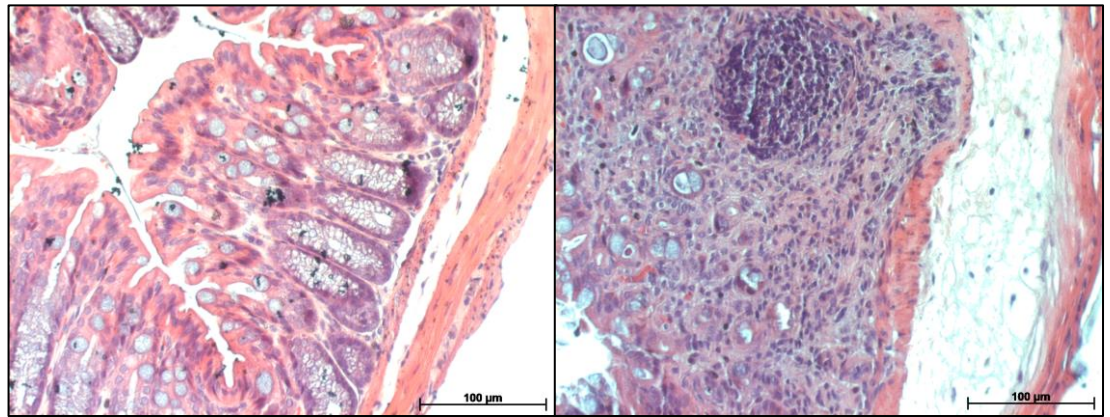




Control

DSS

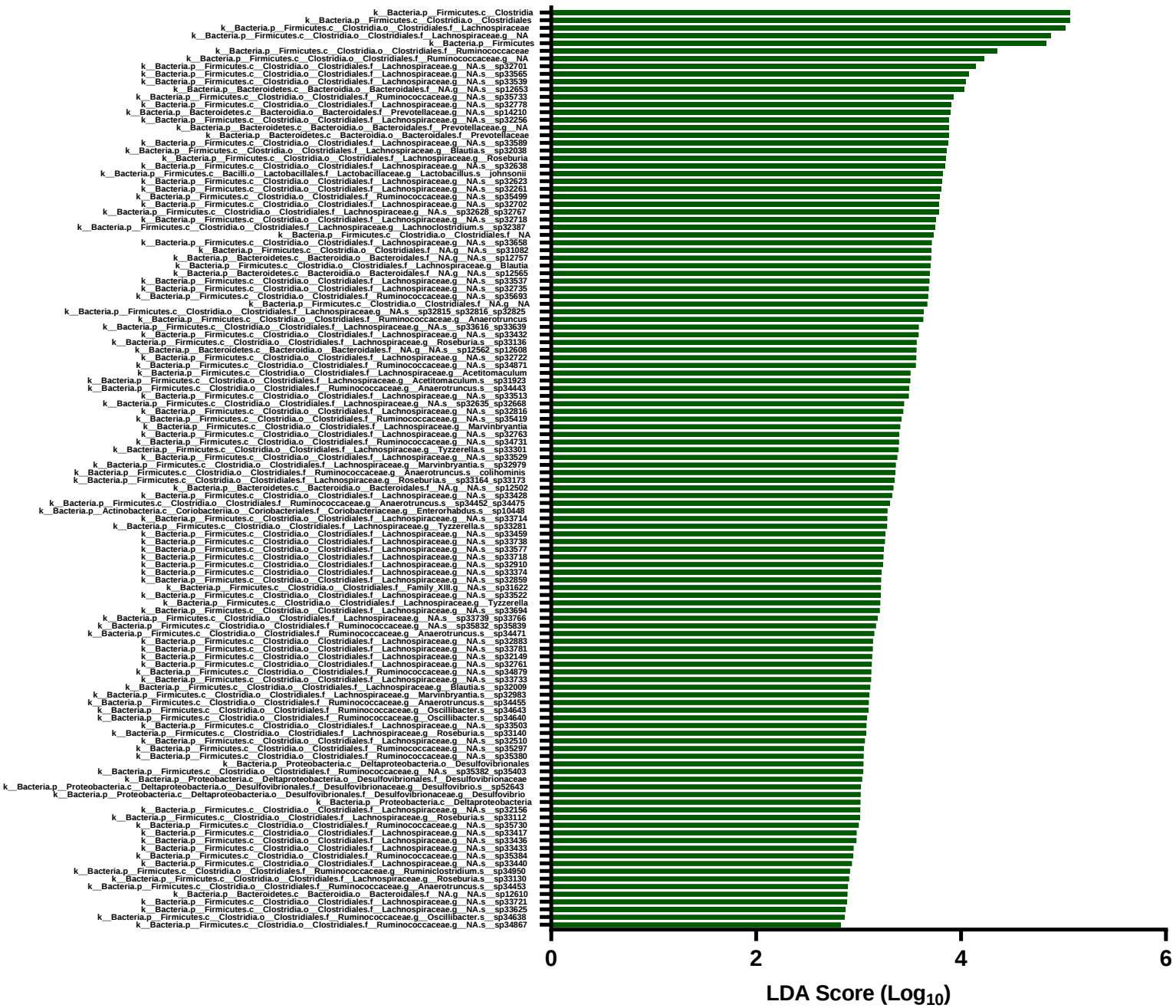


Control

DSS

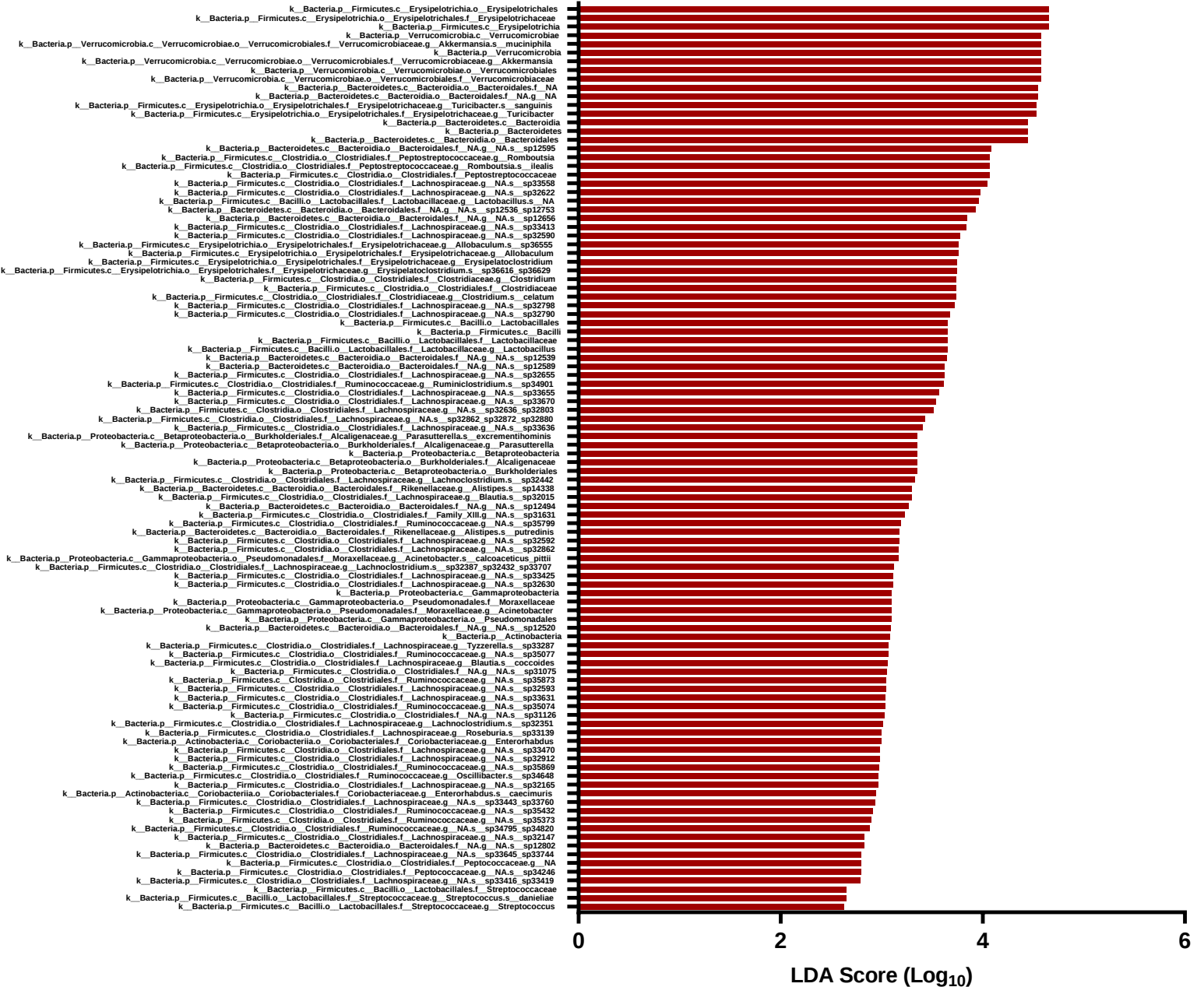
Supplemental Figure 1: Representative images of decreased colon lengths and H&E-stained colons of control and DSS treated mice.

