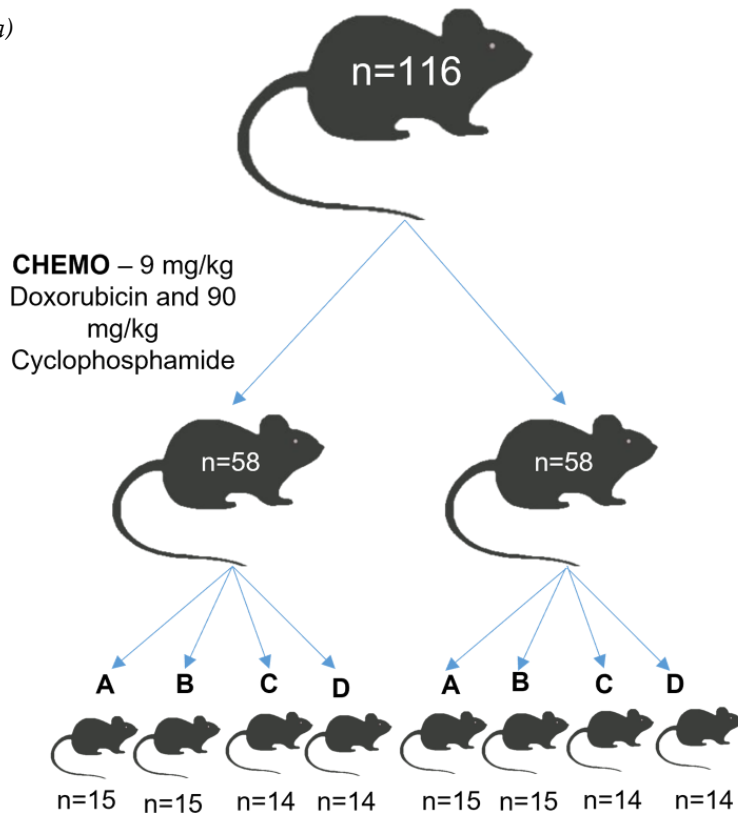
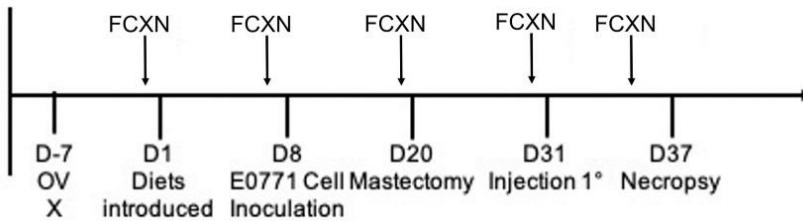


Supplementary Materials

(a)



(b)



(c)

DIETS:

- A** low sucrose, high omega3 (2%kcal; EPA/DHA 1.5:1) – D15082608
- B** low sucrose, low omega3 (Low ALA-0% EPA/DHA) – D17011201
- C** high sucrose, high omega3 (2% kcal; EPA/DHA 1.5:1) – D15082609
- D** high sucrose, low omega3 (Low ALA-0% EPA/DHA) – D17091801

Figure S1. Experimental design for (a) assigning mice to cohorts, (b) experiment timeline and fecal collection points, and (c) dietary macronutrient balance

