

Figure S1. Rarefaction curves

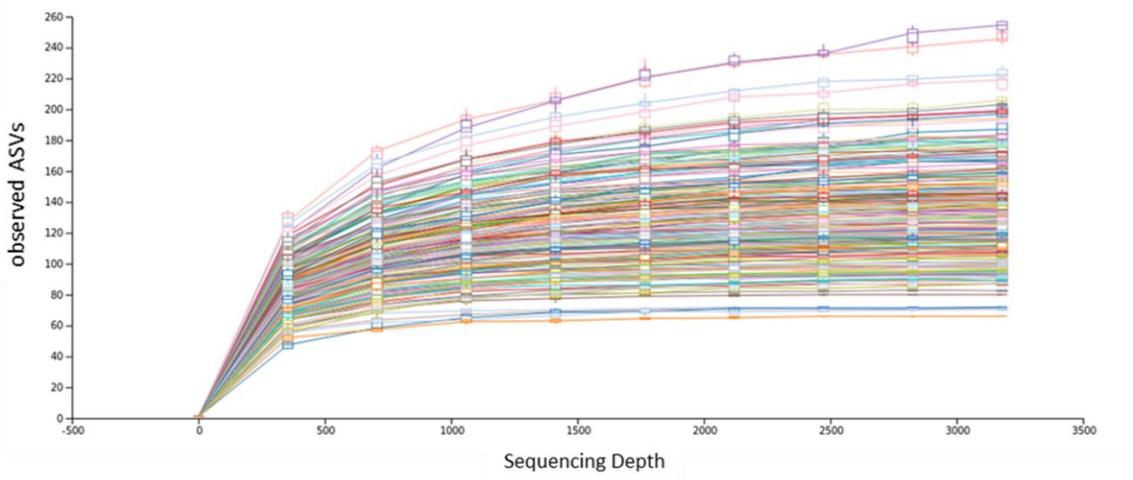


Figure S2. Alpha diversity measured by means of Shannon Index (H)

