



Figure S1. The four plasmids used in this study. **A)** The control plasmid contains the P_{SSEJ}/GFP and $P_{lac}/DsRed$ genetic circuits as well as chloramphenicol resistance and the ColE1 origin of replication. It was transformed into the Sal and S-Sal ($\Delta sipB$) strains. **B)** The motility induction plasmid contains all of the components of the control plasmid (panel A) in addition to an arabinose inducible $P_{BAD}/flhDC$ genetic circuit. This plasmid was transformed into the F-Sal and FS-Sal strains. **C)** The constitutive GFP control plasmid contains the P_{lac}/GFP genetic circuit, ampicillin resistance, and the ColE1 origin of replication. This plasmid was transformed into the control *Salmonella* and $\Delta flgE$ strains for measurement of cell invasion and intracellular growth. **D)** The motility induction, constitutive GFP plasmid contains all of the components of the constitutive GFP plasmid (panel C) in addition to an arabinose inducible $P_{BAD}/flhDC$ genetic circuit. This plasmid was transformed into the *Salmonella+pflhDC* and $\Delta flgE+pflhDC$ strains for measurement of cell invasion and intracellular growth.