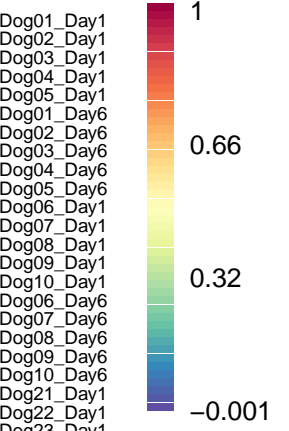
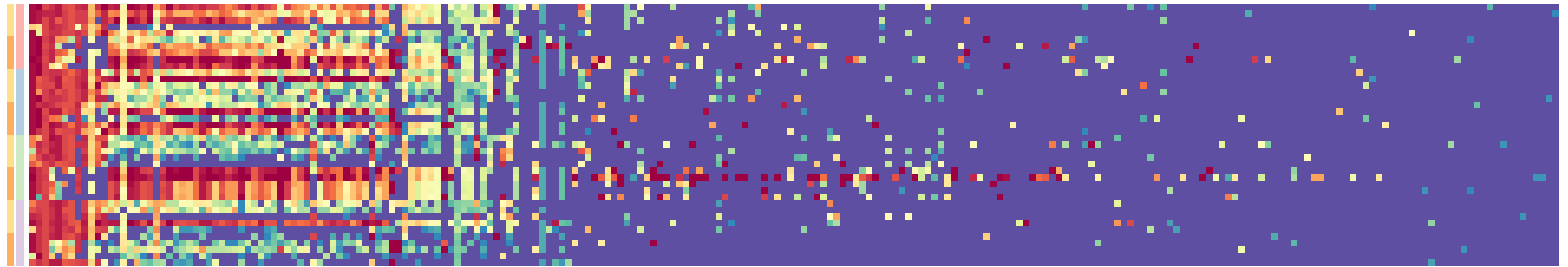


Supplemental Figure 1. Principal coordinate analyses of fecal microbiomes. Fecal microbiomes for each animal at each time point were subjected to principal coordinate analysis using Jaccard dissimilarity [21]. Amoxicillin alone pretreatment, pink, Amoxicillin alone post-treatment, red; Amoxicillin + SYN-007 pretreatment, gray, Amoxicillin + SYN-007 post-treatment, black; Amoxicillin/Clavulanate alone pretreatment, yellow, Amoxicillin/Clavulanate alone post-treatment, dark blue, Amoxicillin/Clavulanate + SYN-007 pretreatment, light blue, Amoxicillin/Clavulanate + SYN-007 post-treatment, green.



Time

- 1
- 6

Treatment

- Amoxicillin Alone
- Amoxicillin + Form. 1
- Amoxicillin/Clavulanate Alone
- Amoxicillin/Clavulanate + Form. 1

Supplemental Figure 2. Heatmap analysis of the frequency of antibiotic resistance genes in the dog fecal microbiomes. Fecal microbiome metagenomics data were analyzed for the presence of antibiotic resistance genes based on the percentage gene coverage as a measure of relative gene frequency in each sample. Each row represents an individual animal at the indicated time point. Antibiotic resistance genes are displayed at the bottom, treatment group and day of sample collection in the key on the right, and animal numbers on the right. The color gradient key displays a linear scale of the percent gene coverage as a measure of the relative gene frequency.