Control

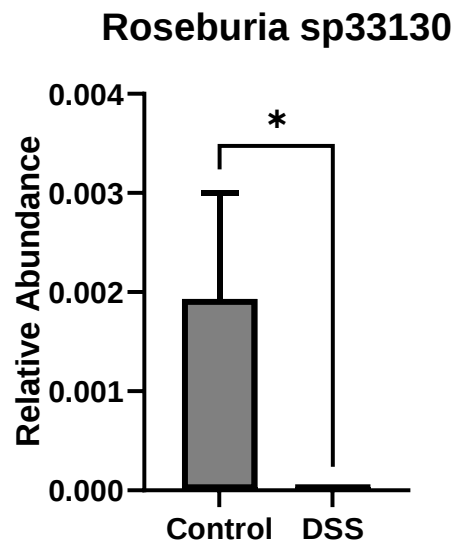
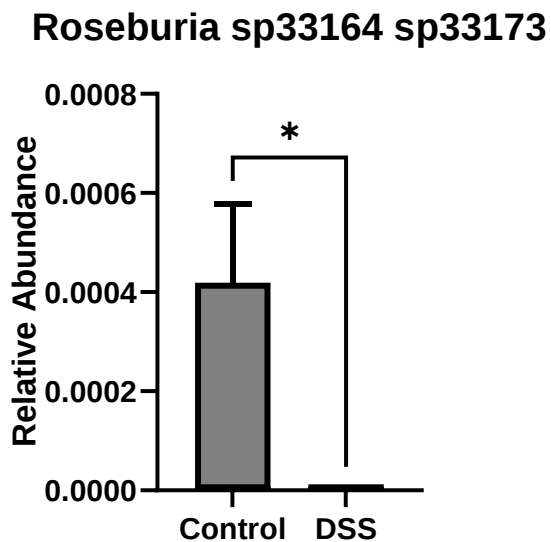
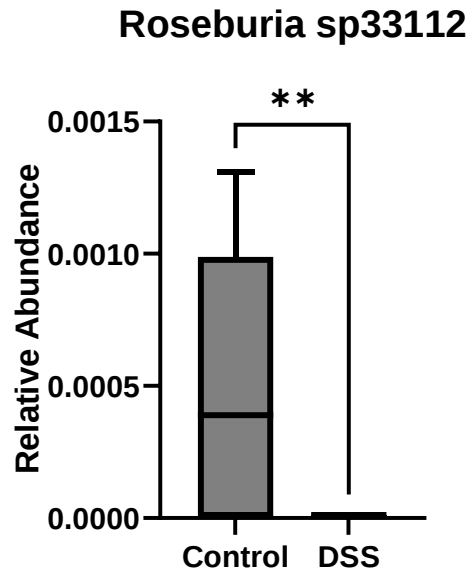
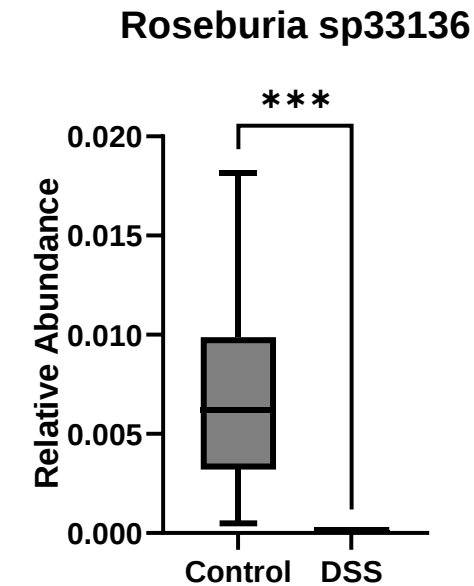


Supplemental Fig 2: A taxa associated with control group based on LefSe analysis with plotted Log₁₀ of linear discriminant analysis (LDA) scores.