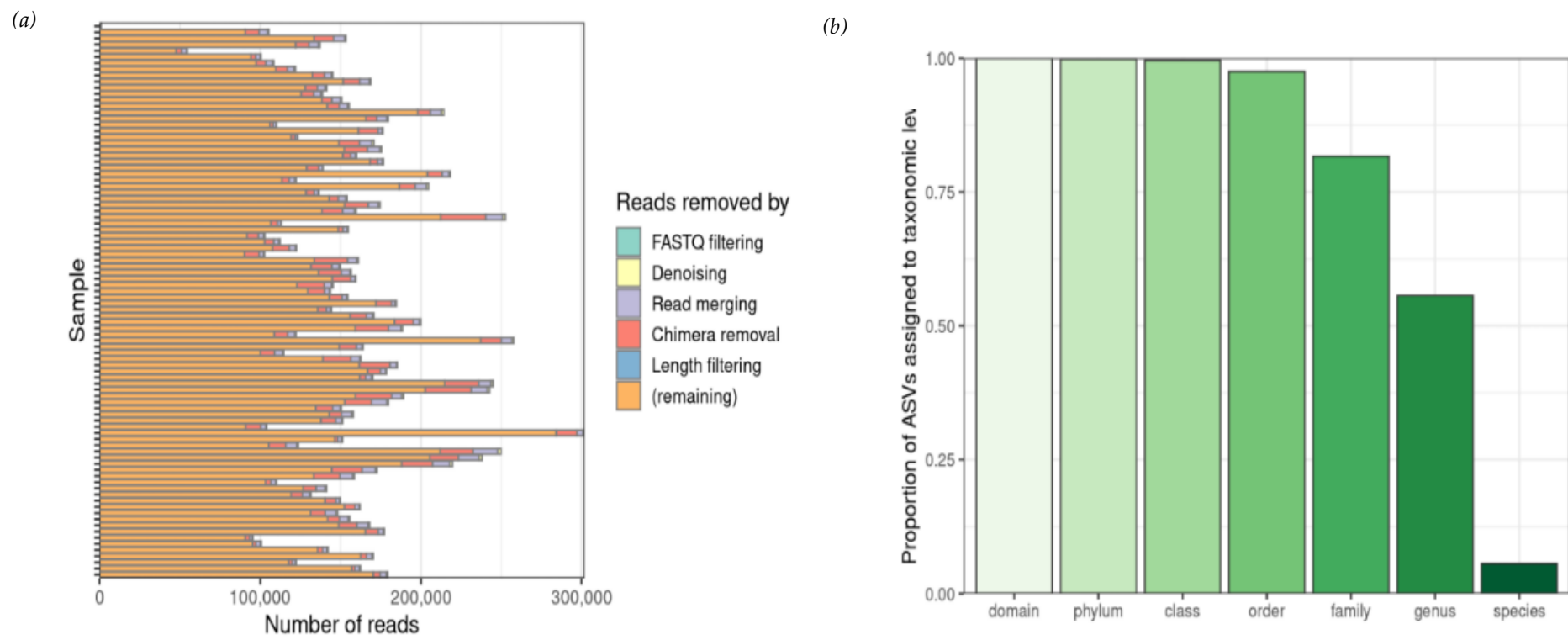


Figure S2. Quality control and sample processing (a) filtering and read removal along the data processing pipeline (b) proportion of ASVs assignments by taxonomic level

