**Supplementary online materials**

**Figure S1.** Construction of CfCFEM19 knockout mutants and complementary strains. (a) Schematic diagram of the *CfCFEM19* knockout strategy. (b) The *hph* gene fragment was successfully amplified from the genomic DNA of WT, *∆CfCFEM19*, and *∆CfCFEM19-C* strains using primers g9744-JC-F/HPH-JC-R. Lane M, DL5000 marker. (c) Amplification using primers g9744--JC-F/g9744-JC-R failed to detect the target gene CfCFEM19 in the genomic DNA of WT, *∆CfCFEM19*, and *∆CfCFEM19-C* strains. (d) The complementation of the CfCFEM19 gene was confirmed by PCR amplification of genomic DNA from WT, *∆CfCFEM19*, and *∆CfCFEM19-C* strains using primers pYF11-TY-F/HPH-X2-R.