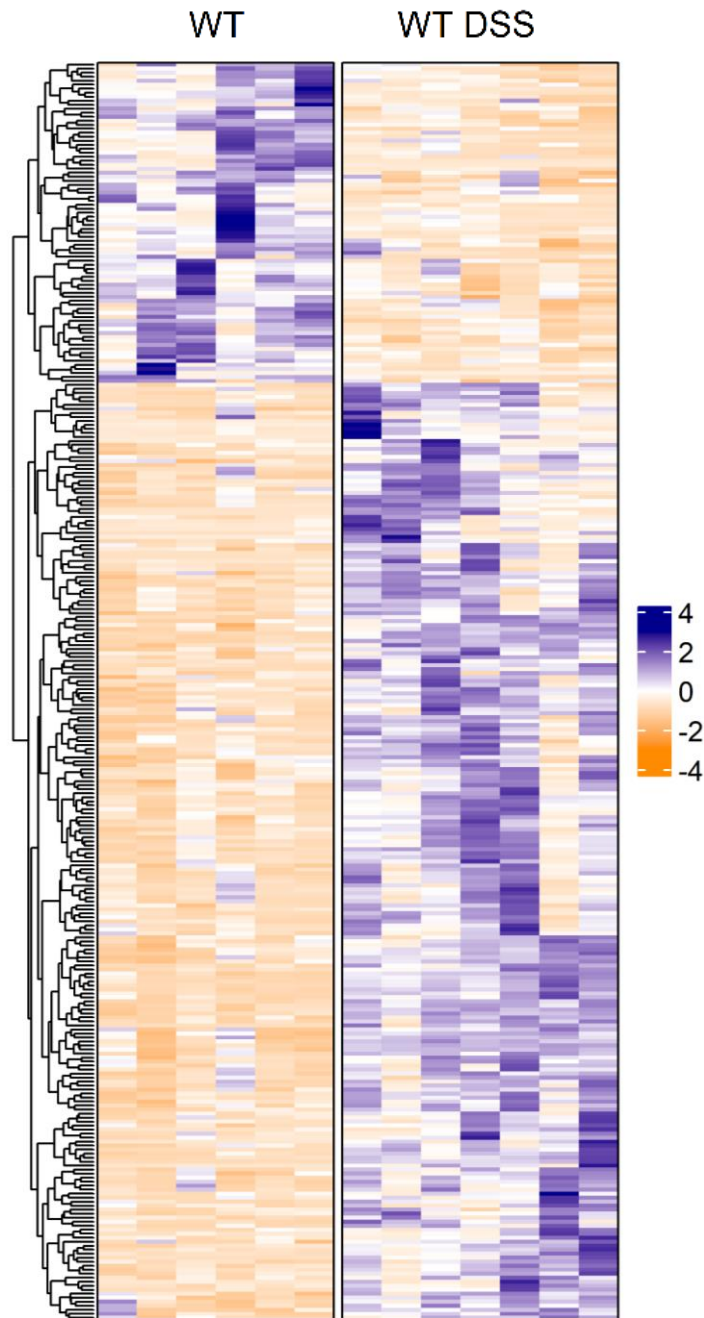
DSS



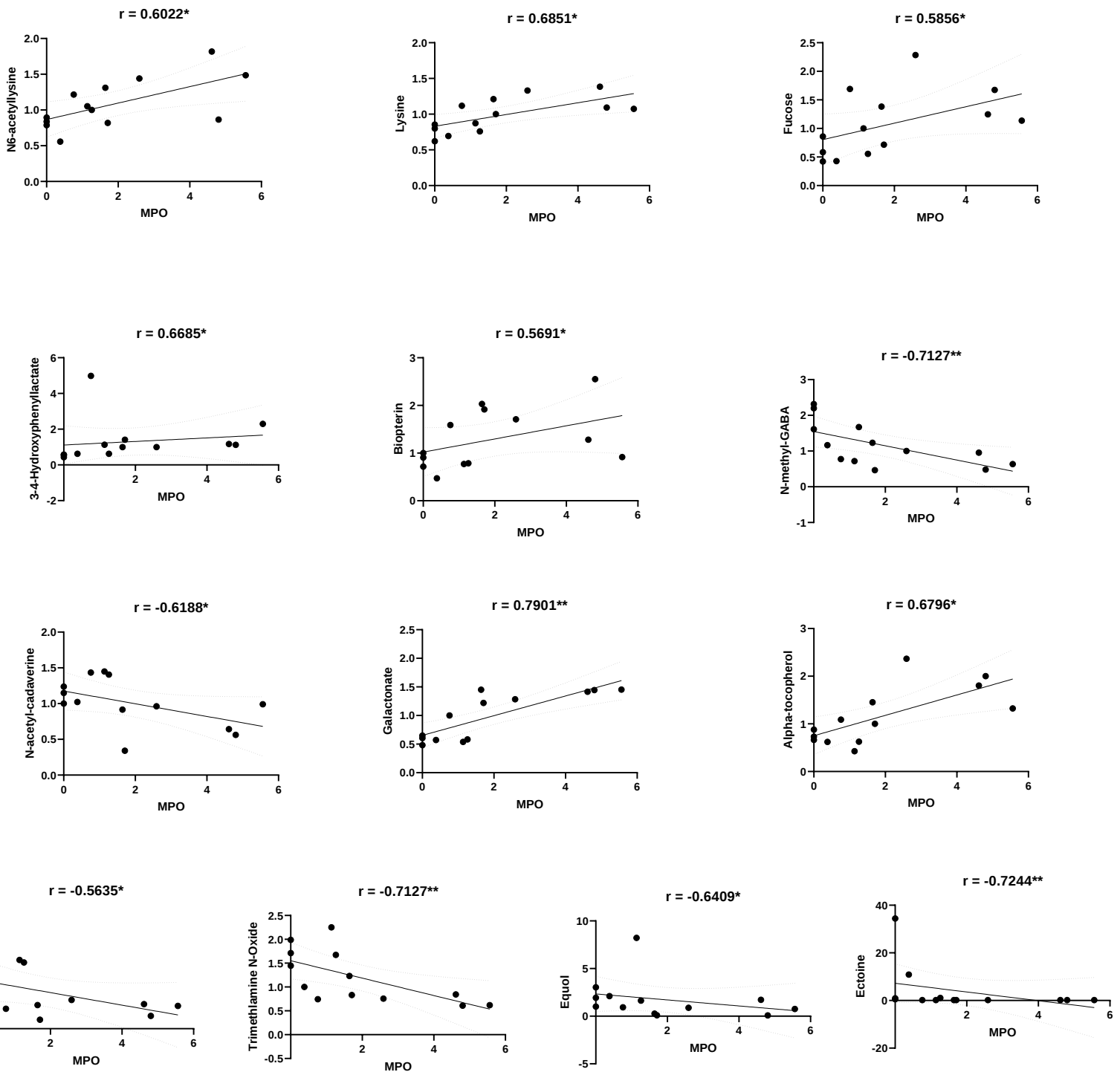
Supplemental Figure 3: All taxa associated with control group based on LEfSe analysis with plotted Log_{10} of linear discriminant analysis (LDA) scores.



