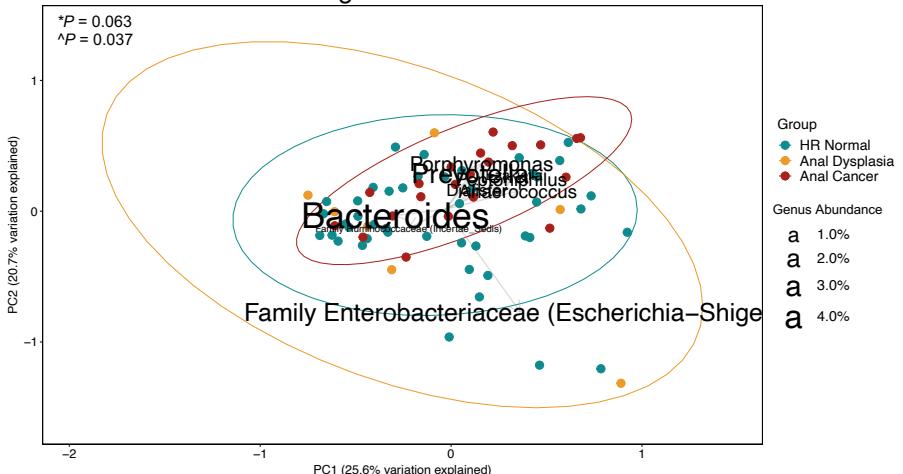
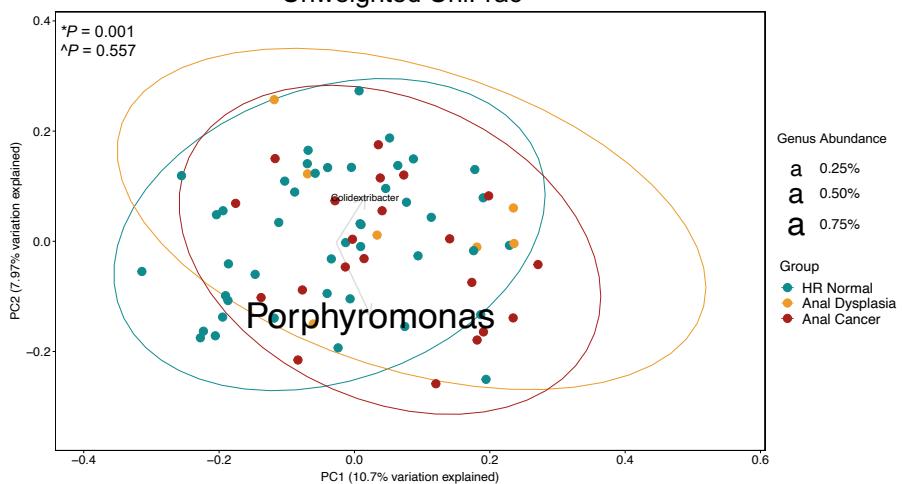


Supplemental Figure 4 – PCoA 3 way

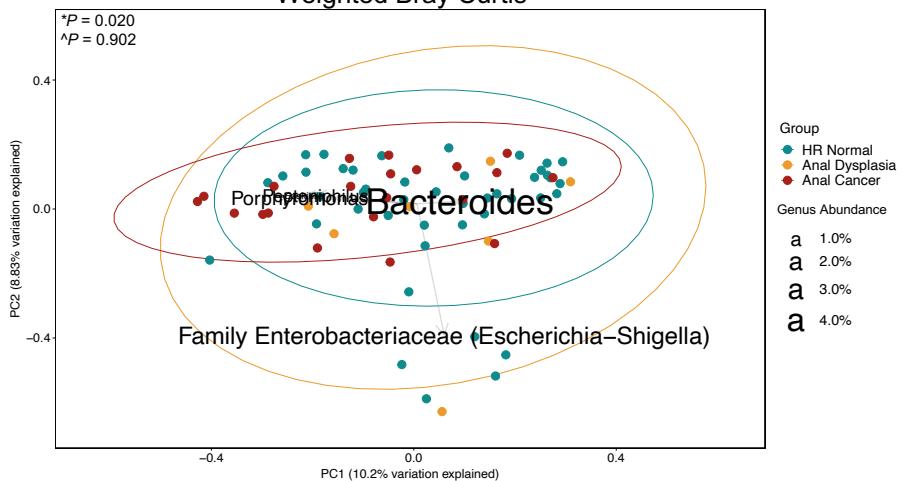
A HR Normal vs Anal Dysplasia vs Anal Cancer
Weighted UniFrac



