Summarizing heatmap FDR-values: < 0.001 = ***, < 0.01 = **, < 0.1 = *ASV301 Erysipelatoclostridiaceae ASV203 Frisingicoccus ASV16 Bifidobacterium ASV772 Butyricicoccus ASV10 Ruminococcus ASV335 Clostridia vadinBB60 group ASV324 Defluviitaleaceae UCG-011 ASV274 Ruminococcaceae ASV49 [Eubacterium] coprostanoligenes group ASV1 Muribaculaceae ASV242 Erysipelatoclostridium ASV147 Lachnoclostridium ASV139 Lachnospiraceae UCG-006 Ds ASV196 UBA1819 ASV428 Pygmaiobacter 0.5 ASV223 Dorea ASV355 Marvinbryantia Omics features ASV105 Bacteroides 0.0 **ASV73** Anaerostipes ASV36 NK4A214 group -0.5ASV665 Anaerofustis ASV313 Paludicola ASV200 Parasutterella **ASV157 Parabacteroides** ASV538 A2 Confounding status ASV334 Erysipelotrichaceae confounded ASV524 Christensenellaceae R-7 group ASV512 Enterococcus deconfounded ASV326 Gastranaerophilales ASV72 [Eubacterium] siraeum group ASV44 Roseburia ASV2 Lachnospiraceae NK4A136 group ASV468 Candidatus Saccharimonas ASV35 Clostridium sensu stricto 1

ASV31 Clostridia UCG-014 ASV509 Escherichia-Shigella ASV399 Monoglobus ASV24 Romboutsia ASV328 Clostridia ASV28 Jeotgalicoccus ASV100 Oscillibacter

TNFR1

NR1

GAT1

SCFA_CA

SCFA_AA

SCFA_BA

CCL20

NR2B

Learning_index_Rmaze



Treated_CCL

NR2A

Antibiotic