



**Supplementary Figure S3 Microbial diversity analysis.** (A) Intra-group Shannon diversity analysis of faecal samples from the indicated groups. (B) MDS/PCoA analysis of faecal microbiota from the indicated treatment groups. PERMANOVA: bray curtis (bray)  $P = 0.001$ ; unweighted UniFrac (unifrac)  $P = 0.001$ ; weighted UniFrac (wunifrac)  $P = 0.001$ . (C) Average pairwise intra-group and intergroup distances were calculated with the indicated metrics and presented as box-and-whiskers plots ( $n = 4-5$ ).