**Supplementary Table 2.** Validation of gene expression by qPCR (Wild type/ΔluxS).

| Function                  | Gene name     | log2FoldChange (RNAseq) | log2FoldChange (qPCR) | Significance |
|---------------------------|---------------|-------------------------|-----------------------|--------------|
|                           | HP1120        | 2.90                    | 1.89                  | TRUE         |
|                           | RpoN (HP0714) | 1.87                    | 1.22                  | TRUE         |
|                           | HP0755        | 1.76                    | 0.76                  | TRUE         |
|                           | PdxA (HP1583) | 1.57                    | 0.64                  | TRUE         |
|                           | HP1582        | 1.55                    | 0.64                  | TRUE         |
|                           | Pgi (HP1166)  | 1.33                    | 1.56                  | TRUE         |
|                           | HP1229        | 1.25                    | 0.79                  | TRUE         |
|                           | HP1036        | 1.24                    | 0.84                  | TRUE         |
|                           | HP0806        | 1.19                    | 0.58                  | TRUE         |
| Aromatic compound biosynthetic | TrpC (HP1279) | 1.15                    | 0.10                  | FALSE        |
|                           | HP1589        | 1.10                    | 0.42                  | TRUE         |
|                           | HP0483        | 1.08                    | 0.81                  | TRUE         |
|                           | HP0415        | 1.03                    | 0.58                  | TRUE         |
|                           | HP0454        | 1.01                    | 0.43                  | FALSE        |
|                           | HP0264        | 1.01                    | 1.09                  | TRUE         |
|                           | HP0250        | 0.99                    | 0.12                  | FALSE        |
|                           | HP0291        | 0.96                    | 0.19                  | FALSE        |
|                           | HP1231        | 0.88                    | 0.64                  | TRUE         |
|                           | HP0614        | 0.84                    | 0.36                  | FALSE        |
|                           | HP0792        | 0.80                    | -0.01                 | FALSE        |
|                           | HrcA (HP0111) | 0.79                    | 1.03                  | TRUE         |
|                           | ThiE (HP0843) | 0.76                    | 0.71                  | TRUE         |
|                           | HemE (HP0604) | 0.72                    | 0.17                  | FALSE        |
|                           | FlgK (HP1119) | 2.77                    | 1.22                  | TRUE         |
|                           | HP1000        | 1.58                    | 0.74                  | TRUE         |
|                           | HP0939        | 1.33                    | 0.97                  | TRUE         |
|                           | HP1283        | 1.09                    | 0.40                  | TRUE         |
|                           | HP0880        | 1.09                    | 0.49                  | TRUE         |
|                           | HP1010        | 1.02                    | 0.29                  | TRUE         |
|                           | HP0454        | 1.01                    | 0.43                  | FALSE        |
|                           | HP0264        | 1.01                    | 1.09                  | TRUE         |
|                           | HP0250        | 0.99                    | 0.12                  | FALSE        |
|                           | FlhB (HP0770) | 0.92                    | 0.69                  | TRUE         |
|                           | FlhA (HP1041) | 0.82                    | 0.54                  | FALSE        |
|                           | UreB (HP0072) | 1.37                    | 0.74                  | TRUE         |
|                           | TrpC (HP1279) | 1.15                    | 0.10                  | FALSE        |
|                           | InfB (HP1048) | 1.07                    | 1.18                  | TRUE         |
|                           | HP0653        | -2.07                   | -0.73                 | TRUE         |
|                           | FrdB (HP0191) | -1.39                   | -0.80                 | TRUE         |
|                           | UreB (HP0072) | 1.37                    | 0.74                  | TRUE         |
|                           | TrpC (HP1279) | 1.15                    | 0.10                  | FALSE        |
|                           | InfB (HP1048) | 1.07                    | 1.18                  | TRUE         |
|                           | HP0653        | -2.07                   | -0.73                 | TRUE         |
|                           | FrdB (HP0191) | -1.39                   | -0.80                 | TRUE         |
Student’s t-test was used to evaluate the statistical significance. True represents statistically significant with \( p \) value < 0.05, False represents statistically non-significant.

| Function                              | Gene name  | log_{2} Fold Change (RNAseq) | log_{2} Fold Change (qPCR) | Significance |
|---------------------------------------|------------|------------------------------|----------------------------|--------------|
| Oxidoreductase activity               | HP1461     | -1.29                        | -0.81                      | TRUE         |
|                                       | HP0133     | -1.02                        | -0.90                      | TRUE         |
|                                       | HP0389     | -1.10                        | -0.79                      | TRUE         |
|                                       | HP0096     | -1.04                        | -1.16                      | TRUE         |
|                                       | HP1295     | -0.95                        | -0.79                      | TRUE         |
|                                       | HP0633     | -0.94                        | -0.51                      | TRUE         |
|                                       | PorA (HP1110) | -0.82                    | -0.56                      | TRUE         |
|                                       | HP1380     | -0.80                        | -1.16                      | TRUE         |
|                                       | FbcH (HP1538) | -0.74                    | -0.43                      | TRUE         |
| Drug metabolic process                | HP0653     | -2.07                        | -0.73                      | TRUE         |
|                                       | TrmE (HP1452) | -1.37                    | -0.62                      | TRUE         |
|                                       | AtpC (HP1131) | -1.30                    | -1.46                      | TRUE         |
|                                       | HP1132     | -0.96                        | -1.39                      | TRUE         |
|                                       | HP1281     | -0.91                        | -1.19                      | TRUE         |
| Alpha-amino acid metabolic process    | HP0653     | -2.07                        | -0.73                      | TRUE         |
|                                       | HP0013     | -1.02                        | -0.90                      | TRUE         |
|                                       | HP1281     | -0.91                        | -1.19                      | TRUE         |
|                                       | HP1380     | -0.80                        | -1.16                      | TRUE         |
|                                       | HP0510     | -0.72                        | -0.44                      | TRUE         |
| ATP metabolic process                 | TrmE (HP1452) | -1.37                    | -0.62                      | TRUE         |
|                                       | AtpC (HP1131) | -1.30                    | -1.46                      | TRUE         |
|                                       | HP1132     | -0.96                        | -1.39                      | TRUE         |
| Flagellar related genes               | FlgL (HP0295) | 1.07                     | 0.74                       | TRUE         |
|                                       | FliS (HP0753) | 1.30                     | 1.18                       | TRUE         |
|                                       | FlaG (HP0751) | 2.37                     | 1.15                       | TRUE         |
|                                       | FlgK (HP1119) | 2.77                     | 1.22                       | TRUE         |
|                                       | FliD (HP0752) | 2.35                     | 0.97                       | TRUE         |
|                                       | MotA (HP0815) | 1.22                     | 0.74                       | TRUE         |
|                                       | MotB (HP0816) | 1.35                     | 0.76                       | TRUE         |
| Iron related cellular activity        | HP0631     | -1.16                        | -1.27                      | TRUE         |
|                                       | HP0632     | -1.04                        | -1.55                      | TRUE         |
|                                       | HP0635     | -1.04                        | -0.74                      | TRUE         |
|                                       | SodB (HP0389) | -1.10                    | -0.91                      | TRUE         |
| Multidrug efflux pump                 | HP1082     | 1.54                         | 0.89                       | TRUE         |
|                                       | HP0607     | 1.31                         | 1.40                       | TRUE         |