## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1 Overview of the rectal 16S rRNA dataset generated using MiSeq during the preliminary trial.

File Name: Supplementary Data 2 Overview of the rectal 16S rRNA dataset generated using MiSeq during the validation trial.

File Name: Supplementary Data 3 Overview of the rectal 16S rRNA dataset generated using MiSeq for 12-month-old cattle.