Supporting Information:

Gold nanoparticle wires for sensing DNAs and DNA/protein interaction

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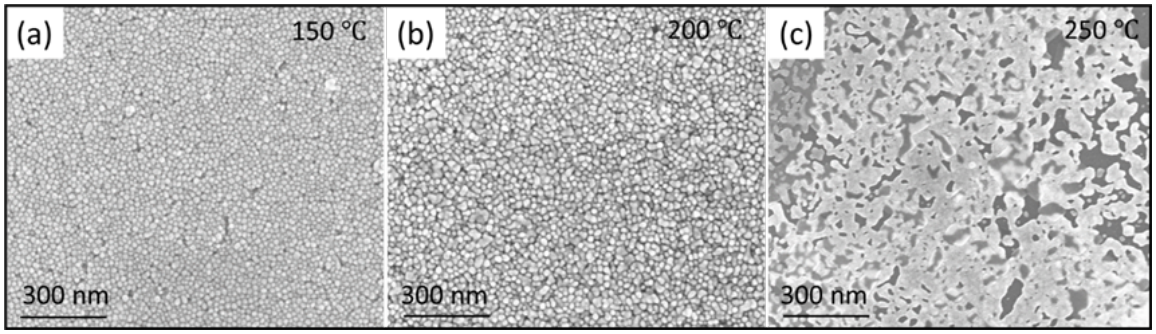

Fig. S1 SEM images of 27 nm GNPWs with different anneal temperatures. For the three tested temperatures shown here (150^{o}C, 200^{o}C, 250^{o}C), 150^{o}C is optimal for creating compacted structure and maintaining the size of individual nanoparticles. The anneal temperature for 14 nm GNPWs was reduced to 120^{o}C, while 170^{o}C was used for 37 nm GNPWs.

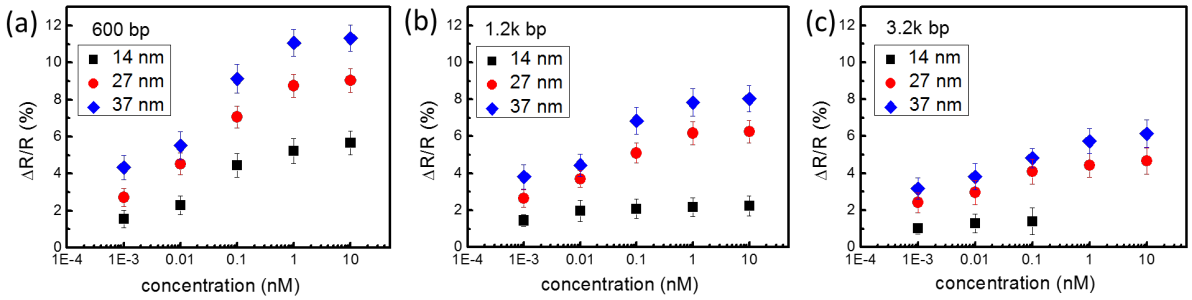

Fig. S2 (a), (b), and (c) are re-plotting for different dsDNA lengths corresponding to different gold nanoparticle wires (14, 27, and 37 nm). Three DNA lengths gave different ΔR/R variation values, shorter DNA length gave larger ΔR/R value.