706771	49	48	9	9.57E-07	7.88E-06
9 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Clostridiaceae.g_Clostridium_	SampleStatus_typeICU.Patient_R	-3.1527298	0.6151162	49	31	5	5.0E-06	3.33E-05
10 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Anaerostipes_	SampleStatus_typeICU.Patient_R	-2.9516189	0.5459242	49	19	2	1.0E-06	1.42E-05
11 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae_	SampleStatus_typeICU.Patient_R	-2.9324429	0.6510859	49	44	4	4.40E-05	0.0002134
12 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.s_ovatus_	SampleStatus_typeICU.Patient_R	-2.8833244	1.0112398	49	18	0	0.0064495	0.0151366
13 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae_	SampleStatus_typeICU.Patient_R	-2.8376747	0.7192695	49	46	0	0.0002646	0.0011077
14 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Blautia_	SampleStatus_typeICU.Patient_R	-2.8130215	0.6250702	49	37	4	4.5E-05	0.0002134
15 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Ruminococcus_	SampleStatus_typeICU.Patient_R	-2.7749399	0.8307578	49	21	0	0.016464	0.0048548
16 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Ruminococcus_	SampleStatus_typeICU.Patient_R	-2.7712557	0.6486913	49	41	9	9.3E-05	0.0004306
17 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae_	SampleStatus_typeICU.Patient_R	-2.7549925	0.5889155	49	48	2	4.8E-05	0.0001356
18 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Phascolartobacterium_	SampleStatus_typeICU.Patient_R	-2.6315089	0.6857596	49	10	0	0.0003701	0.0014188
19 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Barnesiellaceae_	SampleStatus_typeICU.Patient_R	-2.6193279	0.7592956	49	31	0	0.0011952	0.0038181
20 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae_	SampleStatus_typeICU.Patient_R	-2.6081001	0.682858	49	46	0	0.0003913	0.0014515
21 k_Bacteria.p_Firmicutes.c_Erysipelotrichi.o_Erysipelotrichales.f_Erysipelotrichaceae_	SampleStatus_typeICU.Patient_R	-2.5409869	0.785588	49	37	0	0.002327	0.0064191
22 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Clostridiaceae_	SampleStatus_typeICU.Patient_R	-2.4372577	0.728614	49	34	0	0.016236	0.0048548
23 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Rikenellaceae_	SampleStatus_typeICU.Patient_R	-2.3171583	0.5889819	49	45	0	0.0002739	0.0011077
24 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales_	SampleStatus_typeICU.Patient_R	-2.0951886	0.7114452	49	28	0	0.0050089	0.0122559
25 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Odoribacteraceae.g_Odoribacter_	SampleStatus_typeICU.Patient_R	-2.0934061	0.7738788	49	38	0	0.0094819	0.0201929
26 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Paraprevotellaceae.g_Paraprevotella_	SampleStatus_typeICU.Patient_R	-2.0025376	0.8429489	49	20	0	0.0216483	0.0388992
27 k_Archaea.p_Euryarchaeota.c_Methanobacteria.o_Methanobacteriales.f_Methanobacteriaceae.g_Methanobrevibacter_	SampleStatus_typeICU.Patient_R	-1.9804114	0.6480702	49	24	0	0.036391	0.0096523
28 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Oscillospira_	SampleStatus_typeICU.Patient_R	-1.9282466	0.6637918	49	39	0	0.0055839	0.0133781
29 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Dorea_	SampleStatus_typeICU.Patient_R	-1.8898437	0.7184729	49	33	0	0.0114954	0.0236067
30 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Blautia_	SampleStatus_typeICU.Patient_R	-1.5456324	0.5091967	49	42	0	0.0039081	0.0097702
31 k_Bacteria.p_Tenericutes.c_RF3.o_ML615J28_	SampleStatus_typeICU.Patient_R	-1.3252884	0.4695425	49	9	0	0.0069638	0.0160166
32 k_Bacteria.p_Lentisphaerae.c_Lentisphaera.o_Victivallales.f_Victivallaceae_	SampleStatus_typeICU.Patient_R	-1.2541478	0.461163	49	14	0	0.0091321	0.0198149
33 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Lachnobacterium_	SampleStatus_typeICU.Patient_R	-0.823584	0.2881031	49	10	0	0.0035321	0.0096523
34 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Clostridiaceae_	SampleStatus_typeICU.Patient_R	-0.8152845	0.3222463	49	11	0	0.0148165	0.0283982
35 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Roseburia_	SampleStatus_typeICU.Patient_R	-0.6588066	0.2549733	49	9	0	0.0129401	0.0252222
1 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_Gallicola_	SampleStatus_typeICU.Patient_R	0.6974099	0.2665434	49	11	0	0.0119096	0.0237737
2 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Succinoclasticum_	SampleStatus_typeICU.Patient_R	0.9897599	0.4231458	49	9	0	0.0236352	0.0418162
3 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales_	SampleStatus_typeICU.Patient_R	1.26590981	0.4843086	49	11	0	0.0119092	0.0237737
4 k_Bacteria.p_Synergistetes.c_Synergistia.o_Synergistales.f_Dethiosulfovibrionaceae_	SampleStatus_typeICU.Patient_R	1.2691248	0.4730156	49	11	0	0.010309	0.0209906
