

Supplementary Table S4. HC versus ICU-COV(+) (MaAsLin2 test)

| feature  | metadata    | value   | coef       | stderr      | N  | N.not.0 | pval       | qval       |
|--|-------------|---------|------------|-------------|----|---------|------------|------------|
| 1_k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Micrococaceae.g_Rothia.s_mucilaginis.                   | SampleStatu | Healthy | -6.6724246 | 0.98128055  | 42 | 21      | 3.57e-08   | 1.02e-07   |
| 2_k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Actinomycetales.g_Actinomycetes.                        | SampleStatu | Healthy | -6.4952616 | 1.01633378  | 42 | 25      | 1.33e-07   | 3.52e-07   |
| 3_k_Bacteria.p_Firmicutes.c_Bacilli.o_Lactobacillales.f_Streptococcaceae.g_Streptococcus.                                  | SampleStatu | Healthy | -6.2325409 | 0.86108871  | 42 | 35      | 8.76e-09   | 2.74e-08   |
| 4_k_Bacteria.p_Fusobacteria.c_Fusobacteria.o_Fusobacteriales.f_Fusobacteriaceae.g_Fusobacterium.                           | SampleStatu | Healthy | -5.0605709 | 0.85713464  | 42 | 22      | 6.45e-07   | 1.54e-06   |
| 5_k_Bacteria.p_Proteobacteria.c_Betaproteobacteria.o_Neisseriales.f_Neisseriaceae.g_Neisseria.                             | SampleStatu | Healthy | -4.3752411 | 1.02407227  | 42 | 16      | 0.00011604 | 0.00020257 |
| 6_k_Bacteria.p_Firmicutes.c_Bacilli.o_Lactobacillales.f_Carnobacteriaceae.g_Granulicatella.                                | SampleStatu | Healthy | -3.8302241 | 0.8914519   | 42 | 15      | 0.00010771 | 0.00019127 |
| 7_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Paraprevotellaceae.g_Prevotella.                              | SampleStatu | Healthy | -3.7639237 | 0.71475074  | 42 | 18      | 5.05e-06   | 1.06e-05   |
| 8_k_Bacteria.p_Actinobacteria.c_Coriobacteriia.o_Coriobacteriales.f_Coriobacteriaceae.g_Atopobium.                         | SampleStatu | Healthy | -3.7295556 | 0.75345511  | 42 | 17      | 1.39e-05   | 2.80e-05   |
| 9_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Prevotellaceae.g_Prevotella.s_melaninigenica.                 | SampleStatu | Healthy | -3.4911026 | 0.62413824  | 42 | 19      | 1.76e-06   | 3.94e-06   |
| 10_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Veillonella.s_parvula.                         | SampleStatu | Healthy | -3.1350033 | 0.921272976 | 42 | 16      | 0.0015338  | 0.00225687 |
| 11_k_Bacteria.p_Proteobacteria.c_Gammaproteobacteria.o_Pasteurellales.f_Pasteurellaceae.g_Haemophilus.s_painfluenzae.      | SampleStatu | Healthy | -3.0242035 | 1.11780009  | 42 | 21      | 0.00997375 | 0.01237706 |
| 12_k_Bacteria.p_Proteobacteria.c_Gammaproteobacteria.o_Pasteurellales.f_Pasteurellaceae.g_Aggregatibacter.s_segnis.        | SampleStatu | Healthy | -2.7880736 | 0.90352995  | 42 | 11      | 0.00367617 | 0.00511683 |
| 13_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Peptostreptococcaceae.g_Peptostreptococcus.                      | SampleStatu | Healthy | -2.6761465 | 0.82442788  | 42 | 11      | 0.00236901 | 0.00343873 |
| 14_k_Bacteria.p_Firmicutes.c_Erysipelotrichi.o_Erysipelotrichaceae.g_Bulleidia.s_moorei.                                   | SampleStatu | Healthy | -2.6453415 | 0.58255631  | 42 | 16      | 3.05e-05   | 9.12e-05   |
| 15_k_Bacteria.p_Firmicutes.c_Bacilli.o_Gemellales.f_Gemellaceae.   | SampleStatu | Healthy | -2.6063831 | 0.51793694  | 42 | 18      | 1.07e-05   | 2.20e-05   |
| 16_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Prevotellaceae.g_Prevotella.s_melaninigenica.                | SampleStatu | Healthy | -2.3197923 | 0.91505711  | 42 | 8       | 0.01525594 | 0.0175867  |
| 17_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Oribacterium.                                  | SampleStatu | Healthy | -2.2231695 | 0.71793214  | 42 | 11      | 0.00356941 | 0.00503629 |
