

 *Presenting...*



# The Role of *the Gut Microbiome in* Anorexia Nervosa

WITH MANUELA, NIA, & SAFA

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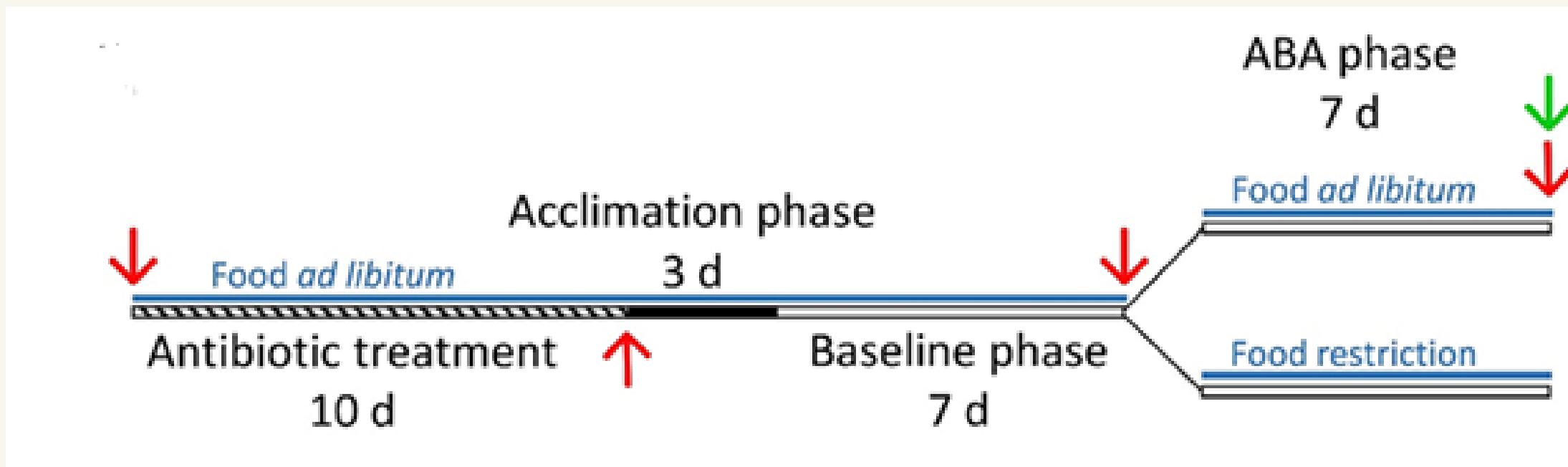


