

Supplementary Data Legends

File name: Supplementary Data 1

Description: Correlation coefficients between cecal fatty acids and bacterial OTUs derived from rCCA analysis. Significant correlations are highlighted in grey ($R > 0.265$, $p < 0.05$ for $n = 56$). Related to Figure 5a,b and Extended Data Figure 6a.

File name: Supplementary Data 2.

Description: Positive and negative significant interactions in network analysis between cecum fatty acids, caeum bacteria and host metabolic features. Related to Figure 5c.