

Supplementary Text

The pEX18Tc- $\Delta cyaA$ was constructed by cloning the 880 bp upstream and 963 bp downstream fragments of the *cyaA* gene into the *EcoRI-HindIII* sites of plasmid pEX18Tc. The pEX18Tc- $\Delta cyaB$ was constructed by cloning the 1019 bp upstream and 802 bp downstream fragments of the *cyaB* gene into the *EcoRI-HindIII* sites of plasmid pEX18Tc. The pEX18Tc- Δvfr was constructed by cloning the 1090 bp upstream and 1064 bp downstream fragments of the *vfr* gene into the *EcoRI-HindIII* sites of plasmid pEX18Tc. The pEX18Tc- $\Delta nadD2$ was constructed by cloning the 816 bp upstream and 835 bp downstream fragments of the *nadD2* gene into the *EcoRI-HindIII* sites of plasmid pEX18Tc. The pEX18Tc- $\Delta nadD2-nrtR$ was constructed by cloning the 816 bp upstream and 1308 bp downstream fragments of the *nadD2-nrtR* operon into the *HindIII* site of plasmid pEX18Tc.