Supplementary materials

Long-term effects of bariatric surgery on gut microbiota composition and faecal metabolome related to obesity remission

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SUPPLEMENTARY MATERIALS

Table S1

Table S1. Evolution of body weight loss of the patients after bariatric surgery.

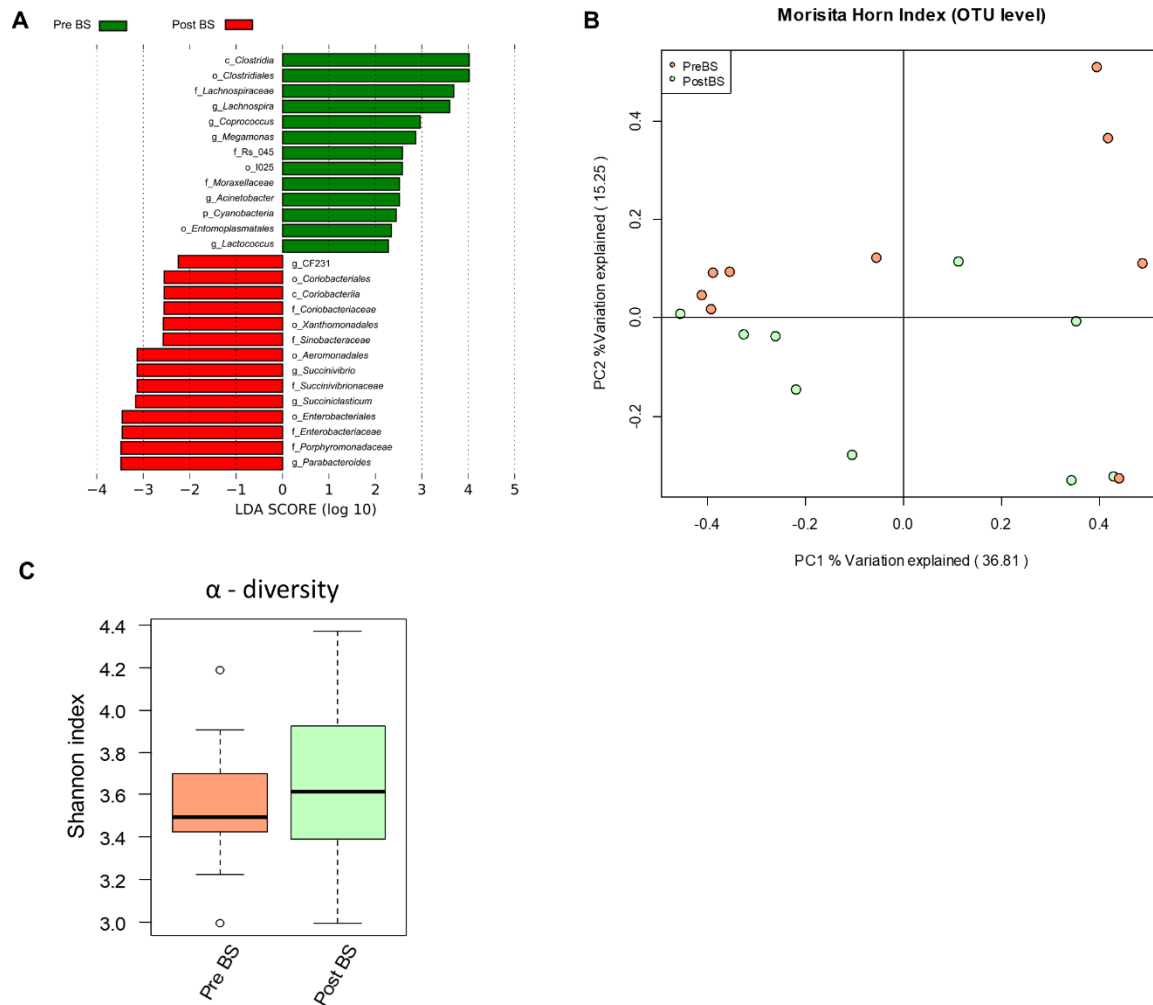| Body weight loss (%)			
1st year	2nd year	3rd year	4th year
-34.60 ± 2.44	-35.72 ± 2.77	-35.61 ± 3.10	-32.13 ± 2.46

Data are presented as mean ± SEM.

