



**S9 Fig. Overexpression *ravS* (OE-*ravS*) but not *ravS*<sup>H500A</sup> rescues the swimming motility of the *ravR*<sup>ΔEAL</sup> mutant.** (a) Overexpression of *ravS* in bacterial cells. RavS was detected by Western blotting, RNAP was used as loading control. The experiment was repeated three times. (b–i) Phenotypic characterization of the effect of *ravS* overexpression. WT-EV (harboring a medium copy, broad-host pBBR1MCS2 vector), *ravR*<sup>ΔEAL</sup>Δ*ravS*-EV, *ravR*<sup>ΔEAL</sup>Δ*ravS*::OE-*ravS*, *ravR*<sup>ΔEAL</sup>Δ*ravS*::OE-*ravS*<sup>H500A</sup> strains of *X. campestris* pv. *campestris*. (b–c) Bacterial virulence. Bacterial strains were inoculated onto plant leaves of *Brassica oleraceae* cv Zhonggan 11. Lesion length was recorded 10 days after inoculation ( $n = 30$ ). (d) Production of extracellular polysaccharides (EPS). Bacterial strains were grown in TGM medium at 28 °C for 72 hours before EPS quantification, which was calculated as the dry weight of EPS vs. the dry weight of bacterial cells ( $n = 3$ ). (e) Swimming motility. Bacterial strains were inoculated in NYG plates containing 0.15% agar and grew under 28 °C for 28 h. Average diameters of the migration zones were measured ( $n = 10$ ). (f) Flagella of bacterial strains. Bacterial flagella were observed by transmission electron microscopy (TEM) after negative staining. Representative images of each strain are shown. Upper panel: bacteria population profile; Lower panel: a single bacterium. (g) Ratio of bacterial cells with flagella. For each strain, cells with flagella were counted ( $n = 100$ ). (h) Flagellar length of bacterial strains ( $n = 30$ ). (i) *fliC* mRNA level in bacterial strains. The amount of *fliC* mRNA was measured by qRT-PCR. Amplification of cDNA of tmRNA was used as internal control. In (c–e), (g–i), vertical bar indicates standard deviation; asterisk: significant difference, tested by Student's *t*-test ( $P \leq 0.05$ ) were measured. The experiment was repeated three times and a representative result is shown.