

## Description of Additional Supplementary Files

### **Movie Legends**

**Supplementary Movie 1.** Visualization of GspD $\alpha$  on the E. coli inner membrane. IM, inner membrane; OM, outer membrane; PG, peptidoglycan.

**Supplementary Movie 2.** The symmetry release of GspD $\alpha$  and the movement of GspD $\alpha$  on the inner membrane. IM, inner membrane.