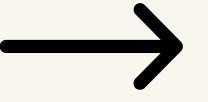
# Introduction

**Goal of the Study**: To investigate the role of the gut microbiome in Anorexia Nervosa

## About the Study

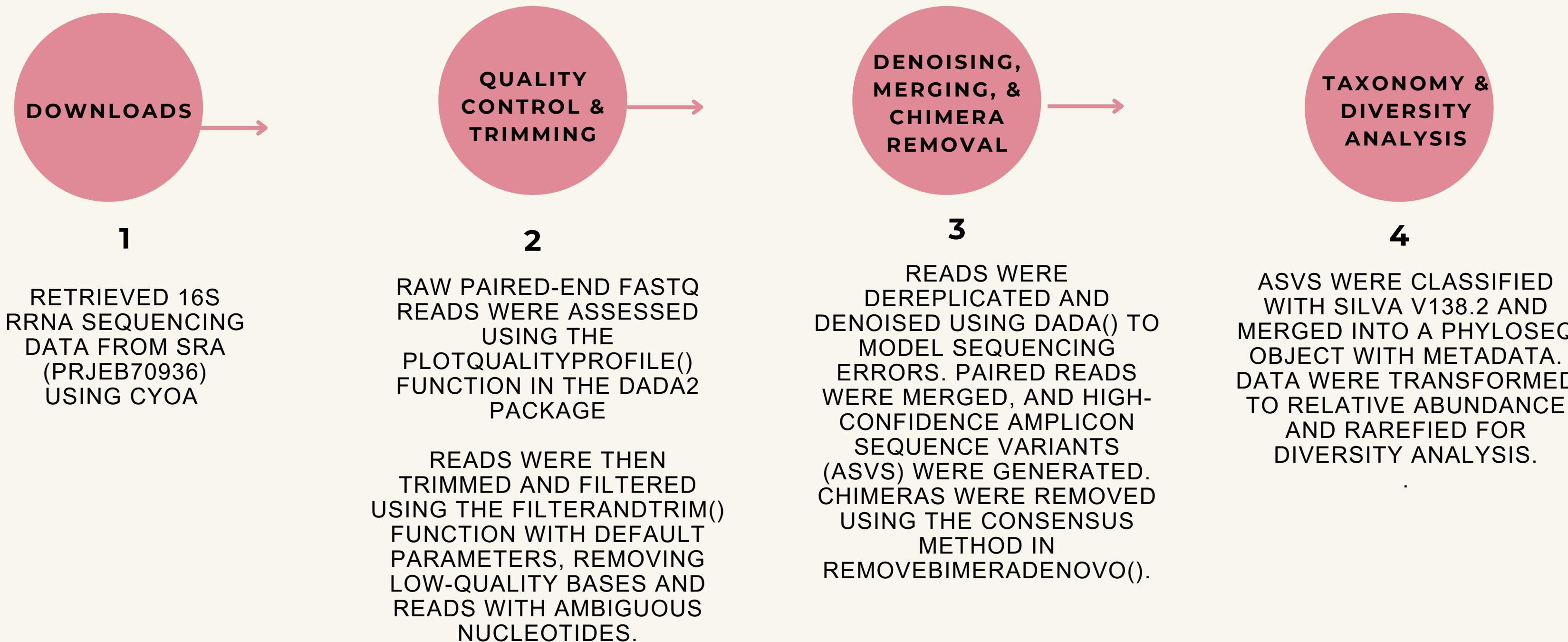
- Study conducted on three groups of female mice:
  - Conventionally-raised (CTRL) – Mice with a typical, unaltered microbiome
  - Antibiotic-treated (ATB) – Conventionally-raised mice whose microbiome was disrupted using antibiotics
  - Germ-free (GF) – Mice raised in sterile conditions with no microbiome at all
- ABA (Activity-based) model: higher activity on the wheels indicated higher anticipation of food