Figure S1

Figure S1. Effect of bariatric surgery on gut microbiota composition of patients with severe obesity. A. Linear discriminant analysis effect size (LefSe) showing differences between patients with severe obesity before (Pre BS) and after (Post BS) bariatric surgery. **B.** Principal coordinates analysis (PCoA) plot based on Morisita-Horn dissimilarity index at OTU level of patients with severe obesity Pre BS and Post BS. **C.** Differences in α-diversity measured by Shannon index of patients with severe obesity Pre BS and Post BS.
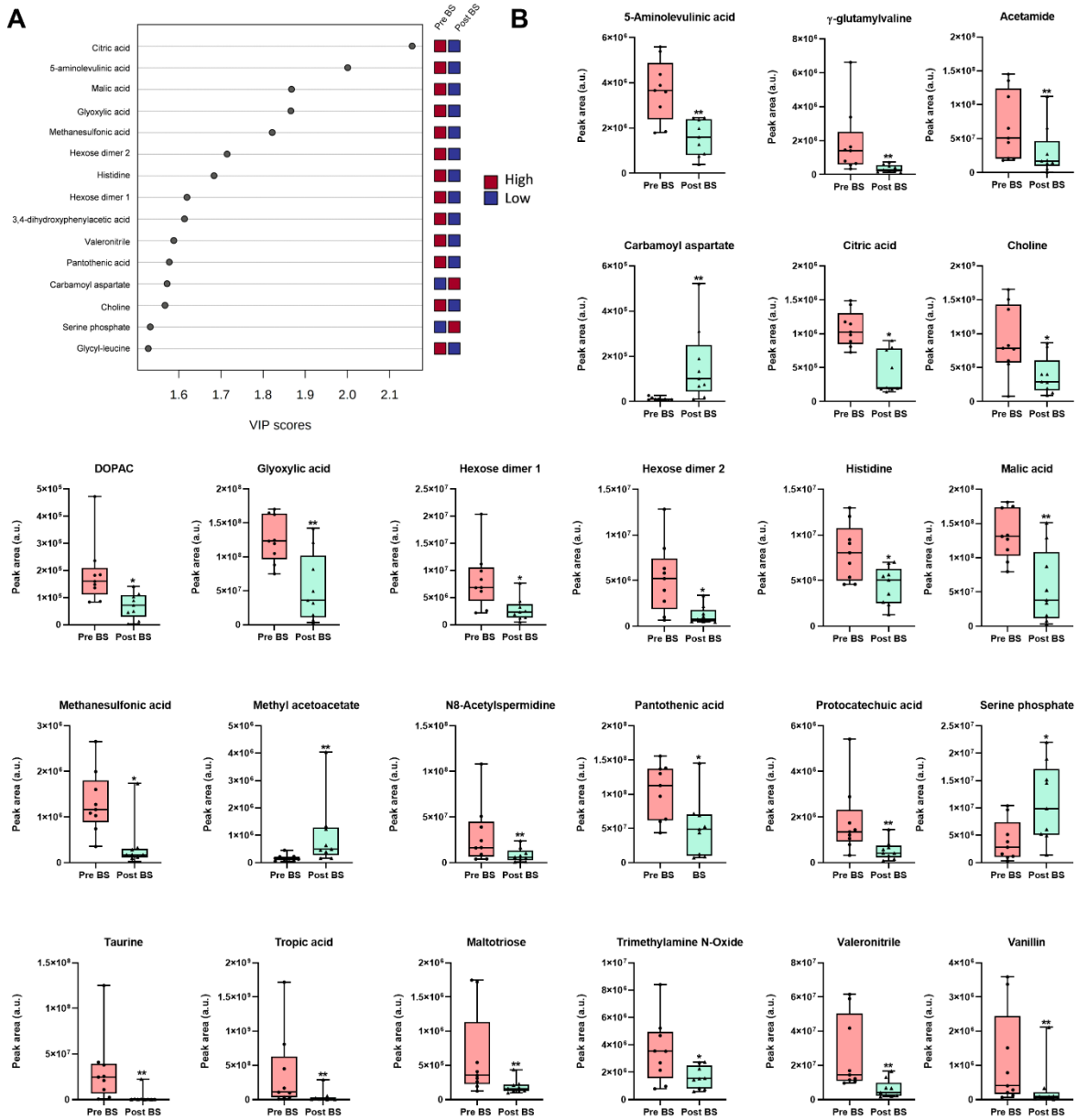
Figure S2