- Penicillin-binding-protein PBP2b
- Beta-lactam-resistance blaACT 60 Branch
- Tetracycline effE
- Beta-lactam-resistance blaTEM 178
- Beta-lactam-resistance blaOXA 373
- Phenicol cat TC
- Beta-lactam-resistance bla 140 560 1365 Branch
- Repressor-of-mexJK mexJ
- Tetracycline effC
- Efflux-pump msrE
- Macrolide ermG
- Beta-lactam-resistance blaOXA 334
- Beta-lactam-resistance bla 1022 1943 4 Branch
- Tetracycline tet 2027 Branch
- Tetracycline tet 2374 Branch
- Trimethoprim dfrA30
- Amnogyloside aph3 IIIa
- Beta-lactam-resistance blaTEM 21
- Amnogyloside aadA 2142 Branch
- Tetracycline tetB
- MDR-Efflux-pump cmeB
- Beta-lactam-resistance blaOXA 282
- Beta-lactamase cepXA
- Macrolide erm 1980 Branch
- Tetracycline tet 39
- Beta-lactam-resistance blaTEM 40
- Amnogyloside aadA 2141 Branch
- Beta-lactam-resistance blaTEM 17
- MDR-Efflux-pump cmeA
- Tetracycline tetA
- Amnogyloside sai 2A
- Beta-lactam-resistance blaTEM 194
- Macrolide ermI
- Beta-lactam-resistance blaTEM 192
- Beta-lactam-resistance blaTEM 1174 Branch
- Beta-lactam-resistance blaTEM 1167 Branch
- Beta-lactam-resistance blaTEM 211
- Beta-lactam-resistance blaTEM 1
- Amnogyloside a 1 995 Branch
- Repressor-of-MDR-Efflux-pump cmeR
- Beta-lactam-resistance blaOXA 183 Branch
- Amnogyloside aadA 2149 Branch
- Amnogyloside aph 2122 Branch
- Beta-lactam-resistance blaOXA 469 Branch
- Beta-lactam-resistance blaTEM 116
- Beta-lactam-resistance blaTEM 55
- Macrolide lruA
- Beta-lactam-resistance blaTEM 149
- Beta-lactam-resistance blaTEM 125
- Tetracycline effS
- Beta-lactam-resistance blaTEM 156
- Beta-lactam-resistance blaTEM 193
- Beta-lactam-resistance blaTEM 88
- Beta-lactam-resistance blaTEM 70
- Beta-lactam-resistance blaTEM 198
- Beta-lactam-resistance blaTEM 1170 Branch
- Beta-lactam-resistance blaTEM 157
- MDR-Efflux-pump cmeC
- Beta-lactamase CHA 1
- Beta-lactam-resistance blaTEM 108
- Macrolide l 2009 Branch
- Tetracycline tetR
- Beta-lactam-resistance blaTEM 1188 Branch
- Amnogyloside aad5
- Beta-lactam-resistance blaOXA 136
- Trimethoprim dfrA14
- Beta-lactam-resistance blaTEM 90
- Beta-lactam-resistance blaOXA 221 Branch
- Beta-lactam-resistance blaTEM 144
- Beta-lactam-resistance blaTEM 1195 Branch
- Beta-lactam-nucA
- Beta-lactam-resistance blaOXA 468 Branch
- Beta-lactam-resistance blaTEM 57
- Beta-lactam-resistance blaTEM 102
- Beta-lactam-resistance blaTEM 216
- Beta-lactam-resistance blaTEM 209 Branch
- Beta-lactam-resistance blaTEM 153
- Beta-lactam-resistance blaTEM 206
- Beta-lactam-resistance blaTEM 227
- Beta-lactam-resistance blaTEM 208
- Trimethoprim dfrA17
- Subphage phi1
- Beta-lactam-resistance blaAC1
- Beta-lactam-resistance blaTEM 209
- Beta-lactam-resistance blaTEM 150
- Beta-lactam-resistance blaTEM 1156 Branch
- Beta-lactam-cfXA
- Beta-lactam-resistance blaTEM 124
- Beta-lactam-cfXA 2367 Branch
- Beta-lactam-cfXA 151
- Beta-lactam-resistance blaTEM 129
- Beta-lactam-resistance blaTEM 95
- Beta-lactam-resistance blaTEM 126
- Amnogyloside sai 2182 Branch
- Amnogyloside aph 2123 Branch
- Amnogyloside aaeE
- Beta-lactam-resistance blaTEM 173
- Beta-lactam-resistance blaTEM 1209 Branch
- Macrolide msrD
- Beta-lactam-resistance blaTEM 1191 Branch
- Beta-lactam-resistance blaTEM 138
- Macrolide lruB
- Amnogyloside aph 2302 Branch
- Beta-lactam-resistance blaTEM 170
- Beta-lactam-resistance blaTEM 146
- Beta-lactam-resistance blaTEM 83
- Beta-lactam-resistance blaTEM 196