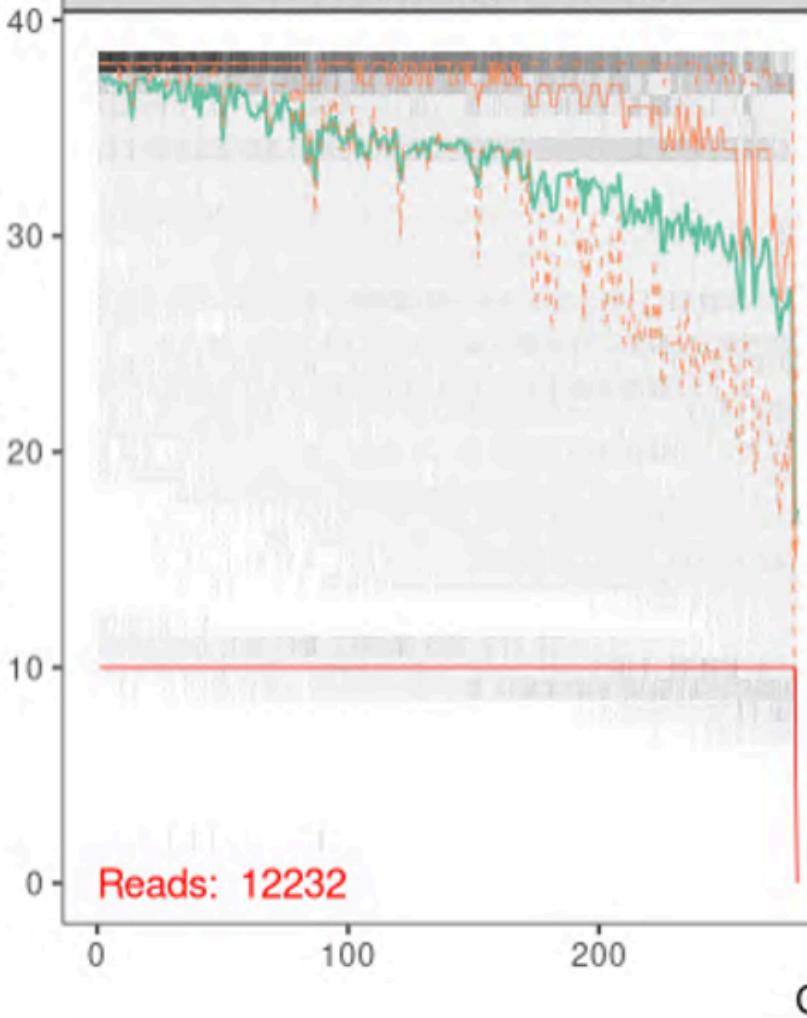
# *Methodology*

# FLOWCHART ON HOW WE PROCESS OUR DATA



SATB22\_F\_trus2R\_pair1.fastq.gz

Quality Score



SATB23\_F\_trus2R\_pair1.fastq.gz

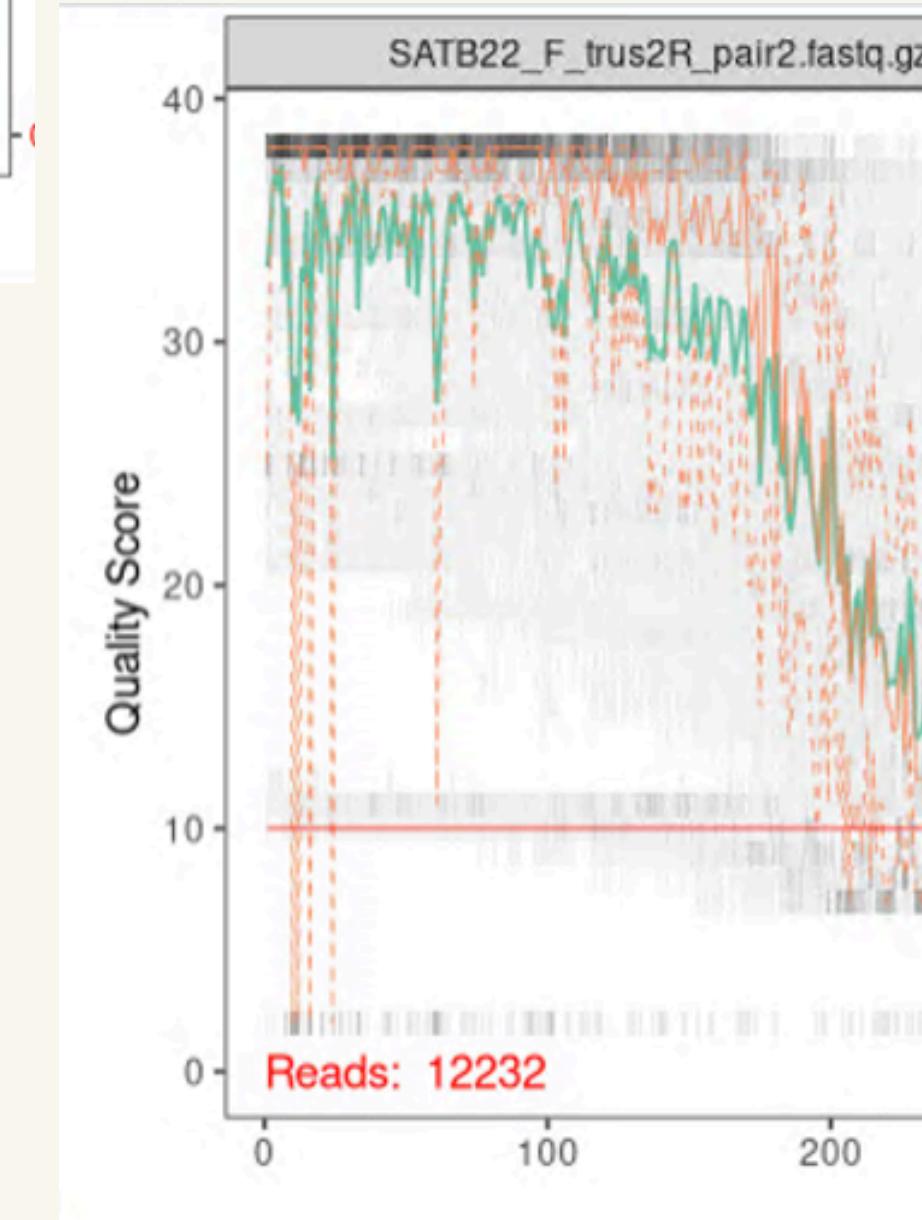
