

Description of Additional Supplementary Files

Supplementary Data 1. AI-designed PETase DNA sequences (AI-S1-AI-L5), plasmids, and strains used in *B. subtilis* experiments.

Supplementary Data 2. AI-designed PETase DNA sequences (AI-E1-AI-E3), plasmids, and strains used in *E. coli* experiments.

Supplementary Data 3. Oligonucleotide sequence for each primer.