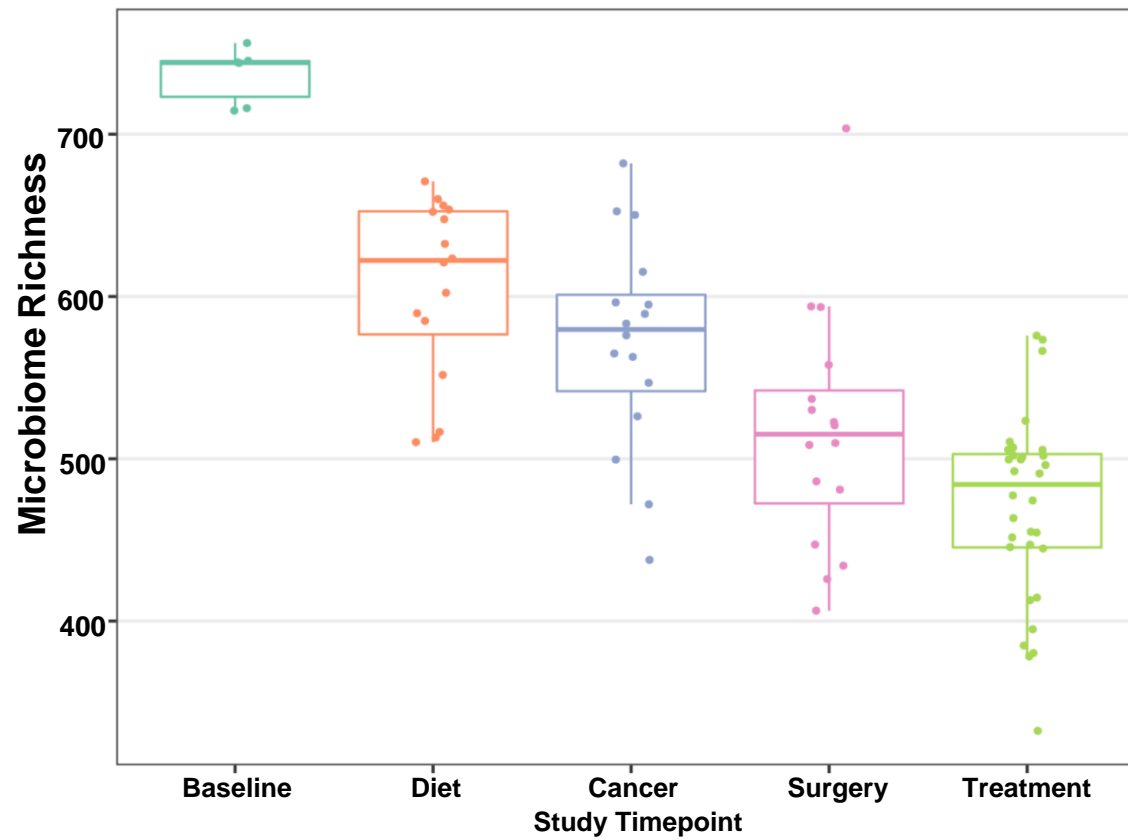


Figure S3a. Estimated richness over progression of disease and treatment. Microbiome population richness significantly decreased over time