Quality Score



FORWARD READS

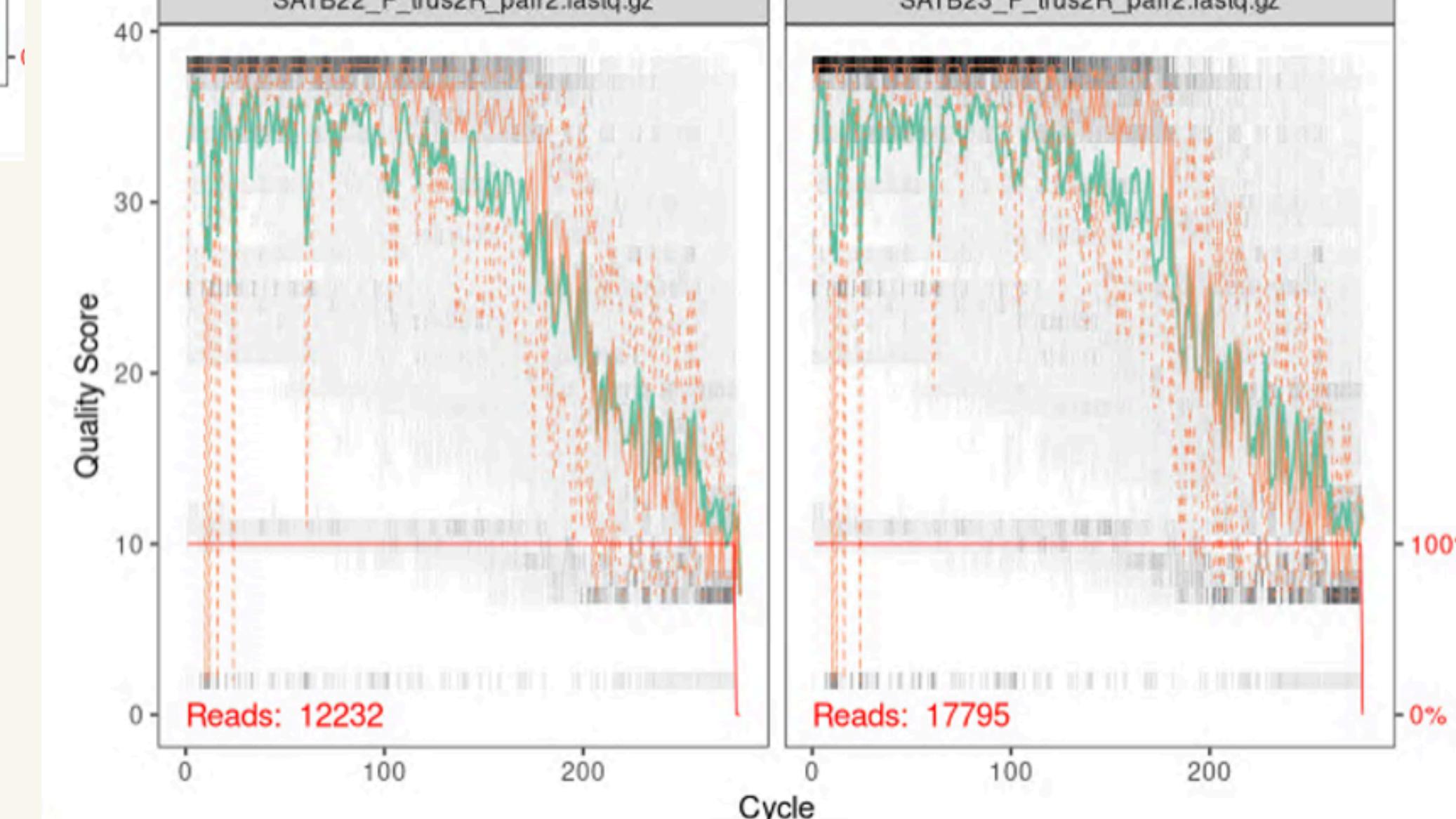
QUALITY REMAINS GOOD UNTIL ABOUT  
POSITION 240–250  
THEN IT BEGINS TO DECLINE GRADUALLY  
AROUND POSITION 270–280, IT DROPS  
MORE STEEPLY,  
TRUNCATION LENGTHS OF 270

