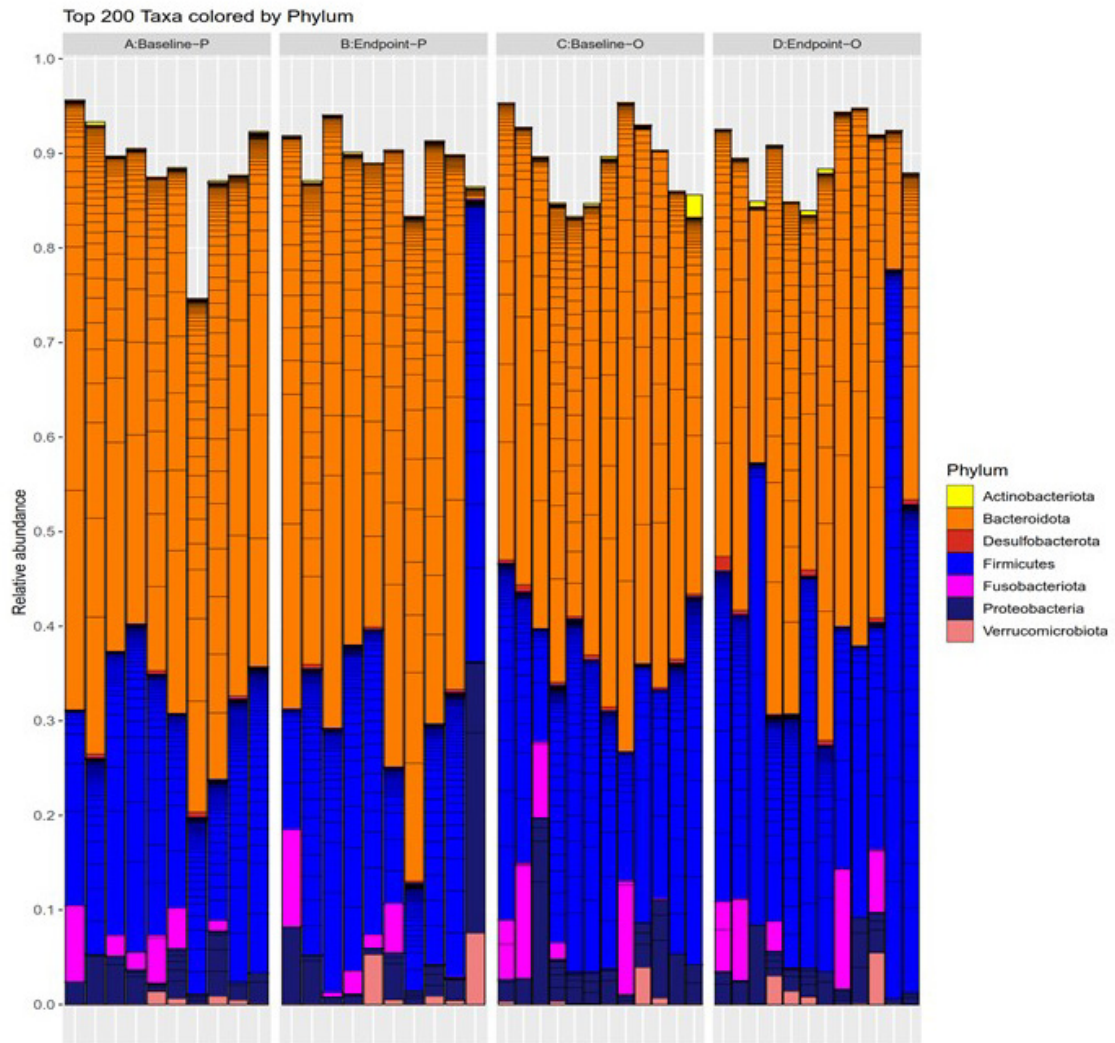
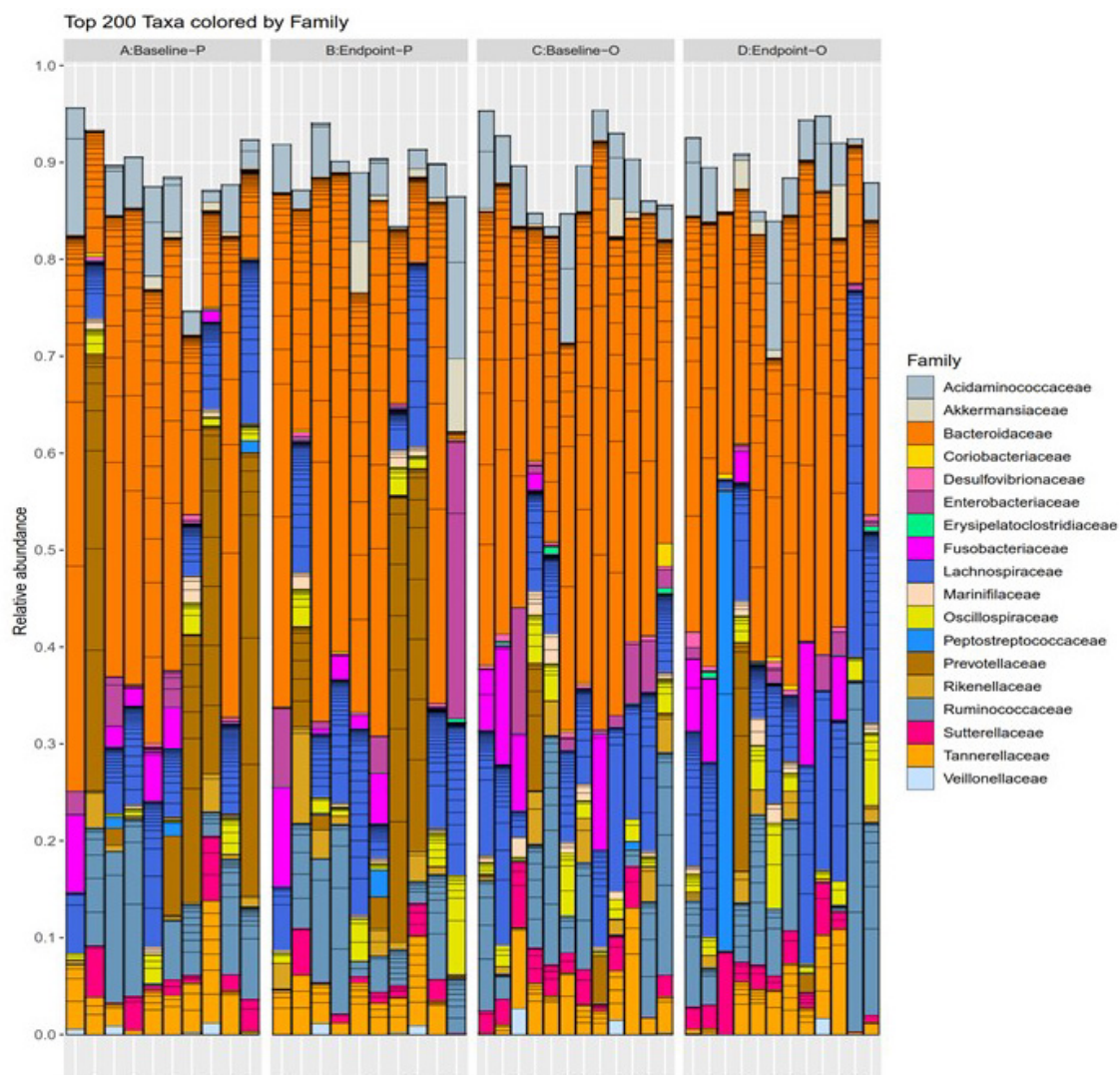
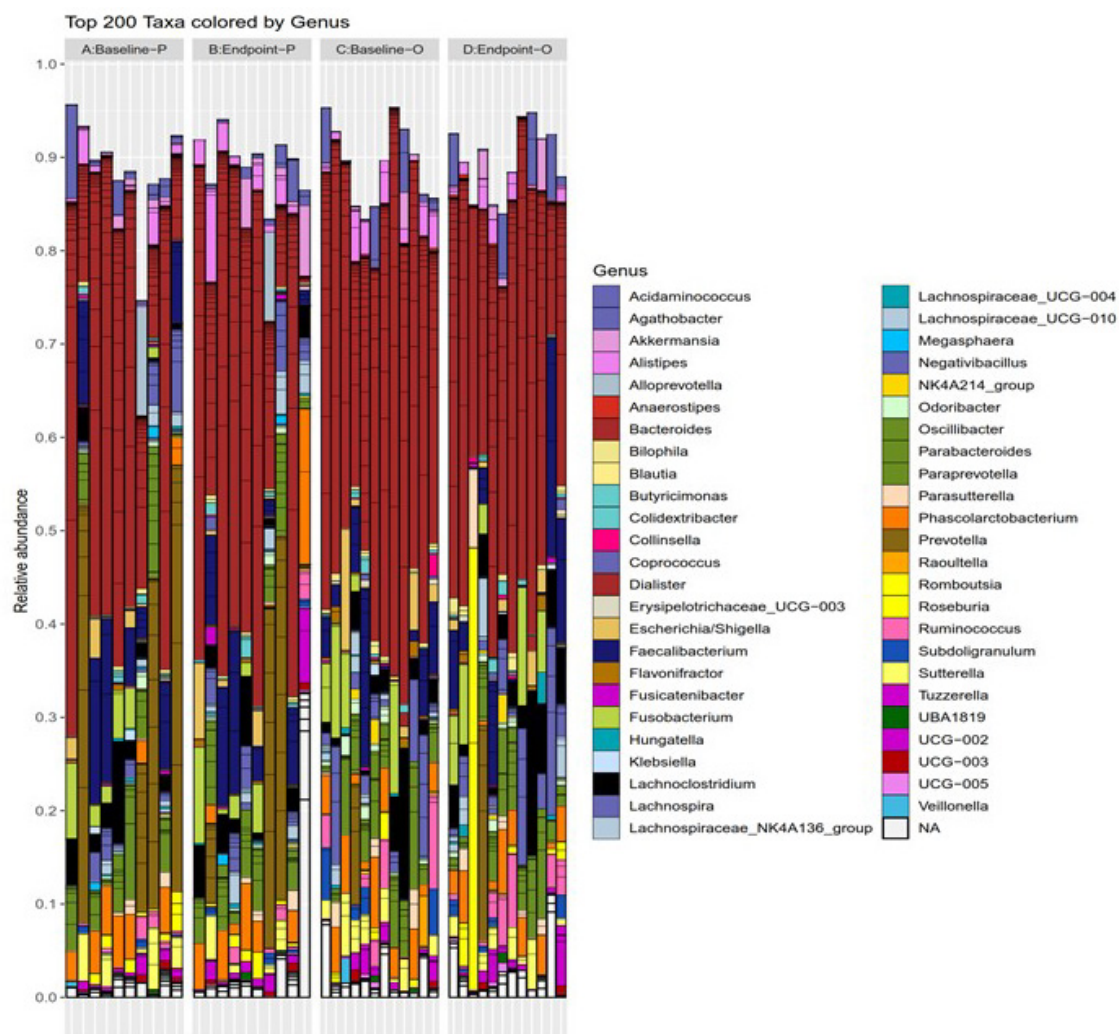




**Supplementary Figure 1.** Effects of *Bifidobacterium longum* OLP-01 on relative abundance of phylum in gut microbiota. A: baseline of the placebo group ( $n = 10$ ), B: endpoint of the placebo group ( $n = 10$ ), C: baseline of the OLP-01 group ( $n = 12$ ), D: endpoint of the OLP-01 group ( $n = 12$ ).



**Supplementary Figure 2.** Effects of *Bifidobacterium longum* OLP-01 on relative abundance of family in gut microbiota. A: baseline of the placebo group ( $n = 10$ ), B: endpoint of the placebo group ( $n = 10$ ), C: baseline of the OLP-01 group ( $n = 12$ ), D: endpoint of the OLP-01 group ( $n = 12$ ).



**Supplementary Figure 3.** Effects of *Bifidobacterium longum* OLP-01 on relative abundance of genus in gut microbiota. A: baseline of the placebo group ( $n = 10$ ), B: endpoint of the placebo group ( $n = 10$ ), C: baseline of the OLP-01 group ( $n = 12$ ), D: endpoint of the OLP-01 group ( $n = 12$ ).