Figure S2. Effect of bariatric surgery on faecal metabolome of patients with severe obesity. A. Variable importance in projection (VIP) scores from Partial Least-Squares Discriminant Analysis (PLS-DA) of faecal metabolites of patients with severe obesity before (Pre BS) and after (Post BS) bariatric surgery. Red and blue boxes on the right indicate a high and low relative concentration, respectively, of the corresponding metabolite in each group. **B.** Boxplots showing differences in the peak area of different metabolites in patients with severe obesity Pre BS and Post BS. Non-parametric Wilcoxon signed-rank test. $^*p<0.05$; $^{**}p<0.01$ *vs.* Pre BS. $^*p<0.05$; $^{**}p<0.01$ *vs.* Pre BS.
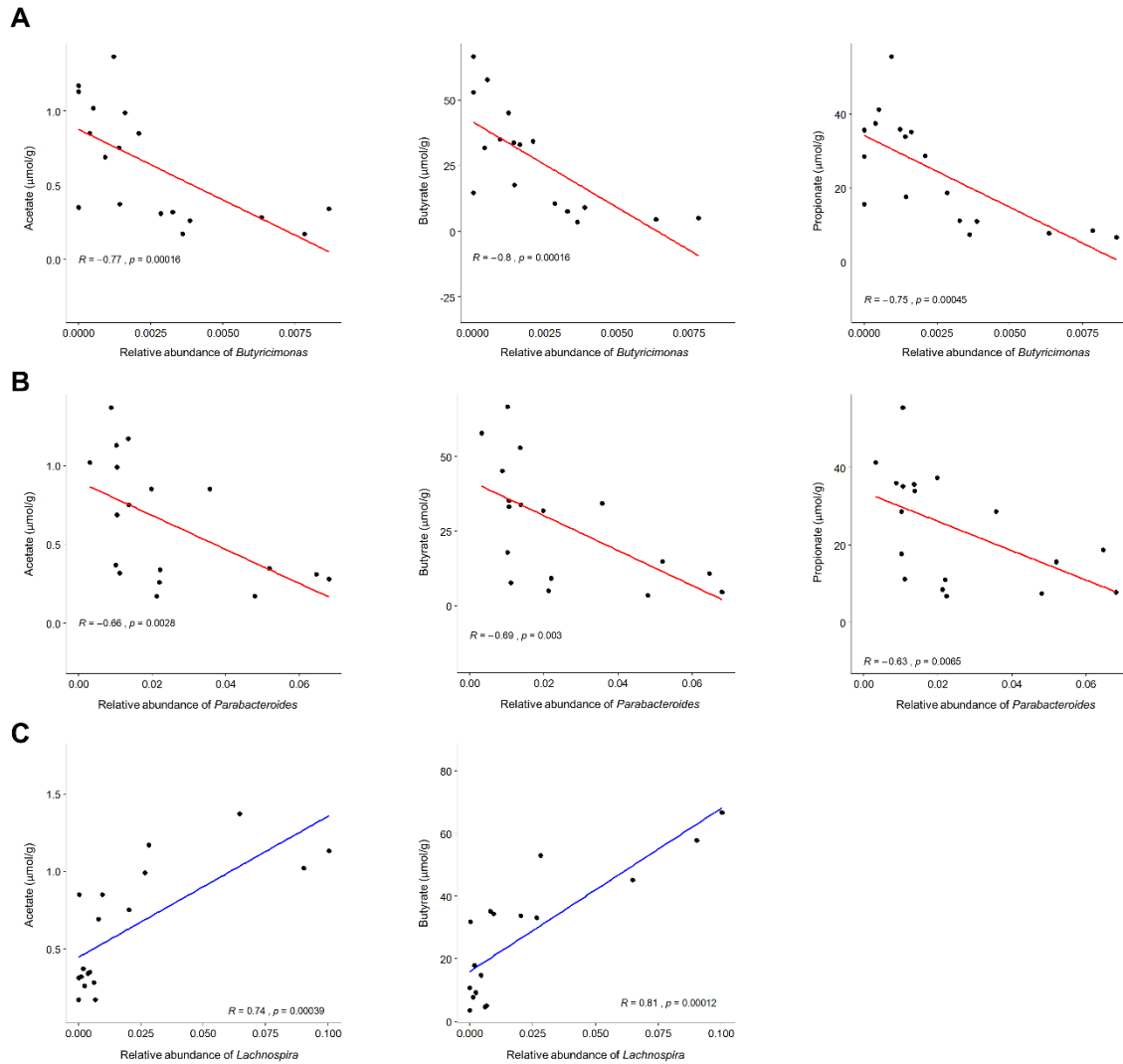
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Figure S3

Figure S3. Associations of gut microbiota profile with faecal short-chain fatty acids concentration. Spearman correlation coefficients and linear relationships of **(A)** *Butyricimonas* relative abundance with acetate, butyrate and propionate concentrations; **(B)** *Parabacteroides* relative abundance with acetate, butyrate and propionate concentrations; **(C)** *Lachnospira* relative abundance with acetate, and butyrate. $^*p < 0.05$.