REVERSE READS  
QUALITY STARTS DECENT BUT  
STARTS TO DROPS, TRUNCATION 190

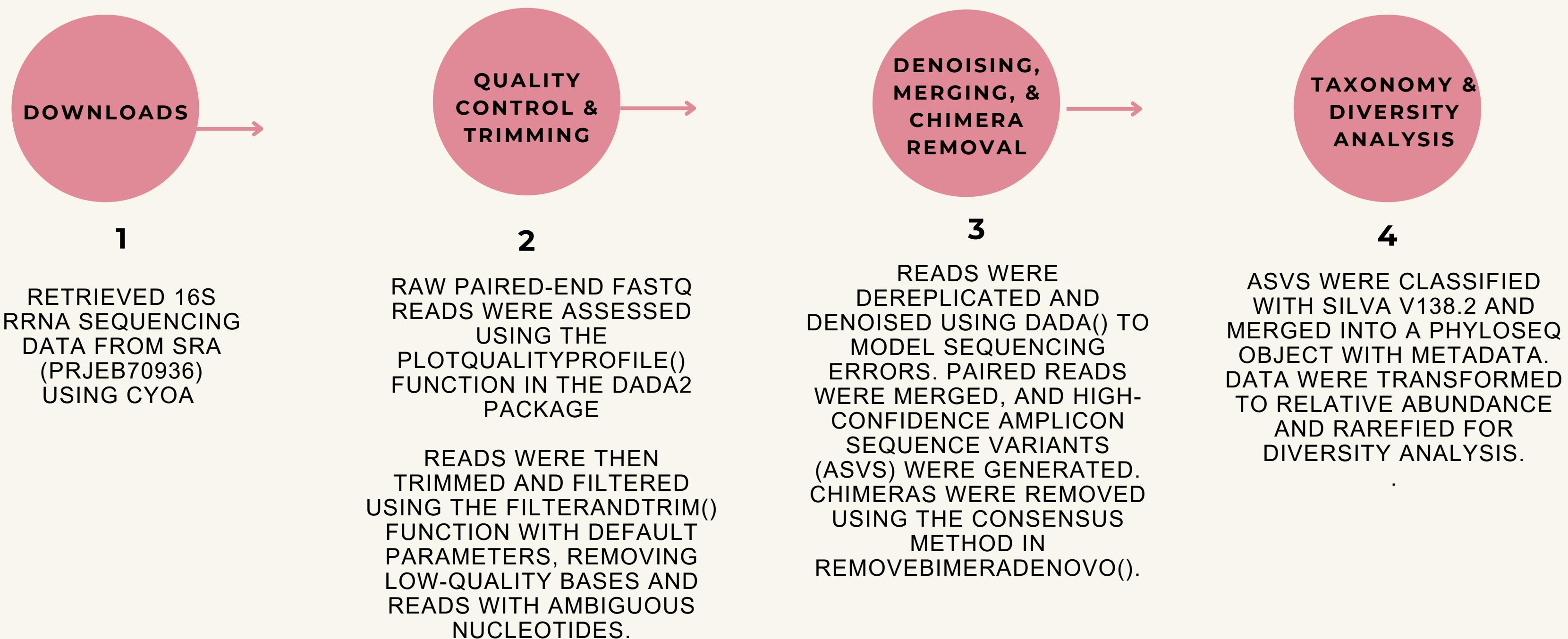


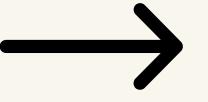
SATB23\_F\_trus2R\_pair2.fastq.gz

Quality Score



# FLOWCHART ON HOW WE PROCESS OUR DATA





