

## Figure legends

**Supplemental figure 1. Volume of rectal gas evacuated 6 h after basal and challenge test meal.** Individual data are shown.

**Supplemental figure 2. Comparison of the microbial community between healthy subjects and patients before (HB and PB, respectively) and after flatulogenic diet (HA and PA, respectively).** A. PCoA of weighted UniFrac (left figure) and unweighted UniFrac (right figure) distances between 16S rRNA datasets. B. The distribution of phylum-level taxa and their proportion of 16S rRNA sequences.

**Supplemental figure 3. Lower microbial richness in the patients' group after flatulogenic diet challenge.** Data from healthy subjects (n=20) and patients (n=30) before (HB and PB, respectively) and after flatulogenic diet (HA and PA, respectively). A. Chao1 estimation returns an estimate of species richness. B. Average number of OTUs calculated for the 4 sets of data. Paired *t* tests were calculated between paired samples (before and after flatulogenic diet). Statistical analysis was performed using Student's *t* test. P values < 0.05 were referred as significant.