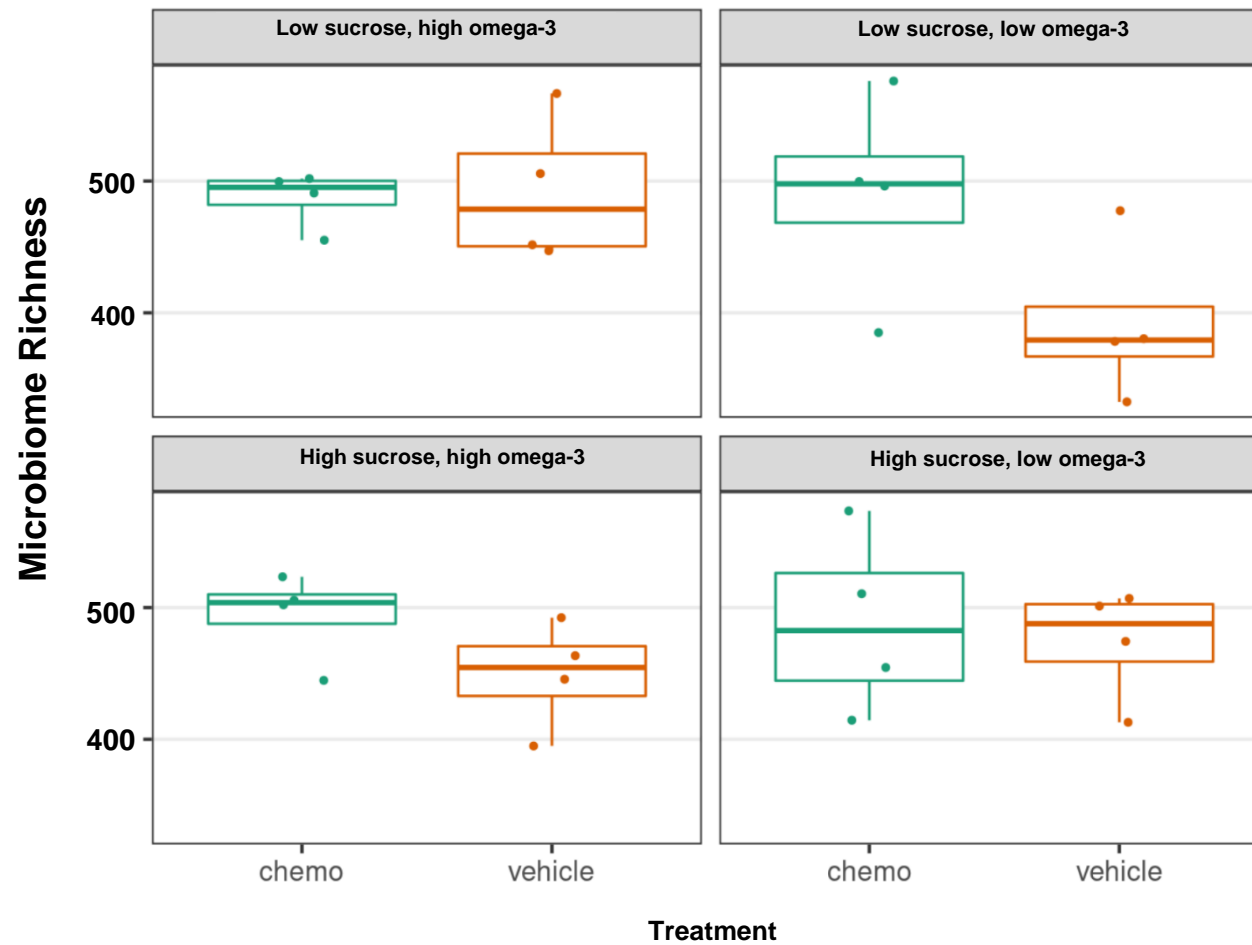


Figure S3b. Estimated richness by diet and treatment. Microbiome population richness differed by diet and treatment interactions

