

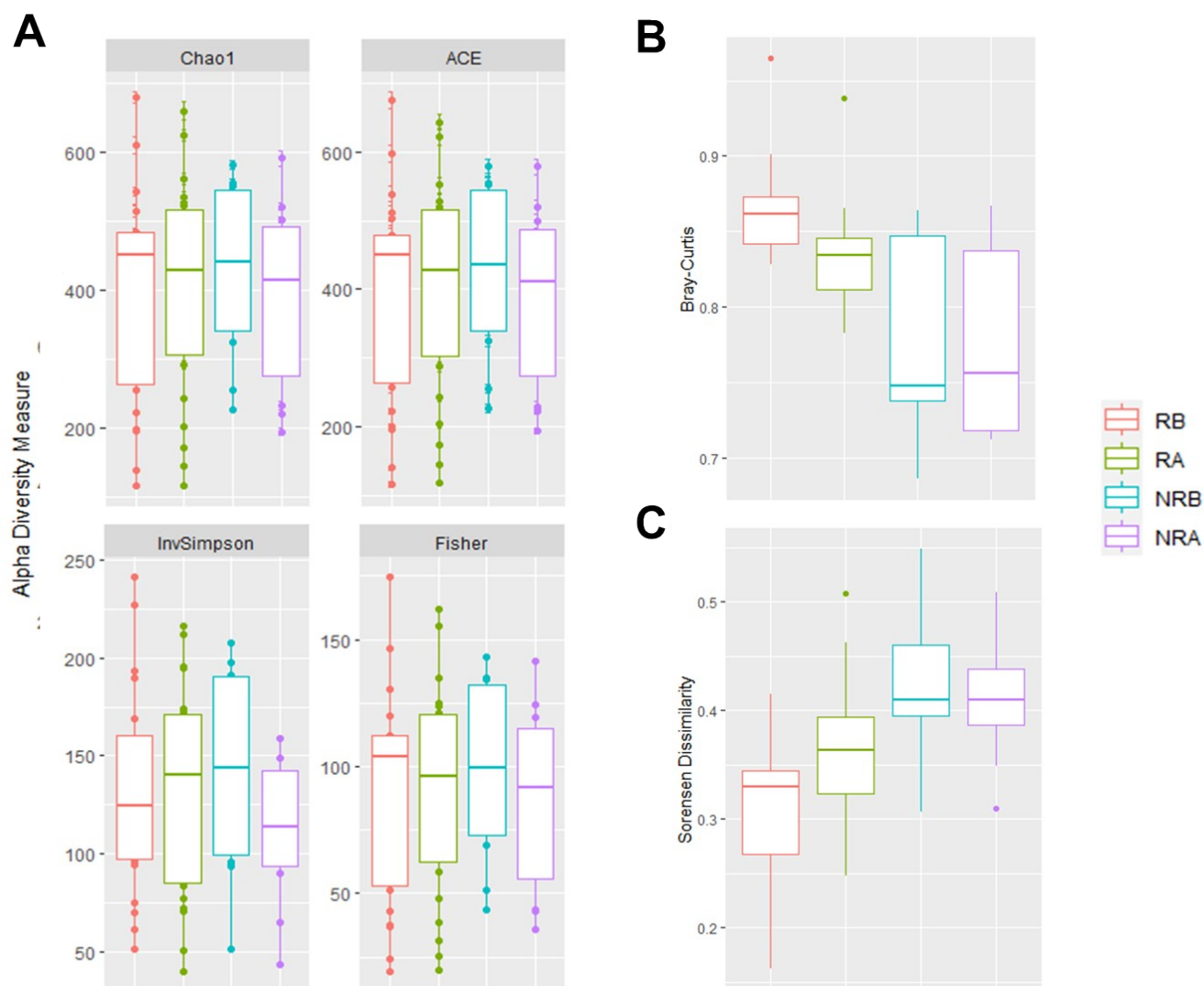
Table S1. Classification criteria for type of response according to VAS-IBS.

| Subtype | Responders | Non-responders |
|---------|---|--|
| IBS-C | Change in "Constipation" value ≥ 1 cm | Participants who do not meet conditions by subtype, no change in main symptom. |
| IBS-D | Change in "Diarrhoea" value ≥ 1 cm | |
| IBS-M | Change in "Constipation" and "diarrhoea" values ≥ 1 cm | |

IBS with constipation (IBS-C), IBS with diarrhea (IBS-D), and IBS with mixed symptoms of both constipation and diarrhea (IBS-M)

Table S2. Bacterial genus with major contribution to PC1.

| Phylum | Class | Order | Family | Genus |
|-----------------------|-------------------------|--------------------------|---------------------------|----------------------|
| <i>Firmicutes</i> | <i>Clostridia</i> | <i>Clostridiales</i> | <i>Lachnospiraceae</i> | <i>Eubacterium</i> |
| <i>Actinobacteria</i> | <i>Coriobacteria</i> | <i>Coriobacteriales</i> | <i>Eggerthellaceae</i> | - |
| <i>Actinobacteria</i> | <i>Actinobacteridae</i> | <i>Bifidobacteriales</i> | <i>Bifidobacteriaceae</i> | <i>Scardovia</i> |
| <i>Firmicutes</i> | <i>Clostridia</i> | <i>Clostridiales</i> | <i>XIII</i> | <i>Eubacterium</i> |
| <i>Actinobacteria</i> | <i>Coriobacteriia</i> | <i>Coriobacteriales</i> | <i>Eggerthellaceae</i> | <i>Adlercreutzia</i> |



Supplementary Figure 1. Alpha and Beta diversity in responsive (R) and non-responsive (NR) subjects before (B) and after (A) low-FODMAP diet consumption. A) Chao1, ACE, Inverse Simpson, and Fisher metrics. B) Bray Curtis distances. C) Sorensen Dissimilarity. Alpha diversity pairwise comparisons using the Wilcoxon rank-sum test. $p < 0.05$). Beta diversity permutational ANOVA (PERMANOVA) analysis. $p < 0.05$