## Supplementary information



Figure S1. XRD pattern of GNS (20 mM gold) nanoparticles.



Figure S2. XPS C1s (a) and N1s (b) core level spectra of gelatin, silica nanoparticles and NPG nanoparticles.



Figure S3. TEM image of gold coating on NPSiGel without PVP (20 mM gold concentration).