| 18_k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Corynebacteriaceae.g_Corynebacterium.                  | SampleStatu | Healthy | -2.1637992 | 0.77815578  | 42 | 10      | 0.00823069 | 0.01059729 |
| 19_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Veillonella.s_dispar.                          | SampleStatu | Healthy | -2.1246293 | 0.81730726  | 42 | 13      | 0.01312021 | 0.01450573 |
| 20_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Moryella.                                      | SampleStatu | Healthy | -2.0760479 | 0.81982394  | 42 | 8       | 0.01536601 | 0.0175867  |
| 21_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Prevotellaceae.g_Prevotella.s_nanceiensis.                   | SampleStatu | Healthy | -2.0621589 | 0.5119849   | 42 | 14      | 0.00047361 | 0.00076654 |
| 22_k_Bacteria.p_Fusobacteria.c_Fusobacteria.o_Fusobacteriales.f_Leptotrichiaceae.g_Leptotrichia.                           | SampleStatu | Healthy | -2.0504499 | 0.84032133  | 42 | 13      | 0.00112225 | 0.00175225 |
| 23_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Flavobacteriales.f_Flavobacteriaceae.g_Capnocytophaga.                       | SampleStatu | Healthy | -1.877544  | 0.63993966  | 42 | 10      | 0.00551875 | 0.00738222 |
| 24_k_Bacteria.p_Bacteroidetes.c_Flavobacteriales.f_Flavobacteriales.f_Weeksellaceae.                                       | SampleStatu | Healthy | -1.8661723 | 0.62661523  | 42 | 10      | 0.00490763 | 0.00673981 |
| 25_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Veillonella.                                   | SampleStatu | Healthy | -1.8399866 | 0.67024333  | 42 | 10      | 0.00901358 | 0.01132193 |
| 26_k_Bacteria.p_Proteobacteria.c_Epsilonproteobacteria.o_Campylobacteriales.f_Campylobacteriaceae.g_Campylobacter.         | SampleStatu | Healthy | -1.8264581 | 0.50366056  | 42 | 13      | 0.00080395 | 0.00127395 |
| 27_k_Bacteria.p_Firmicutes.c_Bacilli.o_Bacillales.f_Staphylococcaceae.g_Staphylococcus.                                    | SampleStatu | Healthy | -1.5950322 | 0.70117153  | 42 | 8       | 0.02835198 | 0.03140058 |
| 28_k_Bacteria.p_Firmicutes.c_Bacilli.o_Lactobacillales.f_Aerococcaceae.g_Abitrophia.                                       | SampleStatu | Healthy | -1.4808601 | 0.47273253  | 42 | 11      | 0.00323708 | 0.00463083 |
| 29_k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Corynebacteriaceae.                                    | SampleStatu | Healthy | -1.4775362 | 0.67994227  | 42 | 7       | 0.03635484 | 0.03983563 |
| 30_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Porphyrionomadaceae.g_Porphyrionomads.                       | SampleStatu | Healthy | -1.3990216 | 0.53197028  | 42 | 9       | 0.01206527 | 0.01462026 |
| 31_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Tissierellaceae.g_Parvimonas.                                    | SampleStatu | Healthy | -1.3663591 | 0.53355413  | 42 | 9       | 0.01431949 | 0.0176033  |
| 32_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Mogibacteriaceae.g_Mogibacterium.                                | SampleStatu | Healthy | -1.3089952 | 0.61978204  | 42 | 13      | 0.04097762 | 0.04442837 |
| 33_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Porphyrionomadaceae.g_Porphyrionomads.s_endodontalis.        | SampleStatu | Healthy | -1.2896901 | 0.45841727  | 42 | 10      | 0.0075646  | 0.0098627  |
| 34_k_Bacteria.p_Proteobacteria.c_Betaproteobacteria.o_Neisseriales.f_Neisseriaceae.g_Neisseria.                            | SampleStatu | Healthy | -1.1232227 | 0.41717448  | 42 | 12      | 0.0103038  | 0.01264055 |
| 1_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.s_fragilis.                      | SampleStatu | Healthy | 0.54199996 | 0.18954261  | 42 | 5       | 0.00671009 | 0.00886077 |
