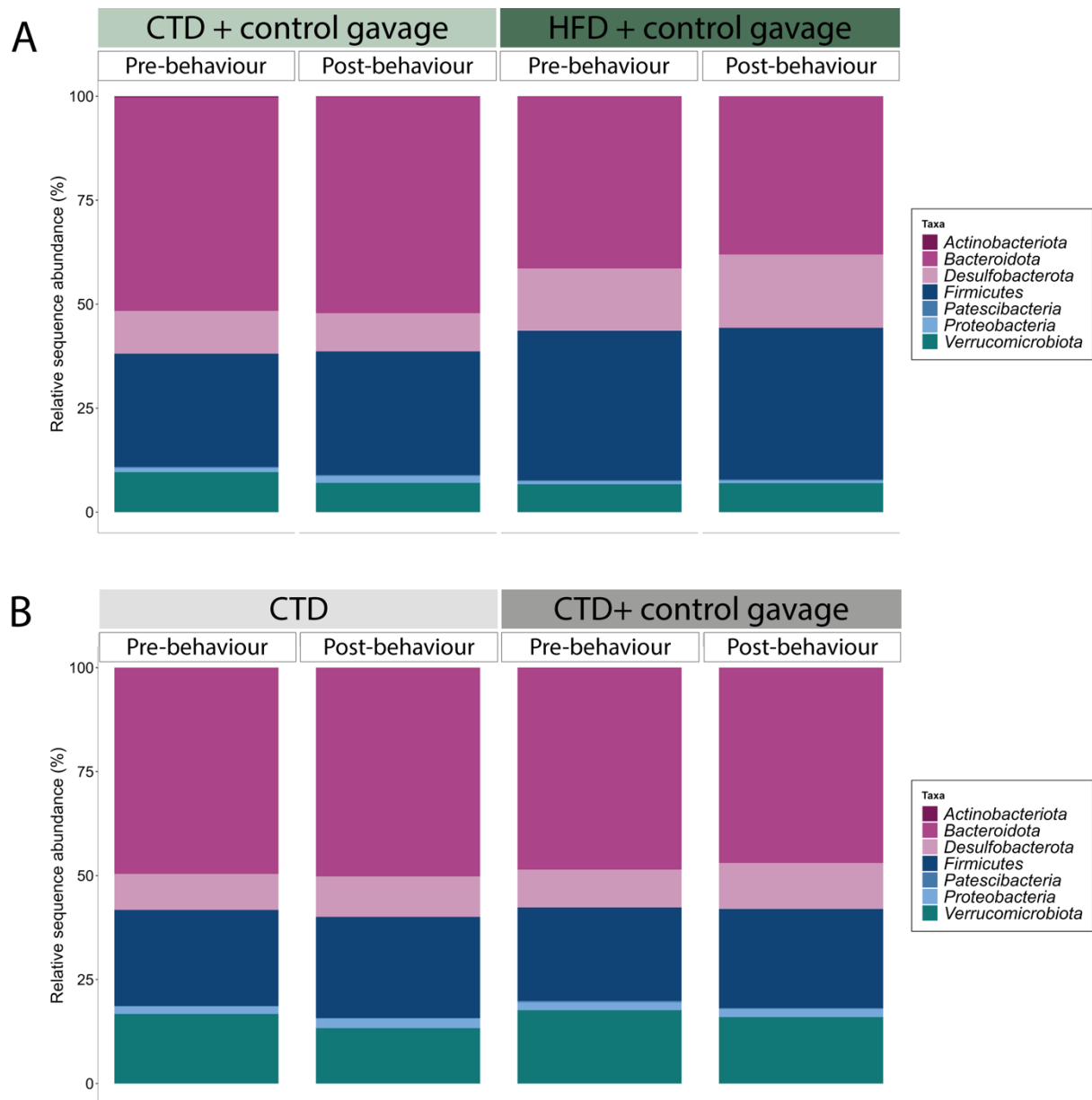


**Supplementary Figure 1.** Timeline of experimental procedure. Sample collection points denoted with a circle (before starting diet/gavage intervention, before- and after- behavioural testing) and behavioural testing period between six- to eight- weeks post dietary/gavage intervention. Mice were euthanised at the end of the behavioural testing period.



**Supplementary Figure 2.** Summarised relative abundance taxonomic phyla plots based on 16S rRNA amplicon sequencing of faecal samples collected before (week six) and after (week eight) behavioural testing, in the first experiment (A) and the second experiment (B). n = 12 for each experimental group.