

Supplementary Figure 1: Dry powder formulations of PA-loaded polyanhydride nanoparticles were capable of preserving the activity of PA for two months when stored at 40, 25, 4, and -20°C. After two months of storage nanoparticle made of 20:80 and 50:50 CPTEG:CPH and 20:80 CPH:SA best preserved the functionality of PA under all conditions tested. The biological assay was performed by incubating 125 µg/mL nanoparticles with 0.3 µg/mL LF with RAW cells for 6 h. Error bars represent standard deviation of three replicates. Treatments with different letters are significantly different from one another at $p < 0.05$.

Supplementary Figure 2: PA activity was sensitive to high temperature when adsorbed to alum A) or in PBS buffer B) over incremental time points (7, 14, 28, 58, and 120 days). The biological assay was performed by incubating the storage groups (at a concentration of 0.1 µg/mL PA) with 0.3 µg/mL LF and RAW cells for 6 h. Error bars represent standard deviation of three replicates. Treatments with different letters are significantly different from one another at $p < 0.05$.