- Beta-lactam-resistance blaTEM 76
- Beta-lactam-resistance blaTEM 212
- Amnogyloside a 2393 Branch
- Macrolide ermQ
- Beta-lactam-resistance blaTEM 145
- Beta-lactam-resistance blaTEM 148
- Beta-lactam-resistance blaTEM 141
- Macrolide m 2021 Branch
- Amnogyloside aadA1
- Beta-lactam-resistance blaTEM 199
- Amnogyloside aph3 Ib
- Beta-lactam-resistance blaTEM 128
- Beta-lactam-resistance blaOXA 193
- Beta-lactam-resistance blaTEM 219
- Amnogyloside saiFA
- Beta-lactam-resistance blaOXA 470 Branch
- Beta-lactam-resistance blaTEM 163
- Beta-lactam-resistance blaTEM 79
- Macrolide me
- Beta-lactam-resistance blaTEM 169
- Parapaper-phi2
- Beta-lactam-cfXA2
- Beta-lactam-resistance blaTEM 186
- Beta-lactam-resistance blaTEM 213
- Beta-lactam-resistance blaTEM 54
- Beta-lactam-resistance blaTEM 1175 Branch
- MDR-transporter emrE
- Beta-lactam-resistance blaTEM 96
- Beta-lactam-resistance blaTEM 182
- Beta-lactam-resistance blaTEM 201
- Beta-lactam-resistance blaTEM 127
- Beta-lactam-resistance blaTEM 67
- Amnogyloside anq1a
- Beta-lactam-cfXA 2366 Branch
- Macrolide ermB
- Beta-lactam-resistance blaTEM 208
- Beta-lactam-resistance blaTEM 153
- Beta-lactam-resistance blaTEM 164
- Beta-lactam-resistance blaTEM 113
- Beta-lactam-resistance blaTEM 207
- Amnogyloside aph3 III
- Amnogyloside a 2394 Branch
- Beta-lactam-resistance blaTEM 216
- Amnogyloside aac3 IIb
- Inachivales-14-membered-macrolides mphA
- Trimethoprim dfrA12
- Phenicol catB4
- Beta-lactam-resistance blaTEM 2
- Amnogyloside aph3 Ia
- Amnogyloside aadA 2143 Branch
- Repressor-of-efflux-complex phoP
- Tetracycline tetA4
- Amnogyloside aadA 2150 Branch
- Beta-lactam-resistance blaImpC
- Tetracycline tetM
- Beta-lactam-resistance blaImpC
- Amnogyloside ant1 Ib
- INVolved-in-polyrnyx-resistance pmrA
- Beta-lactam-resistance blaImpH
- Macrolide meFA
- MDR-protein mdkM
- Beta-lactam-resistance blaTEM 210
- INVolved-in-polyrnyx-resistance pmrB
- MDR-(arabidopsis nraA
- polyrnyx-and-cationic-aminicobal-peptides arnA
- INVolved-in-polyrnyx-resistance pmrE
- Sensor-protein pDQ
- Tetracycline tetA3
- Amnogyloside aph3 Ic
- Amnogyloside aph3 Ia
- Beta-lactam-pbp4 EcotI
- MDR-Efflux-pump mdtB
- Amnogyloside an21 Ib
- MDR-Efflux-pump mdtA
- MDR-transporter mdkC
- MDR-Efflux-pump mdtC
- MDR-transporter gpxX
- MDR-protein mdtH
- Efflux-pump evgA
- HNS
- MDR-protein mdtL
- Amnogyloside aac6f Im
- Efflux-pump baar
- MDR-transporter emrY
- Membrane-fusion-protein aceE
- Sensor-kinase baes
- Trimethoprim dfrA5
- Membrane-fusion-protein emrA
- Sensor-protein eqgS
- Repressor-of-efflux-complex avsS
- Sensor-kinase cpxA
- MDR-Efflux-complex toIC
- MDR-Efflux-pump mdtD
- MDR-Efflux-pump mdtN
- MDR-Efflux-pump acid
- INVolved-in-polyrnyx-resistance pmrF
- Bactracan-resistance bacA
- MDR-Efflux-pump mdtG
- Repressor-for-mdr-efflux-pump emrR
- Inner-membrane-transporter acf
- MDR-Efflux-pump mdtP
- Transporter-for-efflux-complex mdtF
- MDR-Efflux-pump maIA
- Beta-lactam-pbp2 EcotI
- Tetracycline tetap
- INVolved-in-polyrnyx-resistance pmrC
- Regulator cpkR
- Membrane-fusion-protein emrK
- Sensor-kinase emrB
- Staphylococcus aureus
- MDR-Efflux-pump mdtE
- Repressor-for-mdr-efflux-pump cfp
- Dihydrodolate-acylase dhf
- Tetracycline tetZ
- Tetracycline tetY
- Tetracycline tetX2
- Amnogyloside sFA
- Tetracycline tetD
- Tetracycline tetC
- Beta-lactam-cfXA6
- Macrolide lruC
- Beta-lactam-resistance blaOXA 85
- Amnogyloside aph6 Id