

## Supplementary Material

**Figure S1** Dietary intake during the entire experimental phase.

**Figure S2** Changes in the abundance of selected genera.

**Table S1** Changes in body weight during the entire experimental phase.

**Table S2** Differentially expressed metabolites.

**Table S3** Enriched KEGG pathways in the GOS-fed group compared to the control.

**Table S4** Prediction of differences in the metagenome functional content between GOS-fed and control mice using PICRUSt.