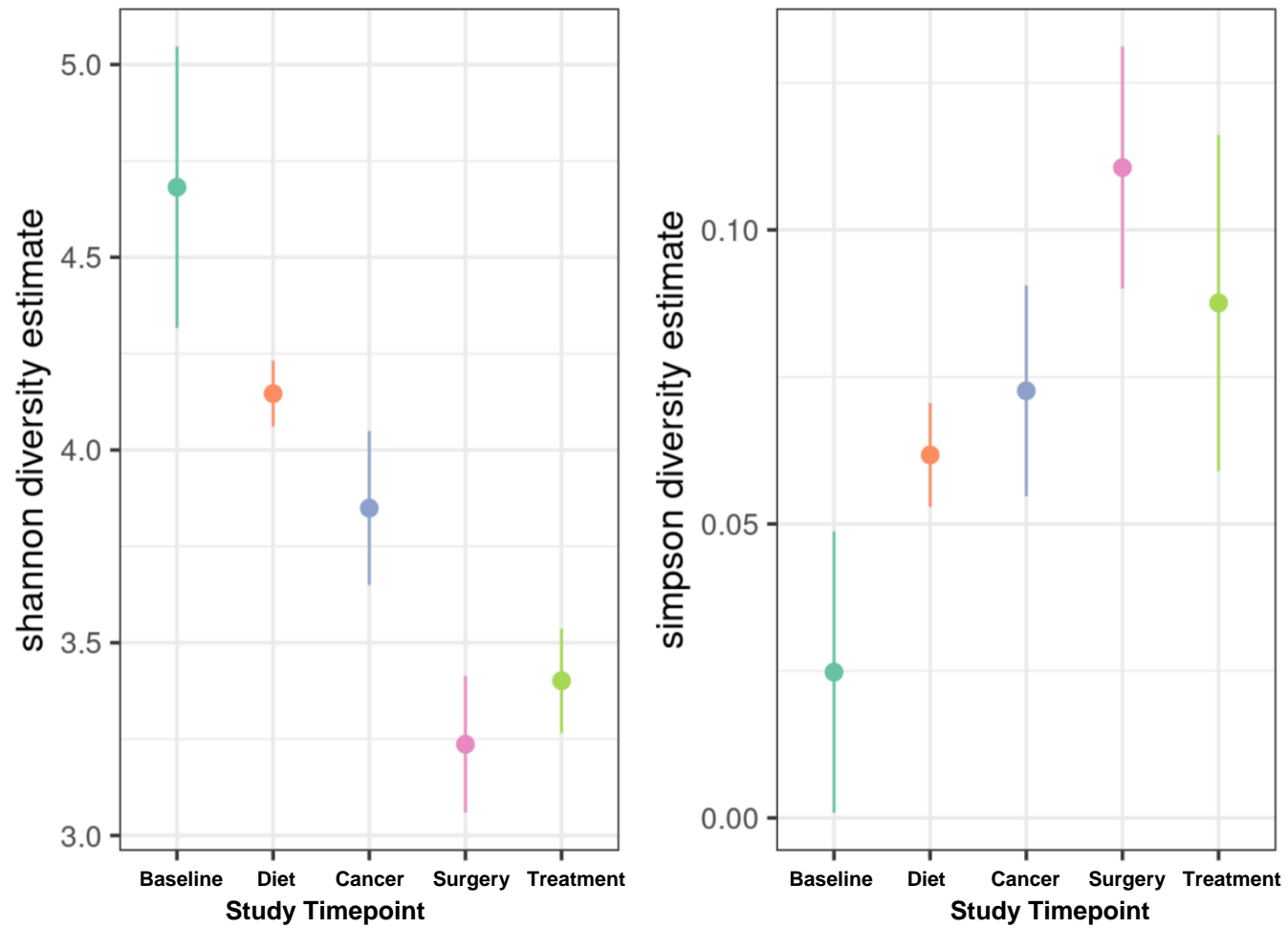


Figure S4a. Richness and evenness of ASV/per-sample, weighted by the Shannon and Simpson diversity indices, demonstrate differences in alpha-diversity modeled by study timepoint

