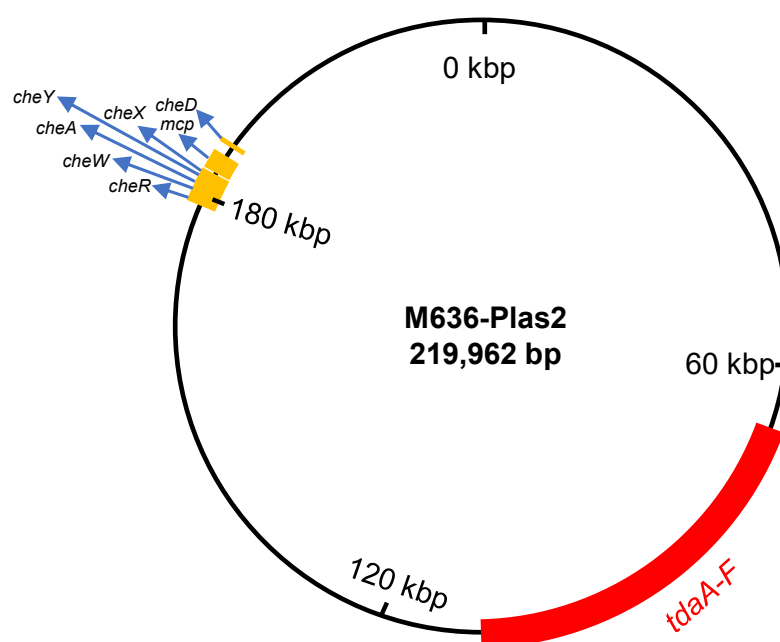
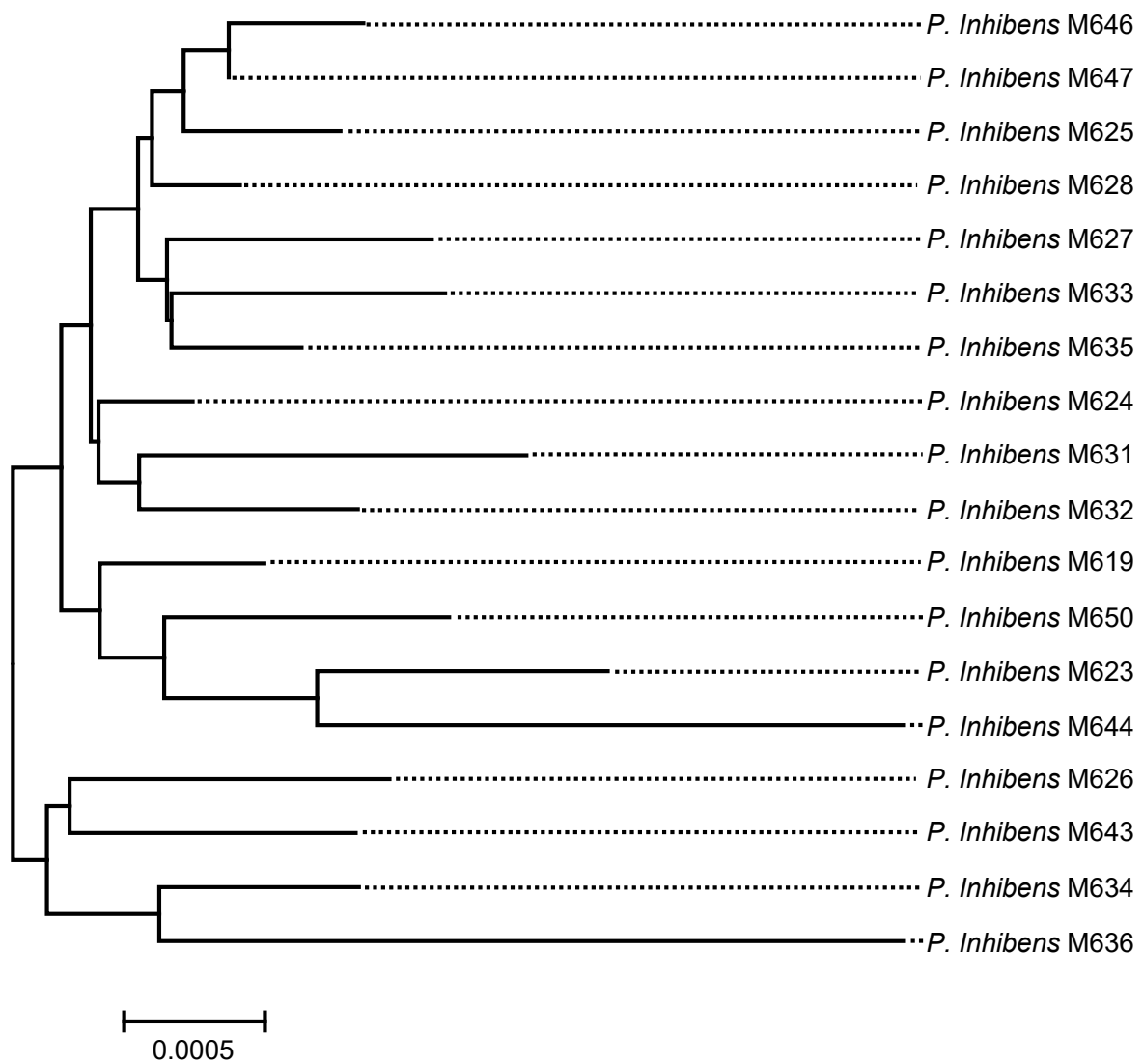


**Figure S1.** Transmission electron microscopy observation of a representative strain, *Phaeobacter inhibens* M619. The white arrows indicate cell size and the blue arrow indicates extracellular polymeric substance (EPS).



**Figure S2.** A representative plasmid containing the tropodithietic acid (TDA) biosynthetic gene clusters. This plasmid is derived from the strain M636.



**Figure S3.** A maximum likelihood phylogenetic tree constructed based on single copy genes. Seven genes, including *dnaG*, *nusA*, *pgk*, *pyrG*, *rplB*, *rpoB*, and *tsf* were extracted from the 18 *P. inhibens* strains and used to build the tree.