



S4 Fig. Epistasis analysis reveals that *ravS* is downstream of *ravA-ravR* in regulation.

Deletion of *ravS* or point mutation of the conserved phosphorylation site (*ravS*^{H500A}) suppresses the mutational effects of *ravA* or *ravR* deletions. Representative pictures of virulence (a) swimming ability (b) and flagella development (c) are shown.