

**Figure S5**: PCA scores plots generated using relative abundance values of the six most abundant families: *Bacteroidaceae, Porphyromonadaceae, Rikenellaceae, Lachnospiraceae, Ruminococcaceae* and *Peptostreptococcaceae*, insamples collected from all animals at all time points (Log10 transformed, mean centred data; R2 = 0.83, Q2 = 0.01). Principal components 1 and 3 (PC1 and PC3) are shown with the percentage of explained variance described by each component. A: Samples are coloured according to the age (in weeks) at which the sample was collected. B: Samples are coloured according to the genotype of the animal. C: Samples are coloured according to the cage (1-6) of each animal. The scores plot in (A) can be used as a reference for the sample time points; the time points are not shown in (B) and (C) to aid visualisation of potential trends.