

## Supplementary Material

**Table S1 Information of reference Shiga toxin-producing *E. coli* genomes obtained from NCBI in this study.**

| Strain ID  | Serotype | Isolation Source | Isolation Country   | GenBank accession number |                    |
|------------|----------|------------------|---------------------|--------------------------|--------------------|
|            |          |                  |                     | Chromosome               | Plasmid            |
| 11368      | O26:H11  | Outbreak strain  | Japan               | AP010953                 | AP010954, AP010955 |
| FWSEC0003  | O45:H2   | Clinical strain  | Canada <sup>α</sup> | CP031916                 | CP031917, CP031918 |
| 2011C-4251 | O45:H2   | Clinical strain  | USA                 | CP027388                 | CP027389           |
| 12009      | O103:H2  | Clinical strain  | Japan               | AP010958                 | AP010959           |
| 2015C-3163 | O103:H2  | Clinical strain  | USA                 | CP027219                 | CP027220           |
| 2013C-4225 | O103:H11 | Clinical strain  | USA                 | CP027578                 | CP027578           |
| 2013C-3264 | O103:H25 | Outbreak strain  | USA                 | CP027544                 | CP027545           |
| 2011C-3493 | O104:H4  | Outbreak strain  | USA                 | CP00328                  | CP003290, CP003291 |
| 16-9255    | O121:H19 | Outbreak strain  | Canada <sup>β</sup> | CP022407                 | CP022408           |
| RM13514    | O145:H28 | Outbreak strain  | USA                 | CP006027                 | CP006028, CP006029 |
| Sakai      | O157:H7  | Outbreak strain  | Japan               | BA000007                 | AP018692, AB011548 |

<sup>α</sup> Strain FWSEC0003 was isolated from Halifax, Canada; <sup>β</sup> Strain 16-9255 was isolated from Saskatchewan, Canada.