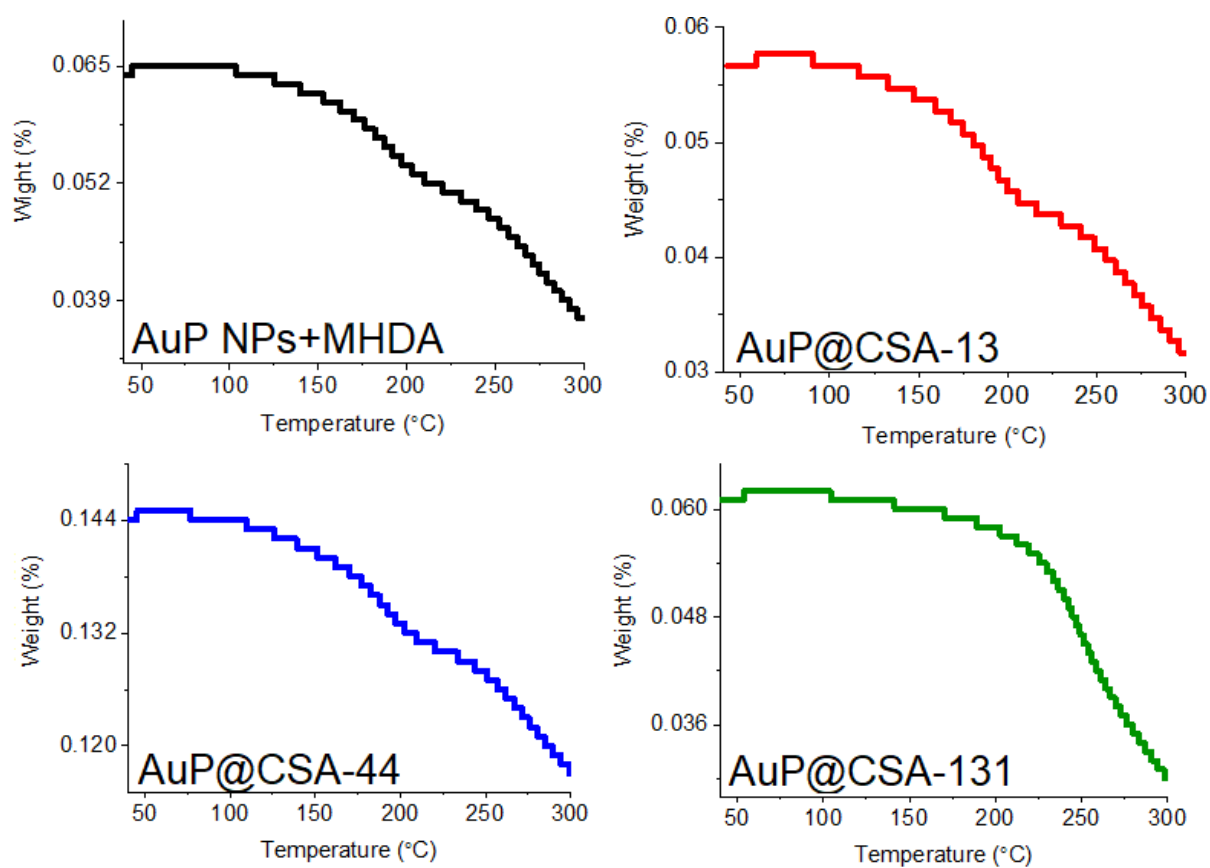
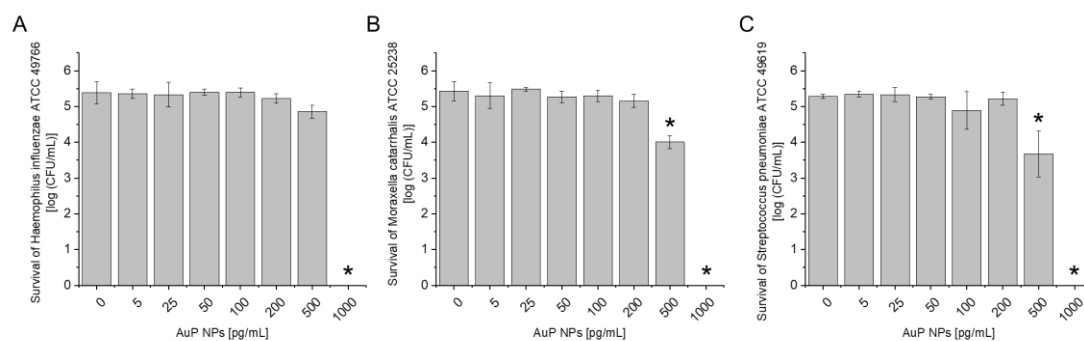


**Supplementary Figure 1.** FT-Raman spectra of MHDA (black curve, powder), AuP NPs after synthesis (pink curve, solution), CSA-13 (red curve, solution), CSA-44 (blue curve, solution) and CSA-131 (green curve, solution).



**Supplementary Figure 2.** TGA results of AuP NPs + MHDA (black curve), AuP@CSA-13 (red curve), AuP@CSA-44 (blue curve) and AuP@CSA-131 (green curve).



**Supplementary Figure 3.** Activity of peanut-shaped gold nanoparticles (AuP NPs) against *H. influenzae* ATCC 49766, *M. catarrhalis* ATCC 25238 and *S. pneumoniae* ATCC 49616.