# Supplementary information

# Figure legends

**Figure S1.** Purification by IMAC affinity chromatography under native condition of polyhistidine-tagged PhaCA-04 protein expressed from *E. coli* JM109 (pColdI-*phaCAB*A-04) and polyhistidine-tagged PhaCA-04 expressed from *E. coli* JM109 (pColdTF-*phaCAB*A-04). **(A)** under conventional method (37°C). **(B)** under short induction method (15°C for 30 min and then 37°C). The extracted protein was normalized to 2 mg and loaded on a Protino® Ni-IDA 1000 packed column. Ten microliters of each fraction eluted from the IMAC column were loaded onto 10% w/v acrylamide gel for SDS-PAGE and Western blot analysis. M: Protein molecular weight marker; Ly; Bacterial lysate, soluble proteins; FL: Flow-through lysate; W: Washed with 50 mM NaH2PO4, 300 mM NaCl, 20 mM imidazole and pH 8.0; E: Eluted with 50 mM NaH2PO4, 300 mM NaCl, 250 mM imidazole and pH 8.0. PhaCA-04 protein is indicated by an arrow. His-tagged phaCA-04 fusion protein was 67 kDa in size for pColdI-*phaCAB*A-04 and His-tagged phaCA-04 and TF was 115 kDa in size for pColdTF-*phaCAB*A-04. The soluble fractions were quantified by Bradford protein assay. All IMAC purifications were performed as *n* = 3 technical replicates, and the results are expressed as the mean values ± standard error (SE).