

## Supplemental Information

**Figure S1: sequence of hupA-HiBiT<sup>opt</sup>**

>*hupA-hiBiT*<sup>opt</sup>

```
GAGCTCCTGCAGTAAAGGAGAAAATTTGTGAATAAAGCTGAATTAGTATCAAAGATGGCAGAAAAAGTGG
ATTAACAAAGAAGGAAGCAGAACGCTGCGTTAACGCATTATGAGTTCTGTTCAAGATGCACTAGTAAATAAT
GAAAAAGTTCAATTAGTTGGATTGGAACATTGAGACAAGAGAAAGAGCTGCTAGACAAGGAAGAAATCCA
AGAGATCCAGAGCAAGTTATAGATATACCAAGCTTCTAAAGCACCAGTTTCAAAGCTGGAAAAGGATTAAAG
GATATAATAATGGATCTCGAGGGGGTTCTAGTGGTGGTGGTCTGGTGGTGGTTCTAGTGGTGT
AGTGGTTGGAGACTTTAAGAAAATTTCTAGGGATCC
```

**Figure S2: SignalP5.0 prediction for TcdC-C51S.**