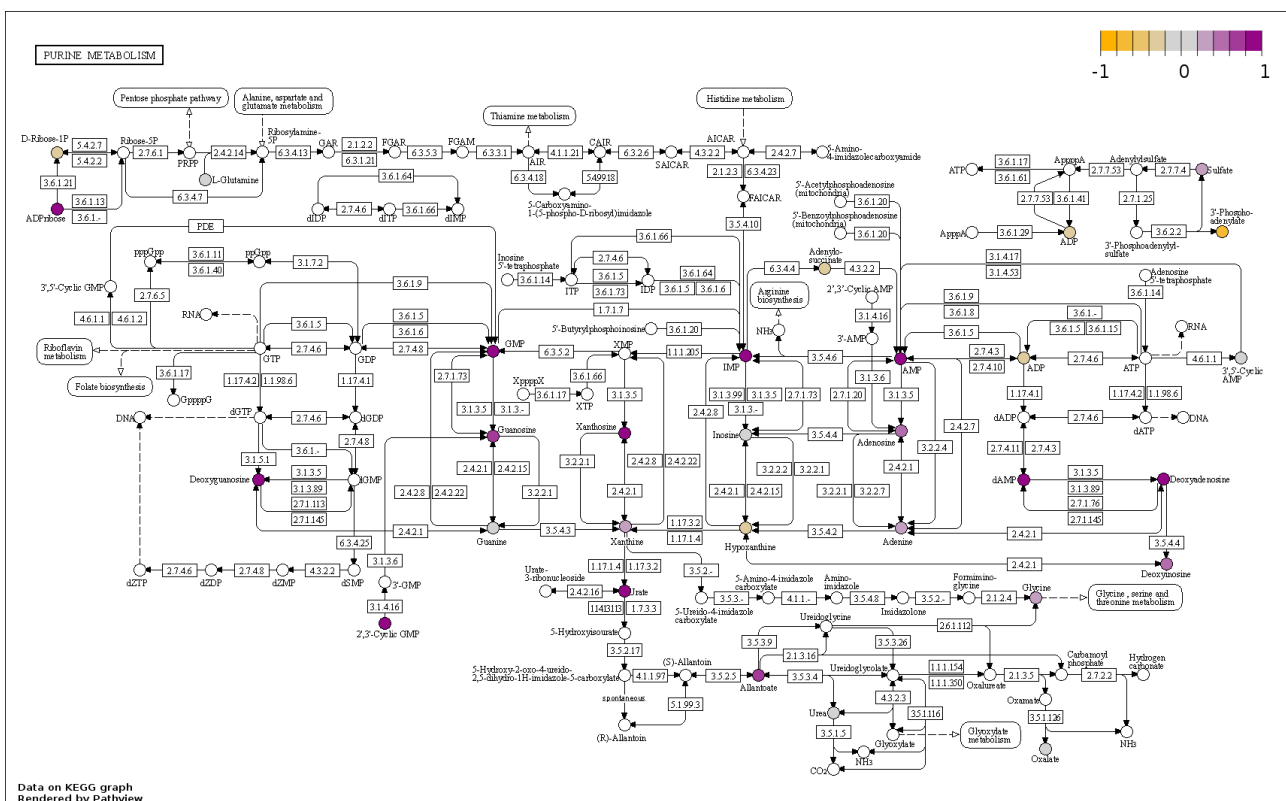
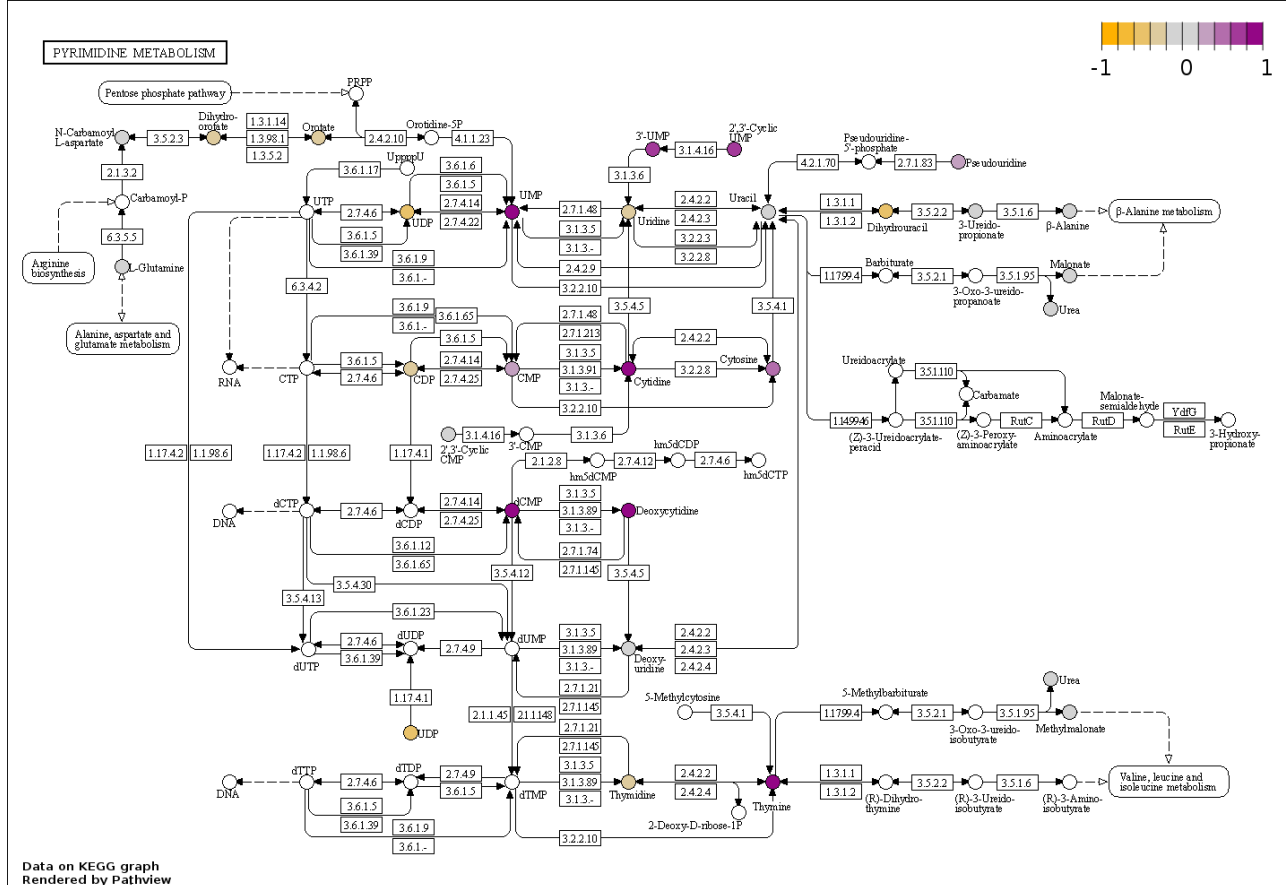
Supplemental Figure 4: Boxplots of relative abundances for various *Roseburia* species. (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Welch t-test; Control $n = 12$; DSS $n = 11$).