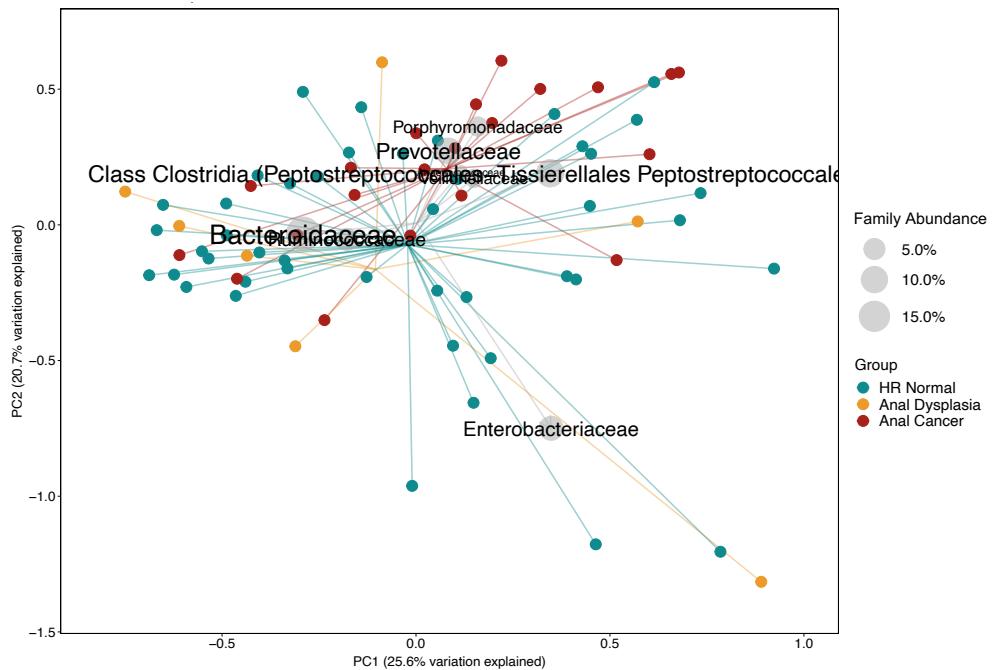
B HR Normal vs Anal Dysplasia vs Anal Cancer
Unweighted UniFrac



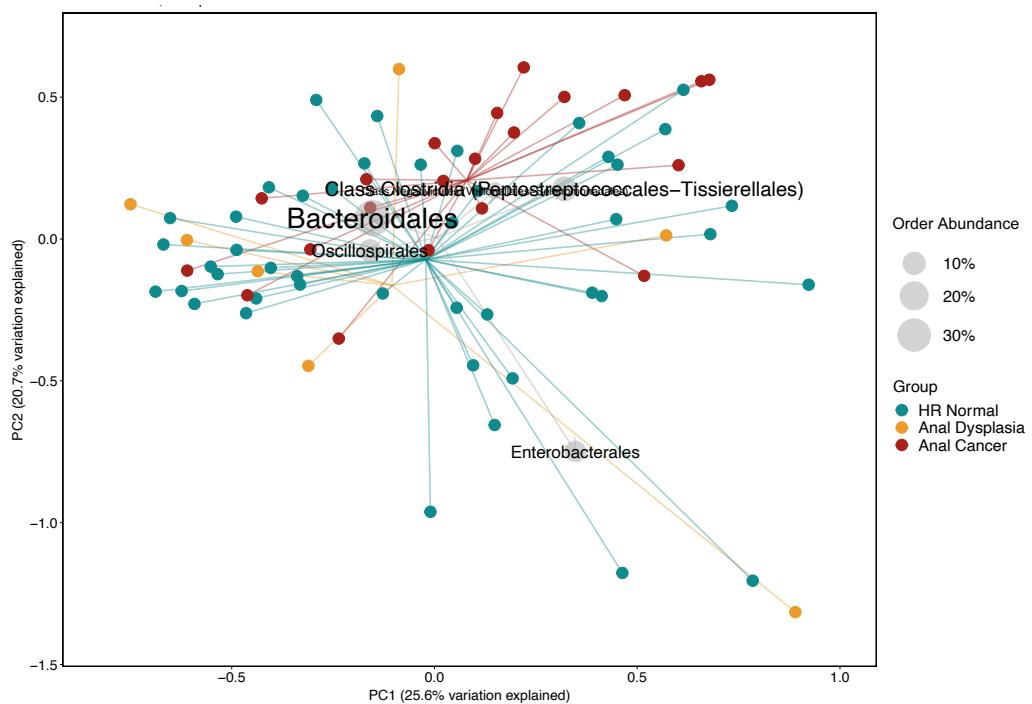
C HR Normal vs Anal Dysplasia vs Anal Cancer
Weighted Bray Curtis