| 2_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Ruminococcus.                                   | SampleStatu | Healthy | 0.55874714 | 0.12312146  | 42 | 5       | 0.01234981 | 0.01479106 |
| 3_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.s_eggerthii.                     | SampleStatu | Healthy | 0.64983165 | 0.18747928  | 42 | 6       | 0.00127534 | 0.00193176 |
| 4_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.s_plebeius.                      | SampleStatu | Healthy | 0.65565585 | 0.2684629   | 42 | 5       | 0.01910964 | 0.02139448 |
| 5_k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Bifidobacteriales.f_Bifidobacteriaceae.g_Bifidobacterium.                 | SampleStatu | Healthy | 0.73241912 | 0.29539665  | 42 | 5       | 0.01747059 | 0.0197744  |
| 6_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Roseburia.                                      | SampleStatu | Healthy | 0.82946391 | 0.24352174  | 42 | 6       | 0.00151266 | 0.00225687 |
| 7_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Phascolartobacterium.                           | SampleStatu | Healthy | 0.83964982 | 0.218136    | 42 | 7       | 0.00041756 | 0.00068267 |
| 8_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Lachnobacterium.                                | SampleStatu | Healthy | 0.9388231  | 0.24515921  | 42 | 8       | 0.00022589 | 0.00038143 |
| 9_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Clostridiaceae.   | SampleStatu | Healthy | 1.03944738 | 0.28965162  | 42 | 7       | 0.00089698 | 0.00139983 |
| 10_k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Bifidobacteriales.f_Bifidobacteriaceae.g_Bifidobacterium.s_adolescentis. | SampleStatu | Healthy | 1.0759982  | 0.22609173  | 42 | 9       | 2.68e-05   | 5.21e-05   |
| 11_k_Bacteria.p_Proteobacteria.c_Gammaproteobacteria.o_Enterobacteriales.f_Enterobacteriaceae.                             | SampleStatu | Healthy | 1.15394738 | 0.41829359  | 42 | 9       | 0.00870861 | 0.01107392 |
| 12_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Ruminococcus.                                  | SampleStatu | Healthy | 1.29073239 | 0.21741449  | 42 | 11      | 5.80e-07   | 1.42e-06   |
| 13_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Paraprevotellaceae.g_Paraprevotella.                         | SampleStatu | Healthy | 1.41101275 | 0.26144828  | 42 | 10      | 3.32e-06   | 7.27e-06   |
| 14_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.s_caccae.                       | SampleStatu | Healthy | 1.56687447 | 0.15260882  | 42 | 15      | 8.98e-13   | 3.70e-12   |
| 15_k_Bacteria.p_Actinobacteria.c_Coriobacteriia.o_Coriobacteriales.f_Coriobacteriaceae.g_Collinsella.s_aerofaciens.        | SampleStatu | Healthy | 1.57119195 | 0.29705276  | 42 | 11      | 4.69e-06   | 1.01e-05   |
| 16_k_Bacteria.p_Lentisphaerae.c_Lentisphaeria.o_Victivallales.f_Victivallaceae.  | SampleStatu | Healthy | 1.71009233 | 0.42433197  | 42 | 9       | 0.00024285 | 0.00040345 |
| 17_k_Bacteria.p_Proteobacteria.c_Alphaproteobacteria.o_RF32.   | SampleStatu | Healthy | 1.82647141 | 0.39332193  | 42 | 9       | 3.66e-05   | 6.85e-05   |
| 18_k_Archaea.p_Euryarchaeota.c_Methanobacteria.o_Methanobacteriales.f_Methanobacteriaceae.g_Methanobrevibacter.            | SampleStatu | Healthy | 1.8428257  | 0.28015761  | 42 | 12      | 7.29e-08   | 1.98e-07   |
| 19_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Barnesiellaceae.   | SampleStatu | Healthy | 1.94538944 | 0.20437056  | 42 | 15      | 7.85e-12   | 2.99e-11   |
| 20_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.s_uniformis.                    | SampleStatu | Healthy | 1.98581858 | 0.14707132  | 42 | 16      | 1.74e-16   | 1.12e-15   |
| 21_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Blautia.                                       | SampleStatu | Healthy | 2.10418164 | 0.15098194  | 42 | 17      | 6.10e-17   | 4.19e-16   |