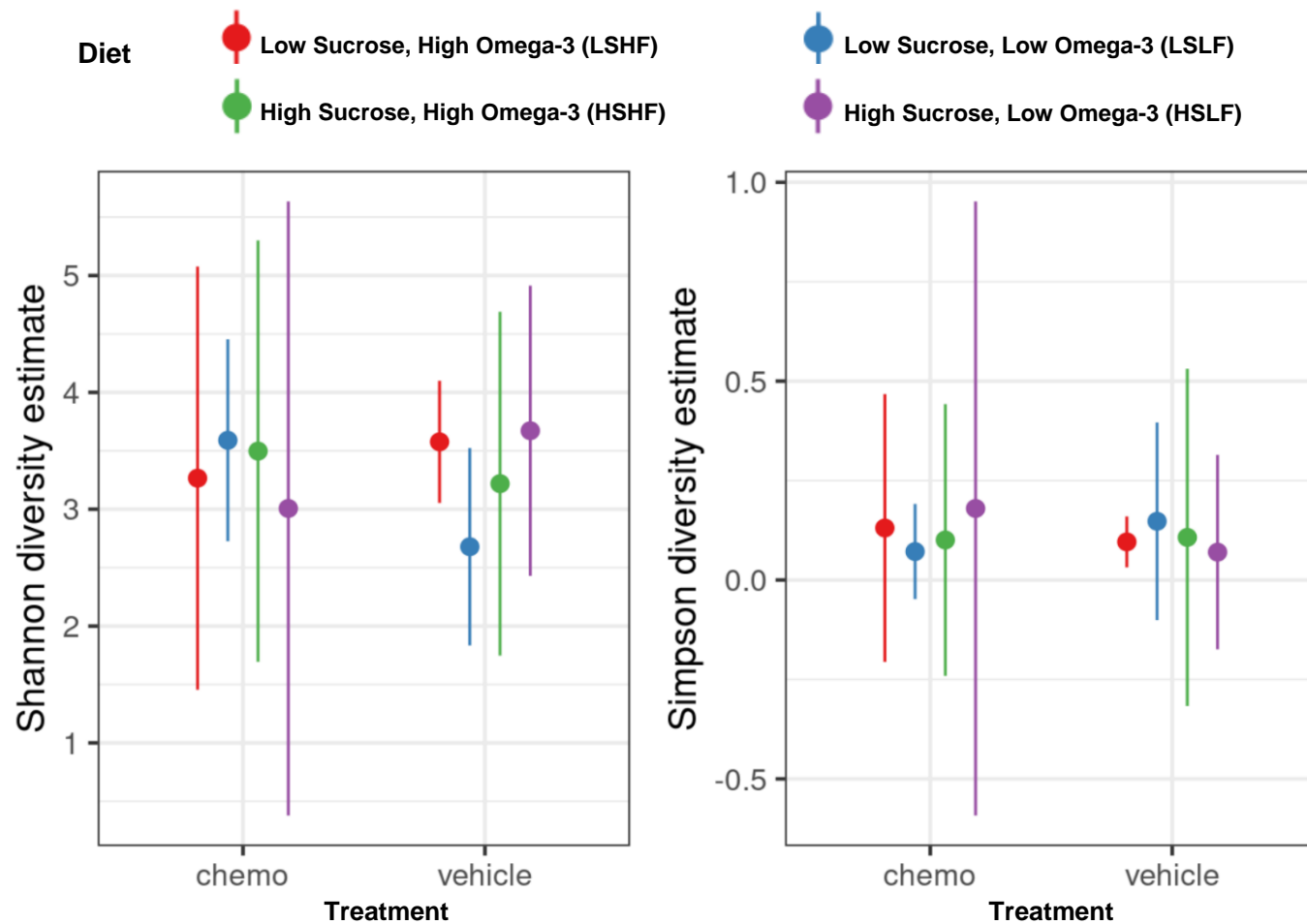
