**Supplementary Figure 1.** One-step amplification and next-generation sequencing library construction of the V3/V4 region of the 16S rRNA gene, using inner and outer pairs of primers. Forward primer 314F and reverse primer 806R of the inner primers were used for amplifying the V3/V4 region of the 16S rRNA gene. The outer primers containing spacer sequence and spacer primer (SP) sequence at the 5’ region of the primer were used to construct SNAP-TE libraries compatible for Illumina MiSeq/HiSeq platform. Spacer sequences are used to improve the sequencing quality and comprise differential sequences with different lengths of bases. The SP sequence is both the amplification primer region of the outer primer and the sequencing primer of the Illumina platform.

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