| 22_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Faecalibacterium.s_prausnitzii.                | SampleStatu | Healthy | 2.1347793  | 0.22507777  | 42 | 15      | 8.68e-12   | 3.19e-11   |
| 23_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Prevotellaceae.g_Prevotella.s_copri.                         | SampleStatu | Healthy | 2.15952461 | 0.73254481  | 42 | 7       | 0.00531752 | 0.00720664 |
| 24_k_Bacteria.p_Proteobacteria.c_Betaproteobacteria.o_Burkholderiales.f_Alcaligenaceae.g_Sutterella.                       | SampleStatu | Healthy | 2.26575683 | 0.28277683  | 42 | 14      | 7.60e-10   | 2.53e-09   |
| 25_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Lachnospira.                                   | SampleStatu | Healthy | 2.29296009 | 0.37375266  | 42 | 12      | 3.05e-07   | 7.86e-07   |
| 26_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Odoribacteriaceae.g_Butyricimonas.                           | SampleStatu | Healthy | 2.47119371 | 0.36406259  | 42 | 13      | 3.71e-08   | 1.03e-07   |
| 27_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Peptostreptococcaceae.g_Peptostreptococcus.                      | SampleStatu | Healthy | 2.52284514 | 0.15632811  | 42 | 10      | 1.70e-05   | 3.37e-05   |
| 28_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Oscillospira.                                  | SampleStatu | Healthy | 2.61758361 | 0.17280033  | 42 | 17      | 3.65e-18   | 3.42e-17   |
| 29_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Christensenellaceae.   | SampleStatu | Healthy | 2.67357109 | 0.46504193  | 42 | 13      | 1.06e-06   | 2.44e-06   |
| 30_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Anaerostipes.                                  | SampleStatu | Healthy | 2.8837501  | 0.42390279  | 42 | 14      | 3.53e-08   | 1.02e-07   |
| 31_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Oscillospira.                                  | SampleStatu | Healthy | 2.88844435 | 0.27539047  | 42 | 17      | 4.79e-13   | 2.15e-12   |
| 32_k_Bacteria.p_Actinobacteria.c_Coriobacteriia.o_Coriobacteriales.f_Coriobacteriaceae.                                    | SampleStatu | Healthy | 2.90864621 | 0.39103591  | 42 | 18      | 4.63e-09   | 1.49e-08   |
| 33_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Veillonellaceae.g_Phascolartobacterium.                          | SampleStatu | Healthy | 2.92778035 | 0.69598365  | 42 | 8       | 0.00014195 | 0.00024369 |
| 34_k_Bacteria.p_Firmicutes.c_Erysipelotrichi.o_Erysipelotrichaceae.g_Erysipelotrichaceae.                                  | SampleStatu | Healthy | 2.9747878  | 0.243632    | 42 | 16      | 4.52e-15   | 2.74e-14   |
| 35_k_Bacteria.p_Proteobacteria.c_Deltaproteobacteria.o_Desulfobivibrionales.f_Desulfobivibrionaceae.g_Desulfobivibrio.     | SampleStatu | Healthy | 2.97617455 | 0.63599776  | 42 | 9       | 3.27e-05   | 6.23e-05   |
| 36_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Mogibacteriaceae.g_Mogibacterium.                                | SampleStatu | Healthy | 3.04436735 | 0.65699566  | 42 | 26      | 3.77e-05   | 6.93e-05   |
| 37_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Blautia.                                       | SampleStatu | Healthy | 3.0684041  | 0.18240571  | 42 | 17      | 9.62e-20   | 9.91e-19   |
| 38_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Coproccoccus.                                  | SampleStatu | Healthy | 3.08034705 | 0.25950789  | 42 | 16      | 1.10e-14   | 5.68e-14   |
| 39_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Faecalibacterium.                              | SampleStatu | Healthy | 3.11265468 | 0.26741439  | 42 | 16      | 2.03e-14   | 9.96e-14   |
| 40_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Odoribacteriaceae.g_Odoribacter.                             | SampleStatu | Healthy | 3.28631059 | 0.2257443   | 42 | 17      | 1.41e-17   | 1.12e-16   |