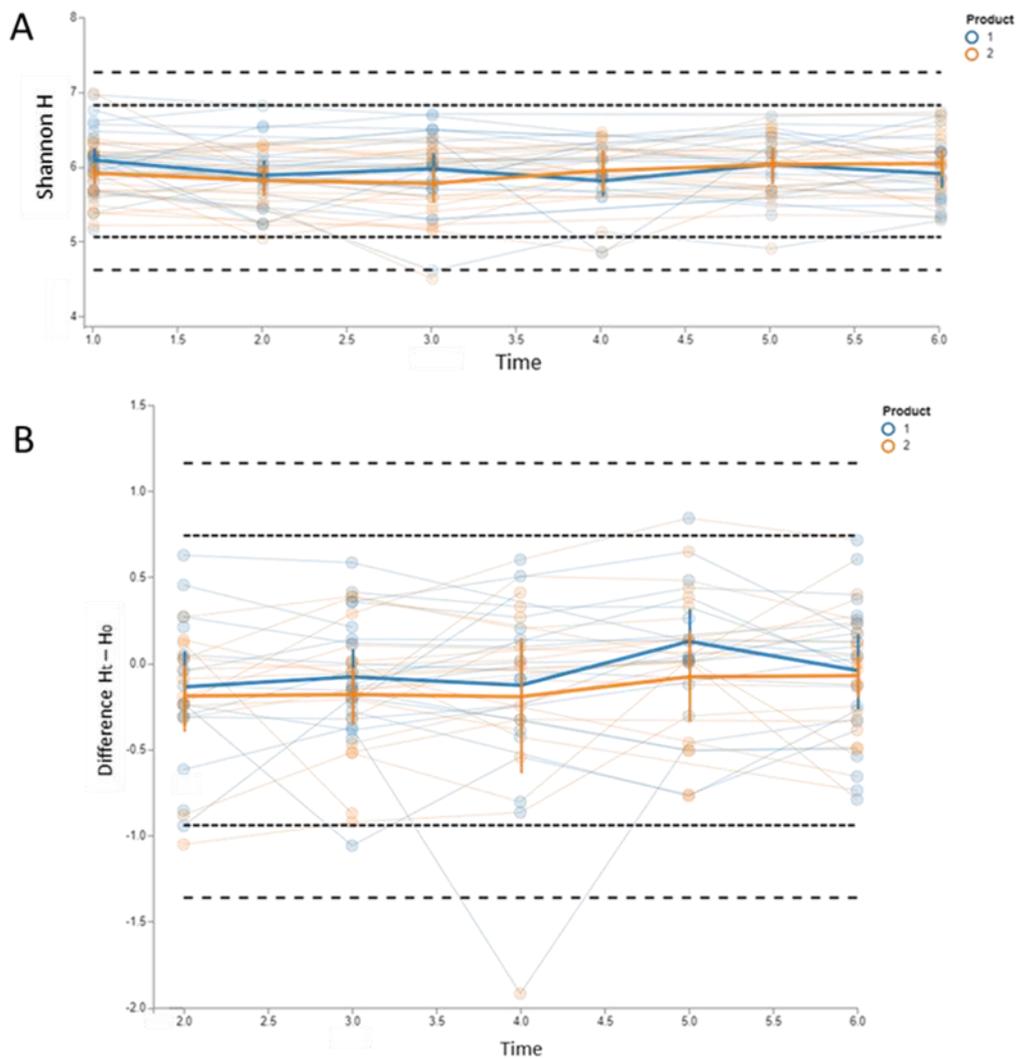


Figure S2. Shannon Index. The figure represents the alpha diversity across the study. The thick lines with error bars represent the means \pm standard deviation of both group (Group 1: blue lines; group 2: orange lines). Dashed lines represent the means \pm 2 and 3 times standard deviations. Group 1 started the intervention receiving the placebo (t1, t2 and t3) and then was switched to receive the probiotic strain (t4, t5 and t6). Group 2 started the intervention receiving the probiotic strain (t1, t2 and t3) and then was switched to receive the placebo (t4, t5 and t6). A: Temporal trend of Shannon index (H). B: Temporal trend of the Shannon index (H) between treatment and baseline (delta) ($H_t - H_0$).

Figure S3. Bacterial beta diversity

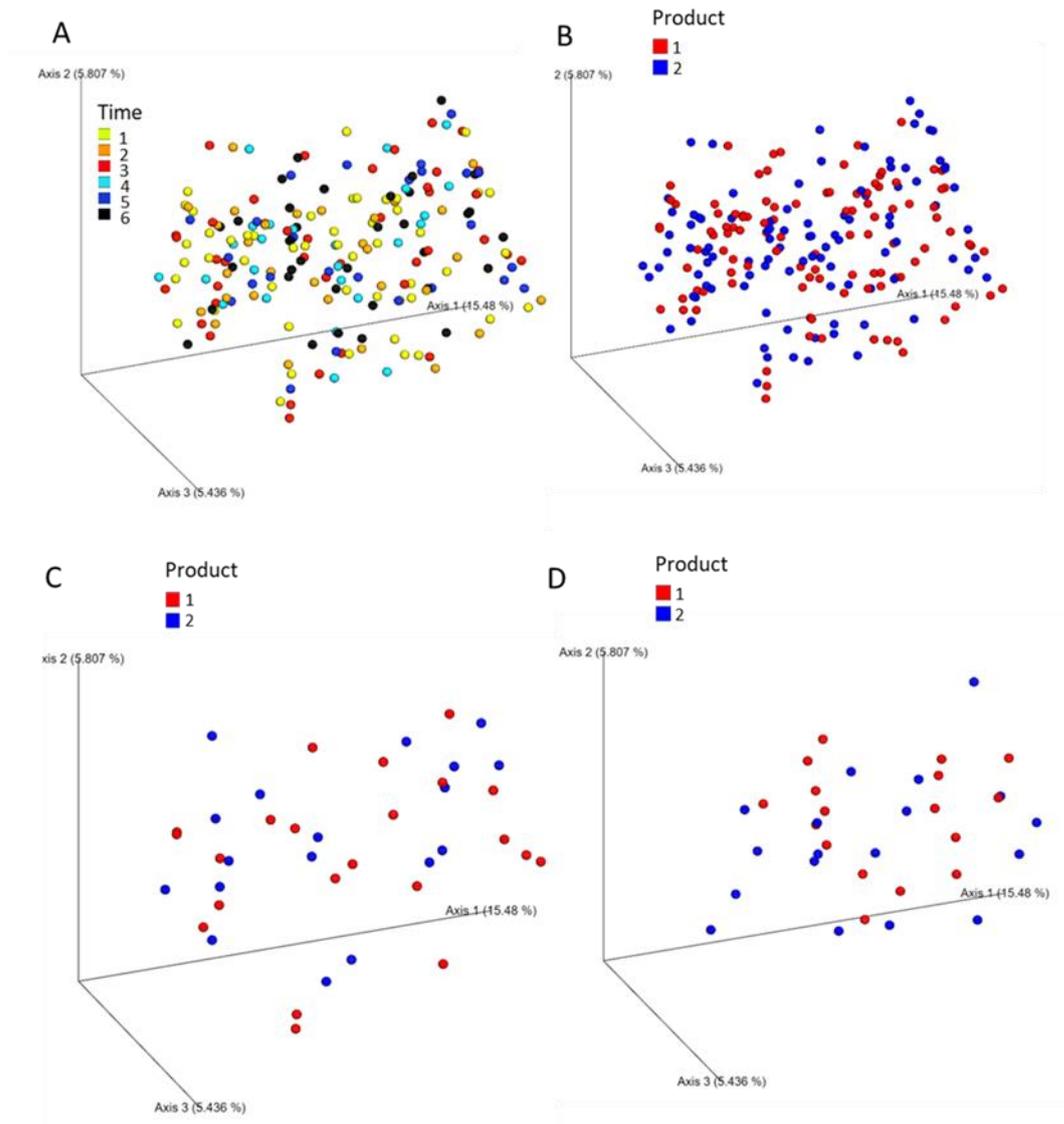


Figure S3. Principal Coordinates analysis (PCoA). Unweighted Unifrac analysis and distances estimated among samples. The three-dimensional scatter plot showed the distances of microbial communities among participants by time (First intervention t1, t2 and t3; second intervention t4, t5 and t6) (A), by treatment (B), and the distances among patients at the end of the first intervention (t3) (C) and at the end of the second intervention (t6) (D).