

A novel nanozyme assay utilising the catalytic activity of silver nanoparticles and SERRS

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Supplementary information

Characterisation of Ag NP's

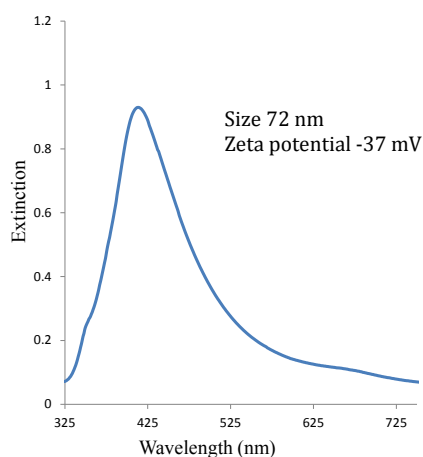
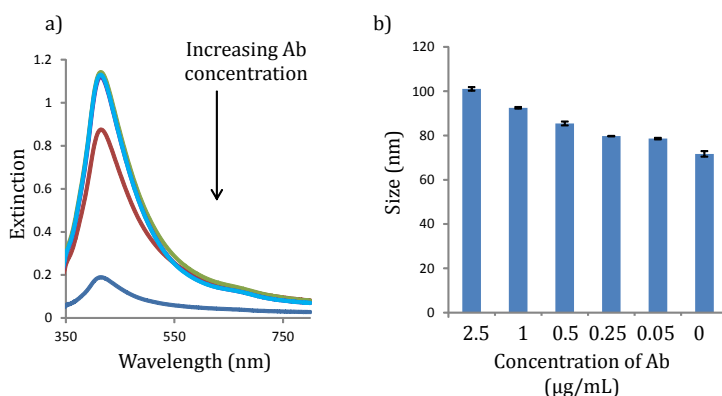


Figure S1 Extinction spectrum of citrate capped Ag NPs. Diluted 50 μL with 450 μL d.H₂O

The extinction spectrum confirms that the Ag NPs have a SPR of 410 nm with a narrow peak indicating the monodispersity of the NP. The concentration was calculated to be 0.8 nM.

Characterisation of Ag –Ab NP's



// **Figure S2** (a) Extinction spectra of Ag NPs with different concentrations of antibody physically conjugated to the surface (2.5 $\mu\text{g}/\text{mL}$ (dark blue), 1 $\mu\text{g}/\text{mL}$ (red), 0.5 $\mu\text{g}/\text{mL}$ (light blue), 0.25 $\mu\text{g}/\text{mL}$ (green) and 0.05 $\mu\text{g}/\text{mL}$ (purple). All samples dilute 50 μL with 450 μL d.H₂O. (b) Size of corresponding Ab-Ab NP conjugates

The extinction spectra shows a shift in SPR and a peak broadening indicating the NP have increases in size due to the successful functionalisation of the antibodies to the Ag surface. However at higher concentrations the

Ag NPs SPR peak drops as the NP become unstable as too many antibodies have been functionalised to the surface causing them to aggregate. This is also evident by the DLS data which indicates an increase in size at higher concentration of antibody.