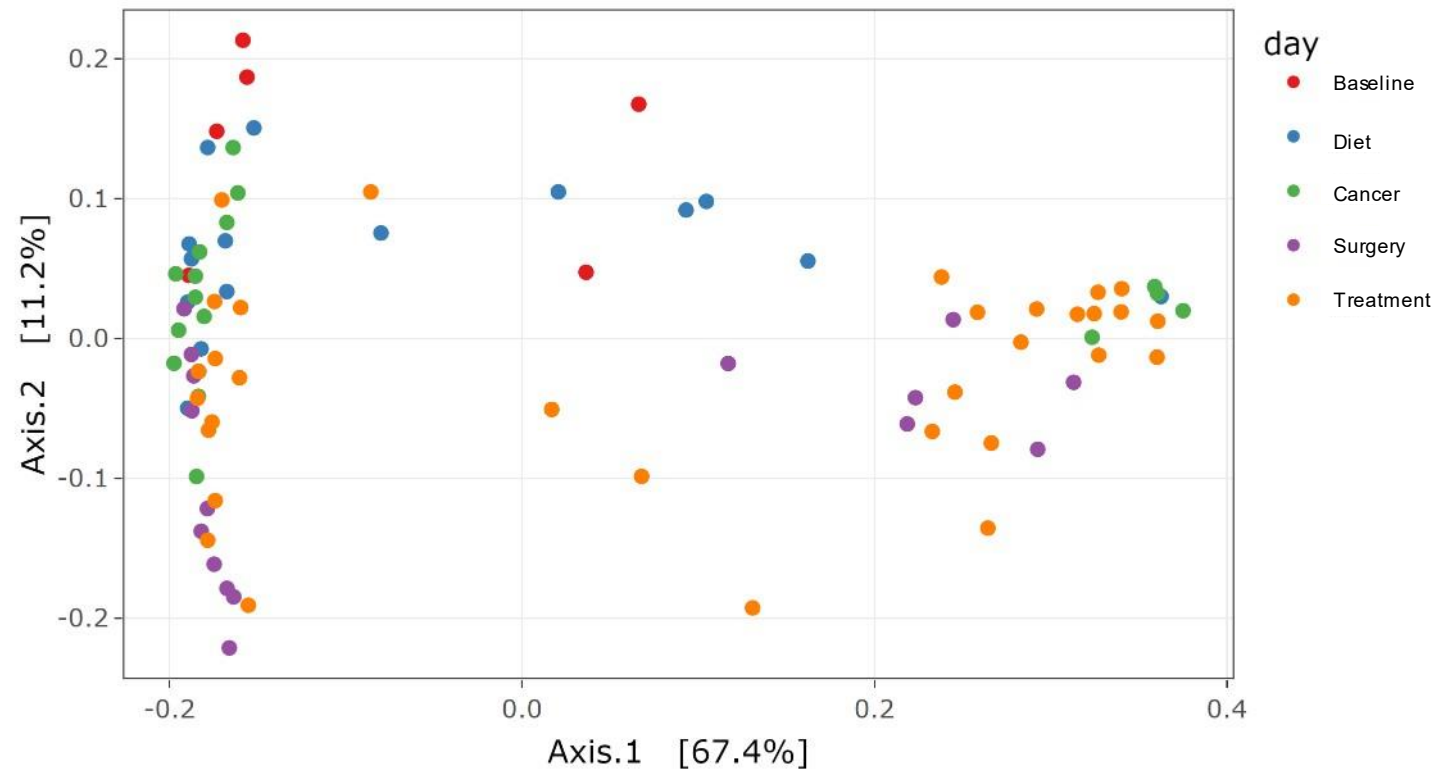