# *Results*

## DIFFERENCES IN GUT BIOME COMPOSITION CTRL VS. ATB-TREATED MICE

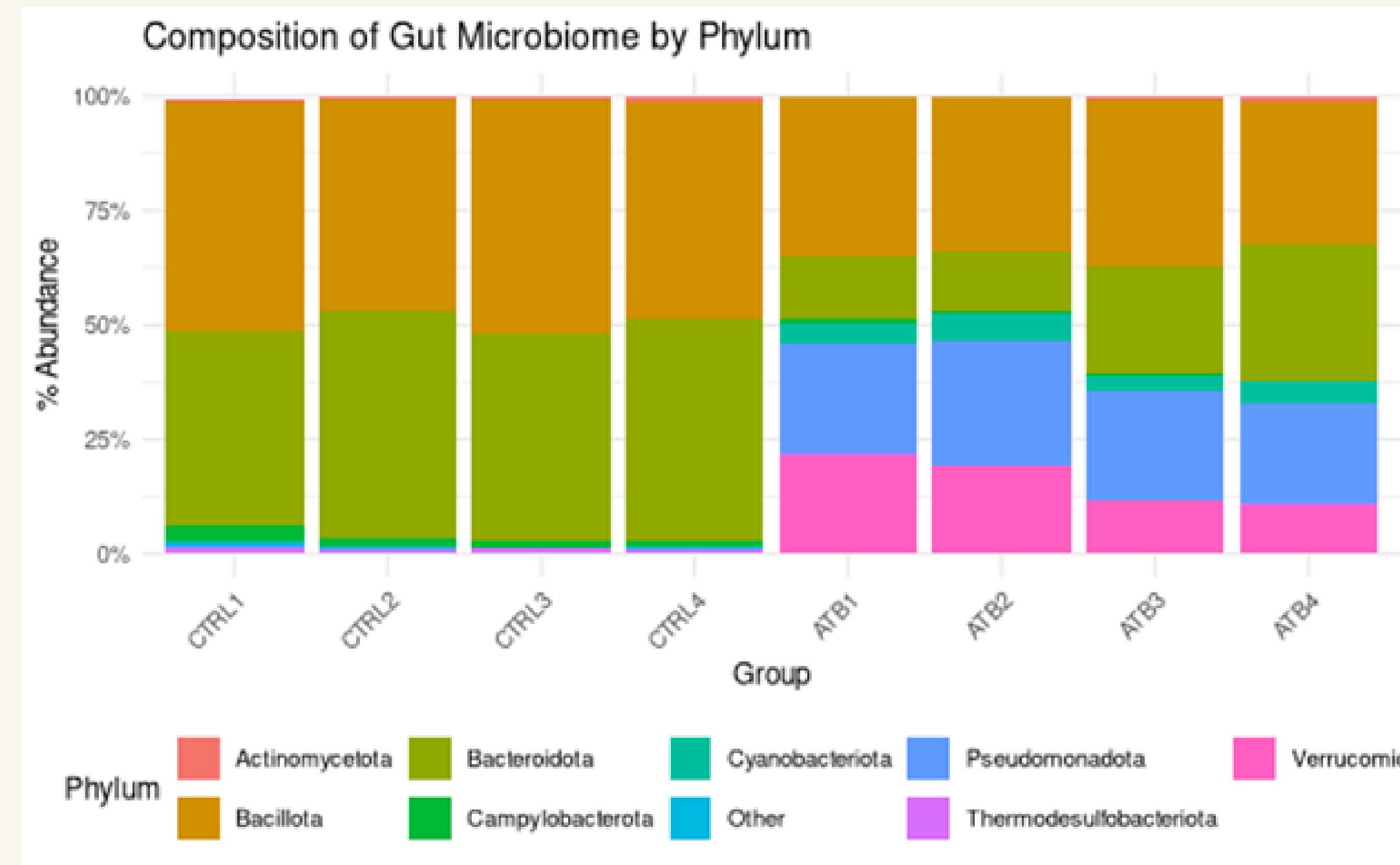


FIGURE 3. TAXONOMIC COMPOSITION BOXPLOT, WHICH LOOKS AT THE AVERAGE GUT MICROBIOME COMPOSITION (AT THE PHYLUM LEVEL) FOR A SPECIFIC GROUP OF MICE

