



Figure S1. Phylogenetic tree of PhaC subunits of class IV PHA synthases in the genus *Bacillus*. The tree was rooted using *Ralstonia eutropha* H16 PhaC as the outgroup, and constructed by the CLUSTAL W algorithm. The scale bar indicates 0.1 substitutions per amino acid position. An accession number is given for each sequence.

Table S1. Extracellular metabolites of *E. coli* JM109 harboring different copy number plasmid.

| Introduced plasmid  | Cultivation time (h) | Concentration in medium (g/L) <sup>a</sup> |             |             |             | pH of medium |
|---|----------------------|--|-------------|-------------|-------------|--------------|
|   |                      | Glucose                                    | Lactate     | Acetate     | Ethanol     |              |
| pGEM- <i>phaRC</i> <sub>YB4AB</sub><br>(high copy number) | 0                    | 20   | nd          | nd          | nd          | 7.33 ± 0.03  |
|   | 12                   | 5.58 ± 0.73                                | 0.36 ± 0.00 | 0.23 ± 0.03 | 0.50 ± 0.01 | 5.52 ± 0.06  |
|   | 24                   | nd   | nd          | nd          | 0.72 ± 0.05 | 7.84 ± 0.06  |
|   | 48                   | nd   | nd          | nd          | 0.46 ± 0.06 | 8.65 ± 0.06  |
|   | 72                   | nd   | nd          | nd          | 0.30 ± 0.09 | 8.63 ± 0.06  |
| pBBR1- <i>phaRC</i> <sub>YB4AB</sub><br>(low copy number) | 0                    | 20   | nd          | nd          | nd          | 7.29 ± 0.01  |
|   | 12                   | 9.83 ± 0.03                                | nd          | 0.51 ± 0.01 | 0.09 ± 0.01 | 5.12 ± 0.02  |
|   | 24                   | 8.21 ± 0.02                                | nd          | 1.24 ± 0.04 | 0.11 ± 0.01 | 4.83 ± 0.02  |
|   | 48                   | 7.20 ± 0.09                                | nd          | 1.50 ± 0.01 | 0.11 ± 0.01 | 4.74 ± 0.01  |
|   | 72                   | 7.15 ± 0.13                                | nd          | 1.48 ± 0.02 | 0.09 ± 0.02 | 4.74 ± 0.01  |

Cells were cultured in LB medium containing glucose (20 g/L) at 37 °C.

<sup>a</sup>Concentrations of metabolites except for ethanol were determined by HPLC analysis. Ethanol was determined using the F-kit (Roche Diagnostics).

Results are mean ± standard deviation from three separate experiments. nd: not detectable.