metabolites

# Highly efficient biotransformation and production of selenium nanoparticles and polysaccharides using potential probiotic *Bacillus subtilis* T5

**Supplementary Materials:**

**Table S1.** Color changes of isolates in LA broth containing different concentrations of selenite.

| Bacteria | 50 mM | 100 mM | 150 mM | 200 mM |
|---|---|---|---|---|
| *Bacillus licheniformis* ES-1 | +++ | ++ | - | - |
| *Bacillus tequilensis* ES-2 | ++ | - | - | - |
| *Lysinibacillus fusiformis* XF-1 | ++++ | ++++ | ++ | - |
| *Bacillus paralicheniformis* XF-4 | ++++ | +++ | ++ | - |
| *Bacillus subtilis* T5 | ++++ | ++++ | +++ | +++ |
| *Bacillus cereus* T4 | ++++ | +++ | + | - |
| *Bacillus pumilus* H4T-9 | +++ | ++ | - | - |

− normal; + slightly red; ++ orange; +++ red; ++++ crimson.

**Table S2.** Biochemical characteristics of strain T5 and *Bacillus subtilis*

| Characteristic | Strain T5 | *Bacillus subtilis* [1] |
|---|---|---|
| Oxidase | + | V |
| Voges–Proskauer test | — | — |
| Indole production | — | — |
| Gelatin liquefaction | V | + |
| Carbon sources utilization | — | — |
| D-xylose | — | — |
| L-arabinose | — | — |
| D-mannose | — | — |
| Sucrose | — | — |
| α-D-glucose | — | — |
| Lactose | — | — |
| Arginine decomposition | — | — |
| Lysine decomposition | — | — |
| Ornithine decomposition | — | — |

+ Positive; − Negative; V variable.

(**a**) (**b**)

**Figure S1.** Images of cultures of strain T5 grown. (**a**) In the absence; (**b**) In the presence of 200 mM selenite.

**References:**

1. N.R.K. J.G. Holt, P.H.A. Sneath, J.T. Staley, S.T. Williams, Bergey's Manual of Determinative Bacteriology. 9th ed, Baltimore: Williams and Wilkins, **1994**, pp. 255-60.