5 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Peptostreptococcaceae.g_Peptostreptococcus.s_anaerobius_	SampleStatus_typeICU.Patient_R	1.28960411	0.4685914	49	11	0	0.0083872	0.0185486
6 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Paraprevotellaceae.g_Prevotella_	SampleStatus_typeICU.Patient_R	1.38138067	0.6025812	49	9	0	0.0264029	0.0453184
7 k_Bacteria.p_Firmicutes.c_Bacilli.o_Bacillales.f_Staphylococcaceae.g_Staphylococcus_	SampleStatus_typeICU.Patient_R	1.48770892	0.5911557	49	12	0	0.0153611	0.0289594
8 k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Actinomycetaceae.g_Arcanobacterium_	SampleStatus_typeICU.Patient_R	1.48838408	0.6046747	49	10	0	0.0175631	0.0325768
9 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_ph2_	SampleStatus_typeICU.Patient_R	1.49138546	0.6169605	49	10	0	0.0195684	0.0357201
10 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Megasphaera_	SampleStatus_typeICU.Patient_R	1.57658422	0.5081128	49	14	0	0.0032401	0.0096088
11 k_Bacteria.p_Firmicutes.c_Erysipelotrichi.o_Erysipelotrichales.f_Erysipelotrichaceae.g_Eubacterium.s_dolichum_	SampleStatus_typeICU.Patient_R	1.83550482	0.7883819	49	23	0	0.0242557	0.0422638
12 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Clostridiaceae.g_Clostridium_	SampleStatus_typeICU.Patient_R	2.07489518	0.7486779	49	12	0	0.0079719	0.0179759
13 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Mogibacteriaceae.g_Mogibacterium_	SampleStatus_typeICU.Patient_R	2.46597492	0.8122279	49	19	0	0.0039013	0.0097702
14 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_S247_	SampleStatus_typeICU.Patient_R	2.58974542	0.846167	49	25	0	0.0036452	0.0096523
15 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Peptococcaceae.g_Peptococcus_	SampleStatus_typeICU.Patient_R	2.6681403	0.7223718	49	16	0	0.0005754	0.0020052
16 k_Bacteria.p_Proteobacteria.c_Gammaproteobacteria.o_Enterobacteriales.f_Enterobacteriaceae_	SampleStatus_typeICU.Patient_R	2.77404245	0.7384631	49	32	0	0.0004748	0.0017063
17 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_ph2_	SampleStatus_typeICU.Patient_R	2.80361347	0.7955238	49	15	0	0.0009582	0.0031485
18 k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Actinomycetaceae.g_Actinomycetes_	SampleStatus_typeICU.Patient_R	2.91635751	0.8590208	49	24	0	0.0014036	0.0043626
19 k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Actinomycetaceae_	SampleStatus_typeICU.Patient_R	3.14785265	0.8014119	49	18	0	0.0002793	0.0011077
20 k_Bacteria.p_Fusobacteria.c_Fusobacteria.o_Fusobacteriales.f_Fusobacteriaceae.g_Fusobacterium_	SampleStatus_typeICU.Patient_R	3.27161556	0.9228814	49	18	0	0.0008976	0.0030359
21 k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Actinomycetaceae.g_Varibaculum_	SampleStatus_typeICU.Patient_R	4.07414088	0.5769823	49	27	6	6.0E-09	1.08E-07
22 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Dialister_	SampleStatus_typeICU.Patient_R	4.13626791	0.7304154	49	38	8	8.8E-07	7.68E-06
23 k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Corynebacteriaceae.g_Corynebacterium_	SampleStatus_typeICU.Patient_R	4.40681596	0.6594121	49	28	2	4.8E-08	3.56E-07
24 k_Bacteria.p_Proteobacteria.c_Epsilonproteobacteria.o_Campylobacteriales.f_Campylobacteriaceae.g_Campylobacter_	SampleStatus_typeICU.Patient_R	4.43107834	0.7241094	49	24	1	7.8E-07	1.86E-06
25 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Prevotellaceae.g_Prevotella_	SampleStatus_typeICU.Patient_R	4.54899126	0.7917309	49	44	6	6.5E-07	6.25E-06
26 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_Anaerococcus_	SampleStatus_typeICU.Patient_R	4.78284662	0.5205008	49	30	4	5.6E-12	1.05E-10
27 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae_	SampleStatus_typeICU.Patient_R	4.8849652	0.894348	49	22	1	7.4E-06	1.25E-05
28 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_Finegoldia_	SampleStatus_typeICU.Patient_R	4.92503466	0.4343523	49	31	4	4.7E-15	5.48E-13
29 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Porphyrimonadaceae.g_Porphyrimonas.s_endodontalis	SampleStatus_typeICU.Patient_R	5.00974622	0.9097838	49	23	1	4.9E-06	1.14E-05
30 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_Peptoniphilus_	SampleStatus_typeICU.Patient_R	5.78826027	0.5510934	49	31	6	6.4E-14	3.69E-12
31 k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_WAL_1855D_	SampleStatus_typeICU.Patient_R	5.99769423	0.95136	49	25	9	9.31E-08	1.19E-06
32 k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Porphyrimonadaceae.g_Porphyrimonas_	SampleStatus_typeICU.Patient_R	6.59759703	0.6879694	49	30	1	1.22E-12	4.66E-11