

Supplementary Table S6. ICU-COV(-) across time (MaAsLin2 test)

| feature                                                                                                                    | metadata  | value    | coef       | stderr     | N  | N.not.0 | pval       | qval       |
|----------------------------------------------------------------------------------------------------------------------------|-----------|----------|------------|------------|----|---------|------------|------------|
| k__Bacteria.p__Proteobacteria.c__Gammaproteobacteria.o__Enterobacteriales.f__Enterobacteriaceae.____                       | TimePoint | Baseline | -3.699692  | 0.91335535 | 83 | 31      | 0.00011744 | 0.00182485 |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Christensenellaceae.____                                       | TimePoint | Baseline | -2.9666626 | 0.7845149  | 83 | 50      | 0.00029919 | 0.00402908 |
| k__Bacteria.p__Firmicutes.c__Bacilli.o__Lactobacillales.f__Enterococcaceae.g__Enterococcus.____                            | TimePoint | Baseline | -2.8460292 | 0.84062835 | 83 | 35      | 0.00110309 | 0.01172762 |
| k__Bacteria.p__Firmicutes.c__Erysipelotrichi.o__Erysipelotrichales.f__Erysipelotrichaceae.g__Eubacterium.s__dolichum.____  | TimePoint | Baseline | -2.2582506 | 0.77411818 | 83 | 55      | 0.00458592 | 0.03705427 |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Lachnospiraceae.g__Blautia.____                                | TimePoint | Baseline | -1.8588199 | 0.63411308 | 83 | 57      | 0.00439826 | 0.03701865 |
| k__Bacteria.p__Actinobacteria.c__Coriobacteria.o__Coriobacteriales.f__Coriobacteriaceae.g__Collinsella.s__aerofaciens.____ | TimePoint | Baseline | -1.5636113 | 0.55357679 | 83 | 36      | 0.00597463 | 0.04469911 |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Peptostreptococcaceae.g__Peptostreptococcus.s__anaerobius.____ | TimePoint | Baseline | 0.95860494 | 0.34546415 | 83 | 15      | 0.00687289 | 0.04825847 |
| k__Bacteria.p__Synergistetes.c__Synergistia.o__Synergistales.f__Dethiosulfovibrionaceae.____                               | TimePoint | Baseline | 0.96845824 | 0.34968074 | 83 | 13      | 0.00697523 | 0.04825847 |
| k__Bacteria.p__Bacteroidetes.c__Bacteroidia.o__Bacteroidales.f__Prevotellaceae.g__Prevotella.s__copri.____                 | TimePoint | Baseline | 1.49622255 | 0.50624609 | 83 | 22      | 0.00409968 | 0.03600591 |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Tissierellaceae.g__Gallicola.____                              | TimePoint | Baseline | 1.80049323 | 0.53671276 | 83 | 15      | 0.00121687 | 0.01229035 |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Mogibacteriaceae.g__Mogibacterium.____                         | TimePoint | Baseline | 1.87562546 | 0.58328606 | 83 | 22      | 0.00187863 | 0.0172492  |
| k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Actinomycetaceae.g__Actinomyces.____                 | TimePoint | Baseline | 1.88495793 | 0.51495805 | 83 | 27      | 0.0004501  | 0.00534829 |
| k__Bacteria.p__Bacteroidetes.c__Bacteroidia.o__Bacteroidales.f__S24.7.____                                                 | TimePoint | Baseline | 1.89388397 | 0.67010922 | 83 | 31      | 0.00594641 | 0.04469911 |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Tissierellaceae.g__ph2.____                                    | TimePoint | Baseline | 2.08528399 | 0.60266274 | 83 | 19      | 0.00086876 | 0.0097494  |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Peptococcaceae.g__Peptococcus.____                             | TimePoint | Baseline | 2.23562606 | 0.60748097 | 83 | 24      | 0.00042134 | 0.00531937 |
| k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Actinomycetaceae.____                                | TimePoint | Baseline | 2.36951844 | 0.61425968 | 83 | 23      | 0.00023063 | 0.0032766  |
| k__Bacteria.p__Bacteroidetes.c__Bacteroidia.o__Bacteroidales.f__Porphyromonadaceae.g__Porphyromonas.s__endodontalis.____   | TimePoint | Baseline | 2.59499081 | 0.45800783 | 83 | 27      | 2.23E-07   | 4.49E-06   |
| k__Bacteria.p__Proteobacteria.c__Epsilonproteobacteria.o__Campylobacteriales.f__Campylobacteriaceae.g__Campylobacter.____  | TimePoint | Baseline | 3.41785753 | 0.56180518 | 83 | 32      | 3.83E-08   | 1.06E-06   |
| k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Actinomycetaceae.g__Varibaculum.____                 | TimePoint | Baseline | 3.53172714 | 0.45999418 | 83 | 33      | 3.45E-11   | 1.39E-09   |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Tissierellaceae.____                                           | TimePoint | Baseline | 3.63130768 | 0.71570122 | 83 | 29      | 2.48E-06   | 4.55E-05   |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__WAL_185SD.____                                                 | TimePoint | Baseline | 3.86409839 | 0.67066342 | 83 | 33      | 1.49E-07   | 3.35E-06   |
| k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Corynebacteriaceae.g__Corynebacterium.____           | TimePoint | Baseline | 3.90051859 | 0.81589809 | 83 | 41      | 7.82E-06   | 0.0001317  |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Tissierellaceae.g__Finegoldia.____                             | TimePoint | Baseline | 4.11194731 | 0.55963645 | 83 | 47      | 1.51E-10   | 5.10E-09   |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Veillonellaceae.g__Dialister.____                              | TimePoint | Baseline | 4.11414796 | 0.67870833 | 83 | 49      | 4.20E-08   | 1.06E-06   |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Tissierellaceae.g__Anaerococcus.____                           | TimePoint | Baseline | 4.43996887 | 0.56626221 | 83 | 45      | 1.66E-11   | 8.37E-10   |
| k__Bacteria.p__Bacteroidetes.c__Bacteroidia.o__Bacteroidales.f__Porphyromonadaceae.g__Porphyromonas.____                   | TimePoint | Baseline | 5.13550666 | 0.63300872 | 83 | 41      | 4.86E-12   | 3.27E-10   |
| k__Bacteria.p__Firmicutes.c__Clostridia.o__Clostridiales.f__Tissierellaceae.g__Peptoniphilus.____                          | TimePoint | Baseline | 6.28143584 | 0.7077113  | 83 | 48      | 1.54E-13   | 1.56E-11   |
| k__Bacteria.p__Bacteroidetes.c__Bacteroidia.o__Bacteroidales.f__Prevotellaceae.g__Prevotella.____                          | TimePoint | Baseline | 6.61720519 | 0.65421322 | 83 | 55      | 5.78E-16   | 1.17E-13   |