Figure S4b. Richness and evenness of ASV/per-sample, weighted by the Shannon and Simpson diversity indices, demonstrate differences in alpha-diversity modeled by diet and treatment



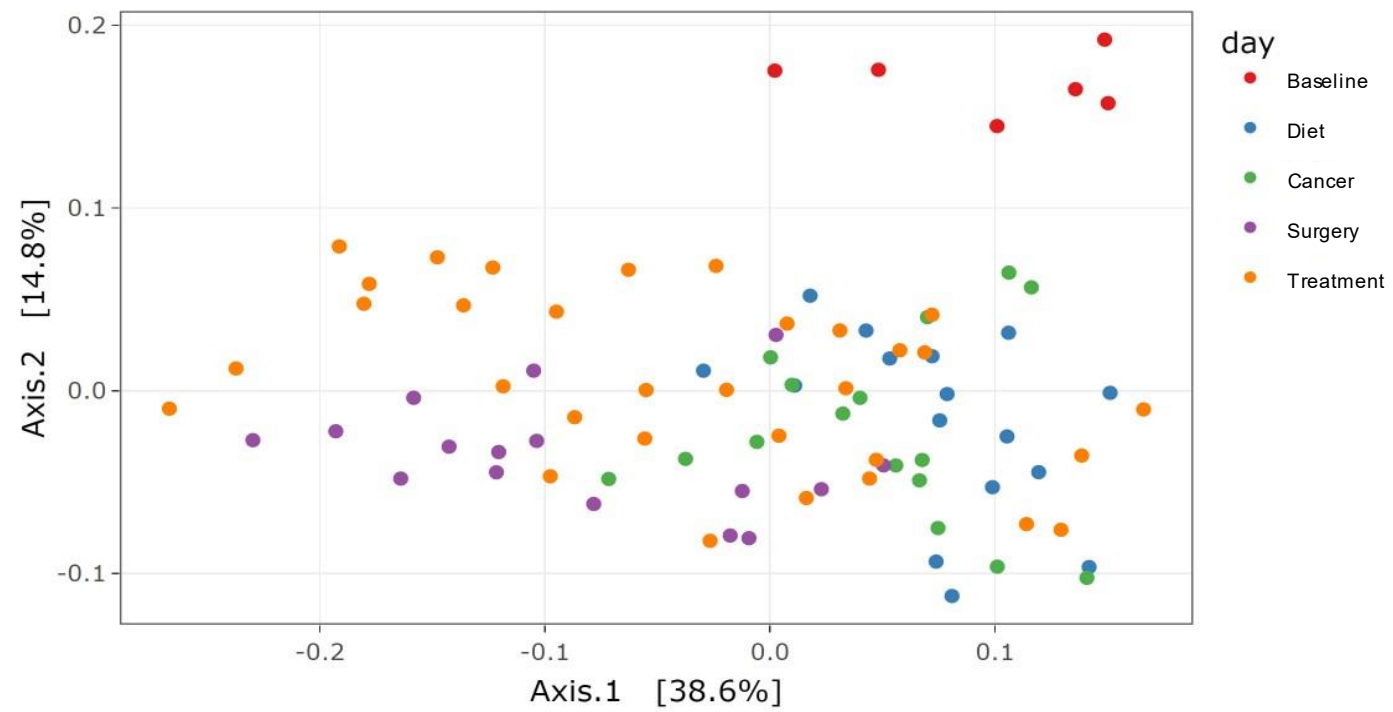


Figure S5b. Ordination from principal coordinate analysis which excludes ASV1

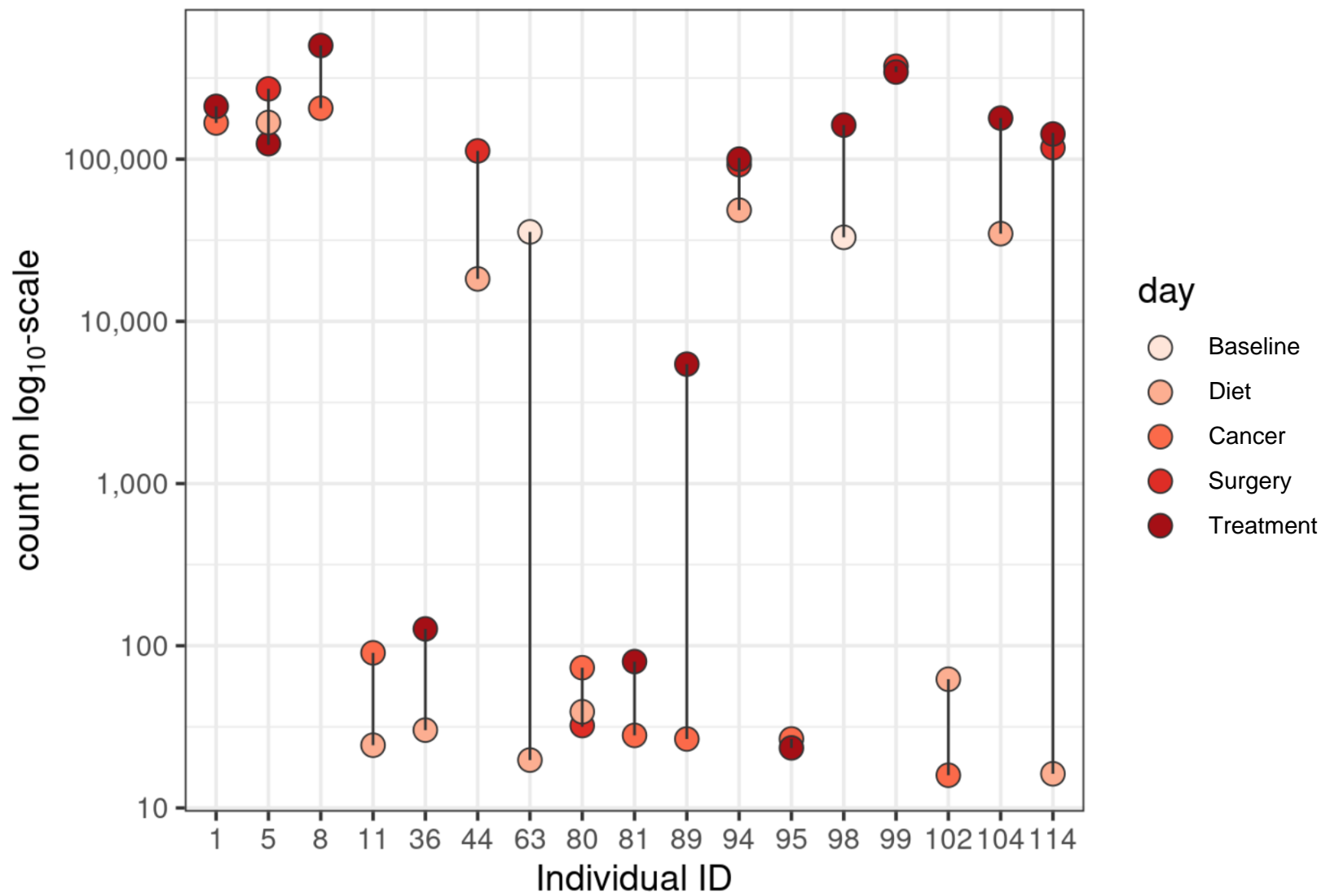


Figure S6. ASV1 abundance of individual mice by timepoint