D HR Normal vs Anal Dysplasia vs Anal Cancer
Weighted UniFrac – Family Biplot

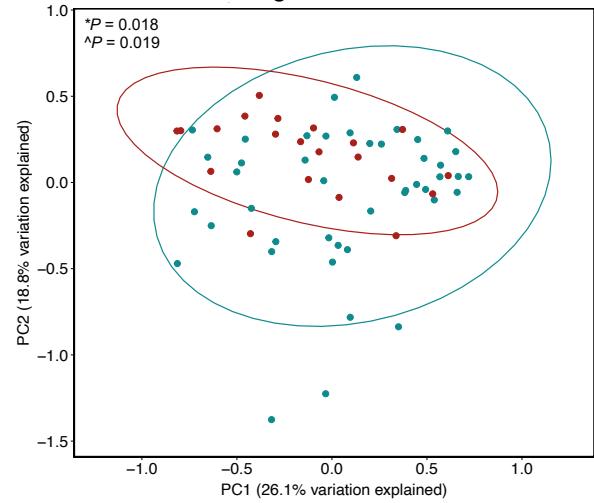


E HR Normal vs Anal Dysplasia vs Anal Cancer
Weighted UniFrac – Order Biplot

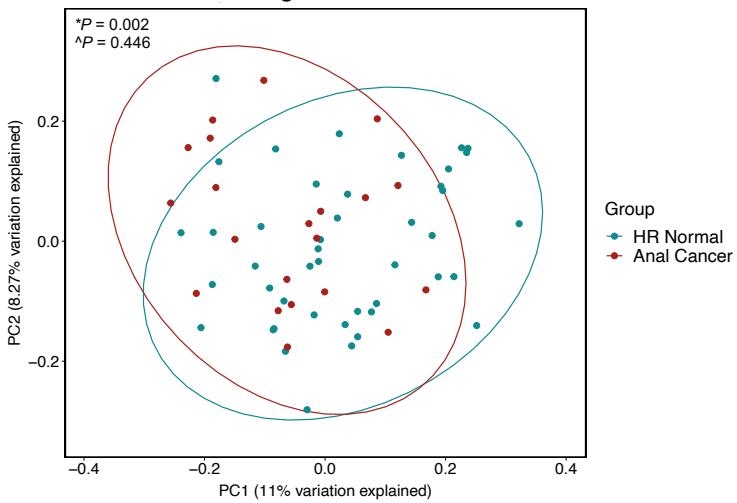


Supplemental Figure 4 – PCoAs pairwise UniFrac

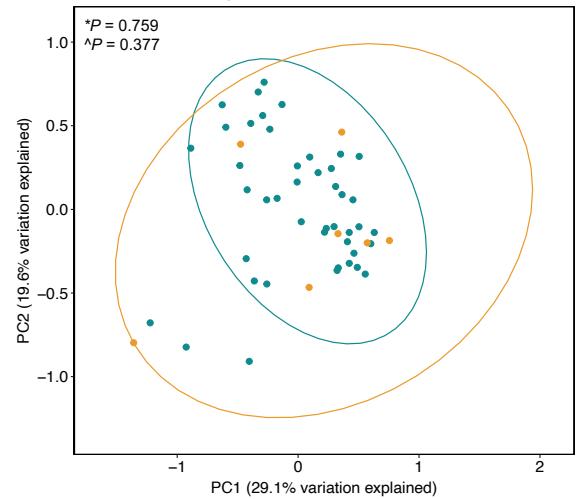
**F HR Normal vs Anal Cancer
Weighted UniFrac**