## COMPARING ALPHA DIVERSITY METRICS BY MOUSE SAMPLE

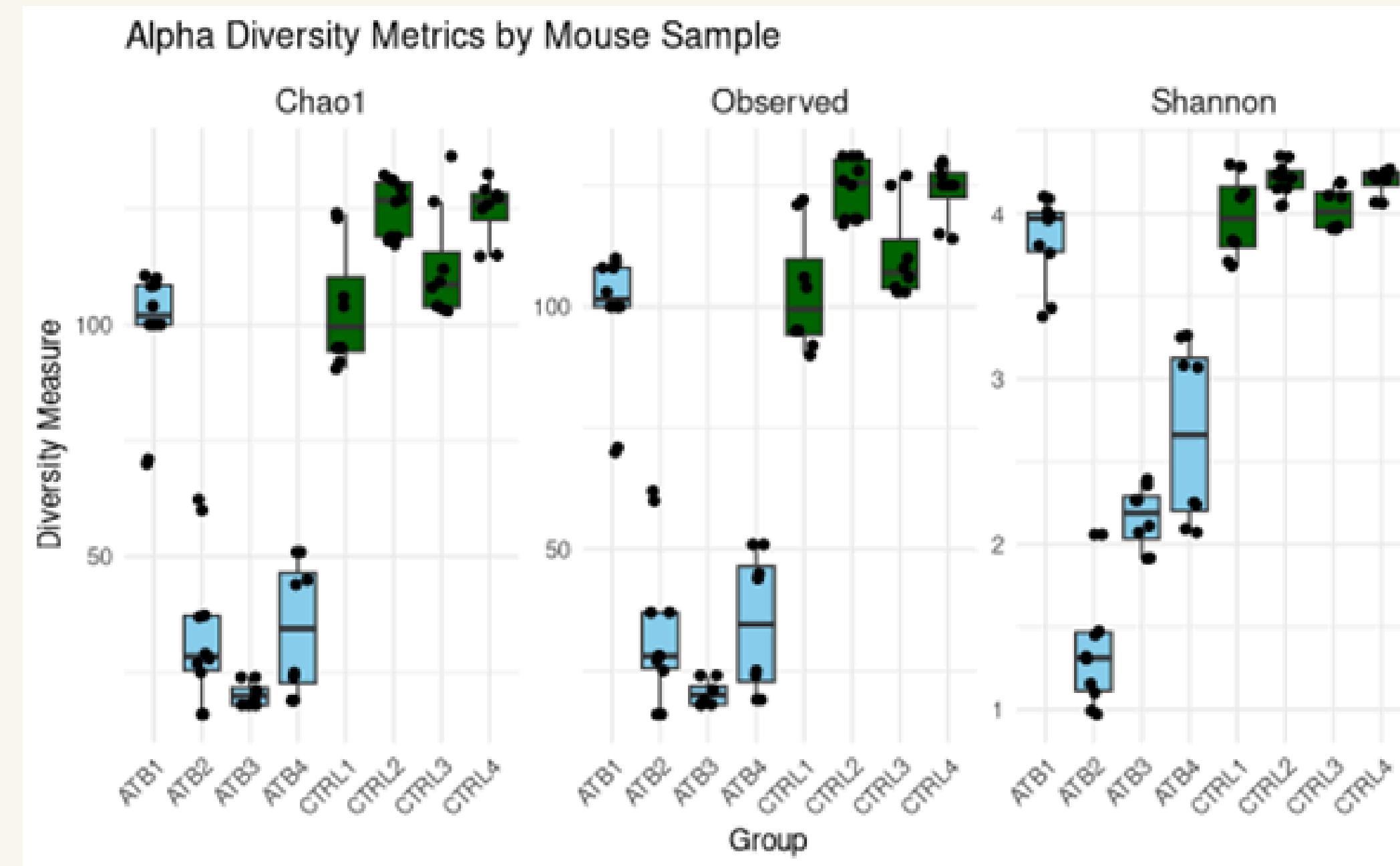


FIGURE 4. VISUALIZATION OF THE ALPHA DIVERSITY METRICS. CHAO1 BOX PLOT (A) ESTIMATED TOTAL RICHNESS INCLUDING RARE TAXA. OBSERVED BOX PLOT (B) THE COUNT OF THE UNIQUE TAXA. SHANNON BOX PLOT (C) RICHNESS AND EVENNESS HOW EVENLY TAXA ARE DISTRIBUTED.

