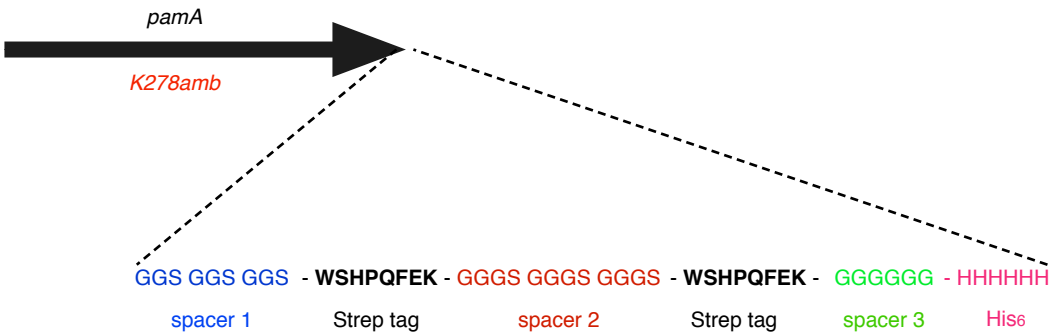
A



B

GGTATGGTTTCAGAGCCGCAG GGAGGATCAGGAGGATCAGGAGGATCA

pamA coding resion — spacer 1

TGGAGCCACCCGCAGTTCGAAAAA GGAGGAGGATCAGGAGGAGGATCAGGAGGAGGATCA **TGGAGCCACCCGCAGTTCGAAAAA**

Strep tag — spacer 2 — Strep tag

GGAGGAGGAGGAGGAGGA CACCACCACCACCACCAC **TAA** GGGTCAAATGCCGTC

spacer 3 — His tag — STOP — *pamA* downstream region