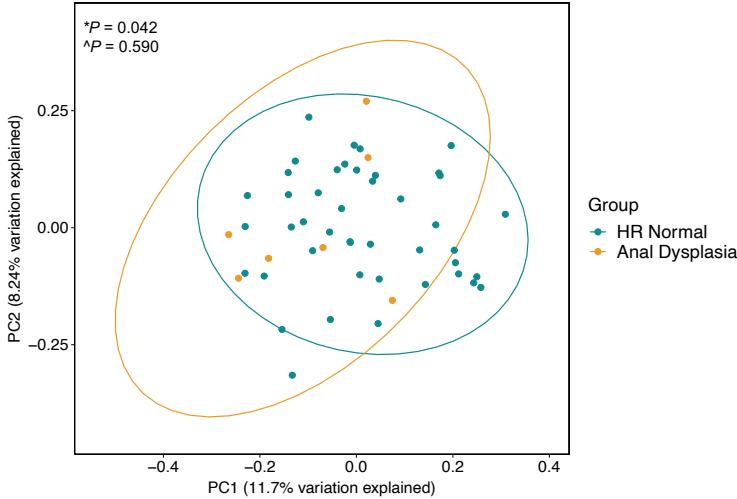
**G HR Normal vs Anal Cancer
Unweighted UniFrac**



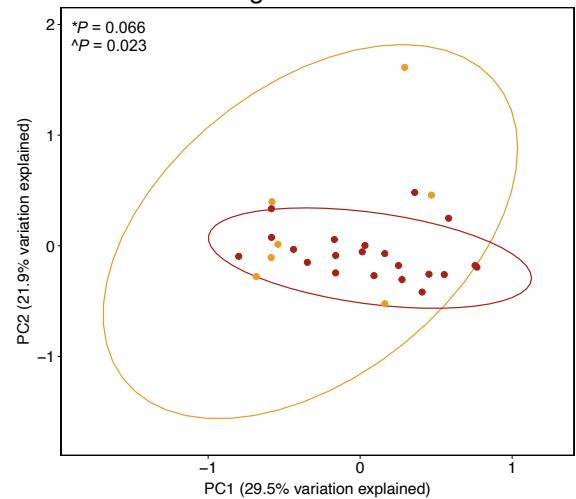
**H HR Normal vs Anal Dysplasia
Weighted UniFrac**



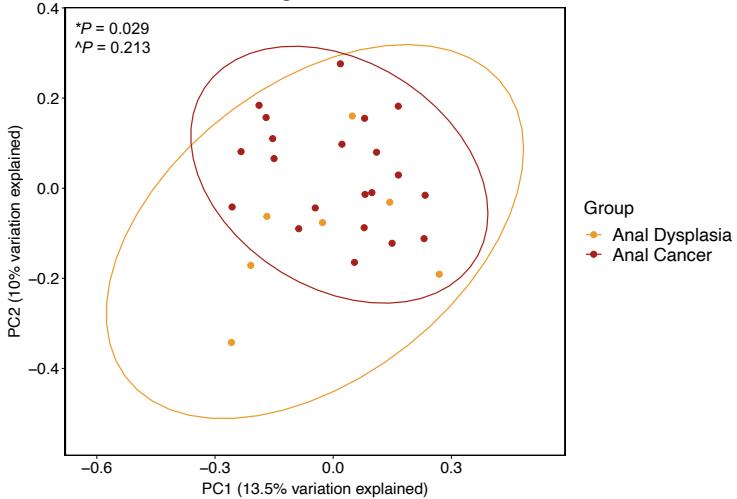
**I HR Normal vs Anal Dysplasia
Unweighted UniFrac**



**J Anal Dysplasia vs Anal Cancer
Weighted UniFrac**



**K Anal Dysplasia vs Anal Cancer
Unweighted UniFrac**



Supplemental Figure 4 – PCoAs Pairwise Bray Curtis