| 41_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Clostridiaceae.  | SampleStatu | Healthy | 3.30534088 | 0.32112997  | 42 | 16      | 8.35e-13   | 3.58e-12   |
| 42_k_Bacteria.p_Tenericutes.c_Mollicutes.o_RF39.   | SampleStatu | Healthy | 3.46872786 | 0.58086456  | 42 | 15      | 5.18e-07   | 1.30e-06   |
| 43_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.   | SampleStatu | Healthy | 3.63837992 | 0.44572097  | 42 | 18      | 4.76e-10   | 1.63e-09   |
| 44_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Dorea.   | SampleStatu | Healthy | 3.71732491 | 0.37645642  | 42 | 15      | 2.78e-12   | 1.10e-11   |
| 45_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Porphyrionomadaceae.g_Parabacteroides.                       | SampleStatu | Healthy | 4.08827057 | 0.20254278  | 42 | 17      | 1.67e-22   | 2.46e-21   |
| 46_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Porphyrionomadaceae.g_Parabacteroides.s_distonis.            | SampleStatu | Healthy | 4.14061401 | 0.47805372  | 42 | 14      | 1.03e-10   | 3.65e-10   |
| 47_k_Bacteria.p_Proteobacteria.c_Deltaproteobacteria.o_Desulfobivibrionales.f_Desulfobivibrionaceae.g_Bilophia.            | SampleStatu | Healthy | 4.31130489 | 0.37632357  | 42 | 16      | 3.32e-14   | 1.56e-13   |
| 48_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.   | SampleStatu | Healthy | 4.38222594 | 0.12773863  | 42 | 18      | 2.76e-31   | 2.84e-29   |
| 49_k_Bacteria.p_Verrucomicrobia.c_Verrucomicrobiae.o_Verrucomicrobiales.f_Verrucomicrobiaceae.g_Akkermansia.s_muciniphila. | SampleStatu | Healthy | 4.43340883 | 0.64529897  | 42 | 14      | 2.84e-08   | 8.61e-08   |
| 50_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.s_ovatus.                       | SampleStatu | Healthy | 4.49590328 | 0.76242569  | 42 | 11      | 6.60e-07   | 1.55e-06   |
| 51_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Ruminococcus.                                  | SampleStatu | Healthy | 4.53975407 | 0.15819605  | 42 | 18      | 2.65e-28   | 6.83e-27   |
| 52_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Clostridiaceae.g_Clostridium.                                    | SampleStatu | Healthy | 4.6844651  | 0.38628836  | 42 | 16      | 5.61e-15   | 3.21e-14   |
| 53_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.g_Ruminococcus.                                  | SampleStatu | Healthy | 4.99529673 | 0.35246918  | 42 | 17      | 3.48e-17   | 2.56e-16   |
| 54_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.g_Lachnospira.                                   | SampleStatu | Healthy | 5.06248832 | 0.30064747  | 42 | 17      | 9.29e-20   | 9.91e-19   |
| 55_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Rikenellaceae.   | SampleStatu | Healthy | 5.63061896 | 0.21013905  | 42 | 19      | 3.61e-27   | 7.44e-26   |
| 56_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Ruminococcaceae.   | SampleStatu | Healthy | 5.71628244 | 0.19147029  | 42 | 18      | 5.84e-29   | 2.01e-27   |
| 57_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Christensenellaceae.   | SampleStatu | Healthy | 6.09092599 | 0.5074376   | 42 | 17      | 7.76e-15   | 4.20e-14   |
| 58_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.   | SampleStatu | Healthy | 6.75439804 | 0.45287983  | 42 | 25      | 6.21e-18   | 5.33e-17   |
| 59_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.   | SampleStatu | Healthy | 8.48481032 | 0.39862906  | 42 | 24      | 1.99e-23   | 3.42e-22   |
| 60_k_Bacteria.p_Bacteroidetes.c_Bacteroidia.o_Bacteroidales.f_Bacteroidaceae.g_Bacteroides.                                | SampleStatu | Healthy | 9.78981246 | 0.53866968  | 42 | 21      | 5.99e-21   | 7.72e-20   |
| 61_k_Bacteria.p_Firmicutes.c_Clostridia.o_Clostridiales.f_Lachnospiraceae.   | SampleStatu | Healthy | 10.955584  | 0.31772001  | 42 | 22      | 6.21e-30   | 3.20e-28   |