## MEASURING GUT MICROBIOME COMPOSITIONS

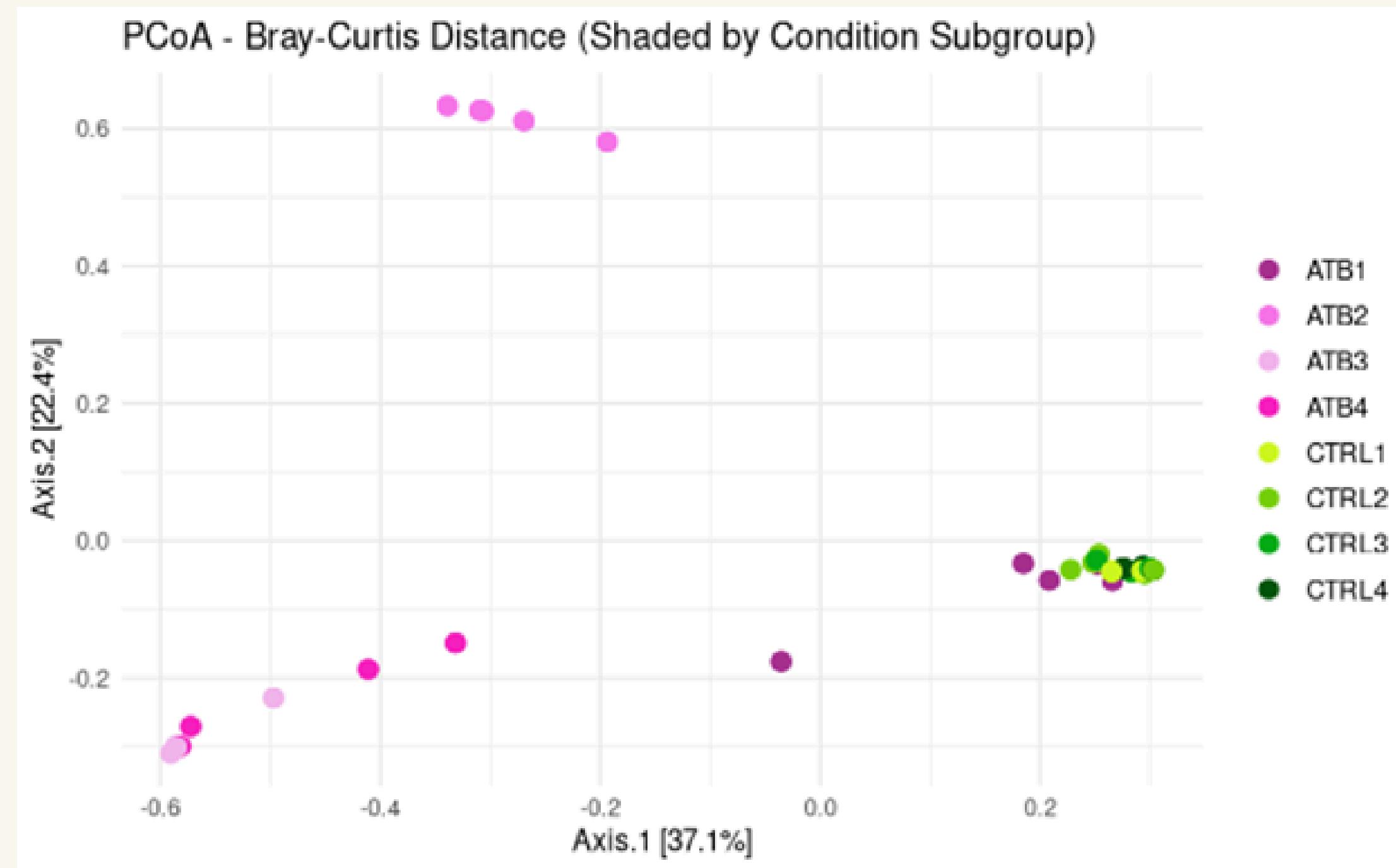


FIGURE 5. BETA DIVERSITY SCATTER PLOT, MEASURES HOW SIMILAR OR DIFFERENT THE GUT MICROBIOME COMPOSITIONS ARE ACROSS OUR SAMPLES.

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*Thank you for listening!*