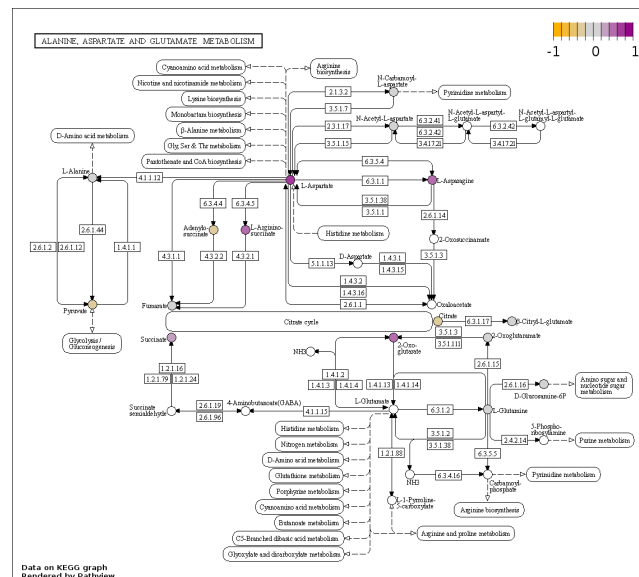
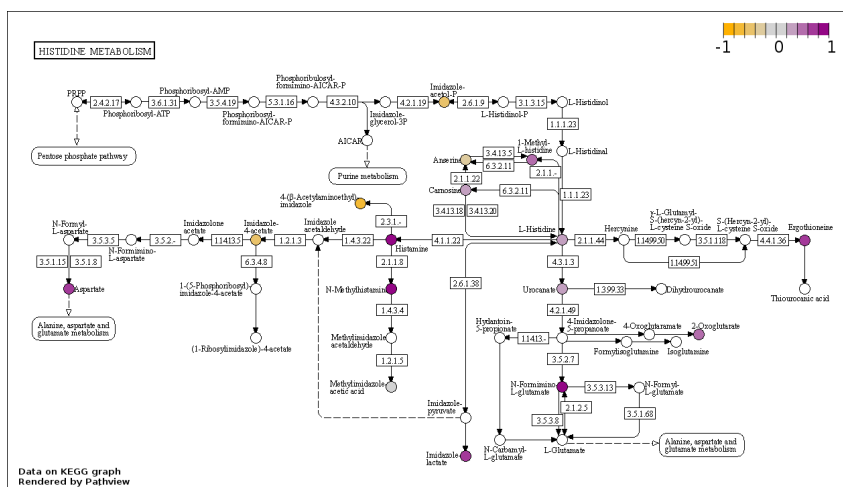
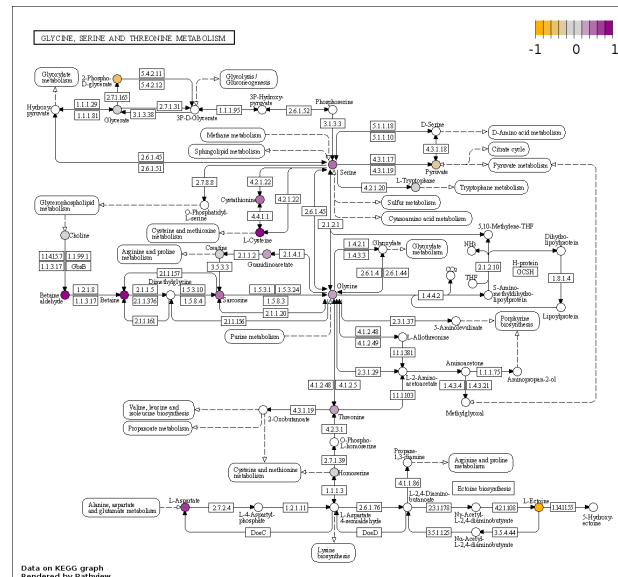
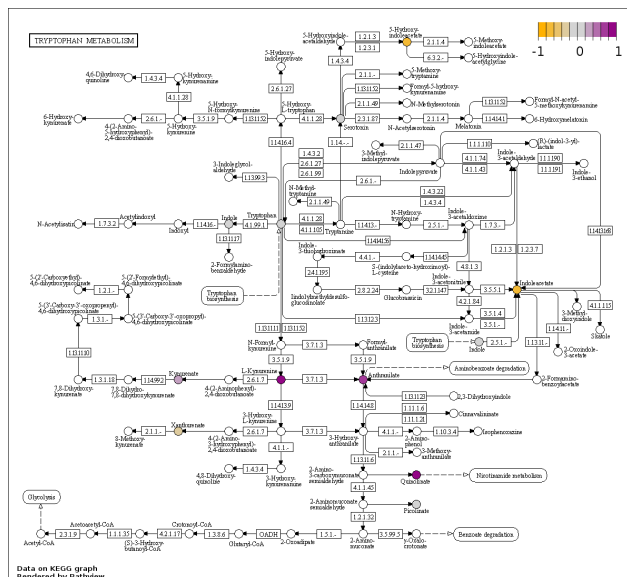
Supplemental Figure 5: Heatmap of differentially altered mucosal metabolites between control and DSS treated mice ($p < 0.05$, $q < 0.1$, Welch t-test). Heatmap was scaled from -4 to 4. (Control = 6; DSS n = 7). + indicated DSS treatment, - indicates control group.



Supplemental Figure 6: Correlation plots showing linear regression models between microbial related metabolites and MPO activity with significant Spearman correlation coefficients. (* $p < 0.05$, ** $p < 0.01$).



Supplemental Figure 8: Pathview renderings of alterations in pyrimidine and purine metabolism. Purple indicates an increase in chronic colitis and yellow indicates a decrease.



Supplemental Figure 9: Pathview renderings of alterations in alanine aspartate and glutamate metabolism; histidine metabolism; tryptophan metabolism; and glycine, serine and threonine metabolism. Purple indicates an increase in chronic colitis and yellow indicates a decrease.