

Figure S1. Schematic diagram of the surface plasmon resonance setup.

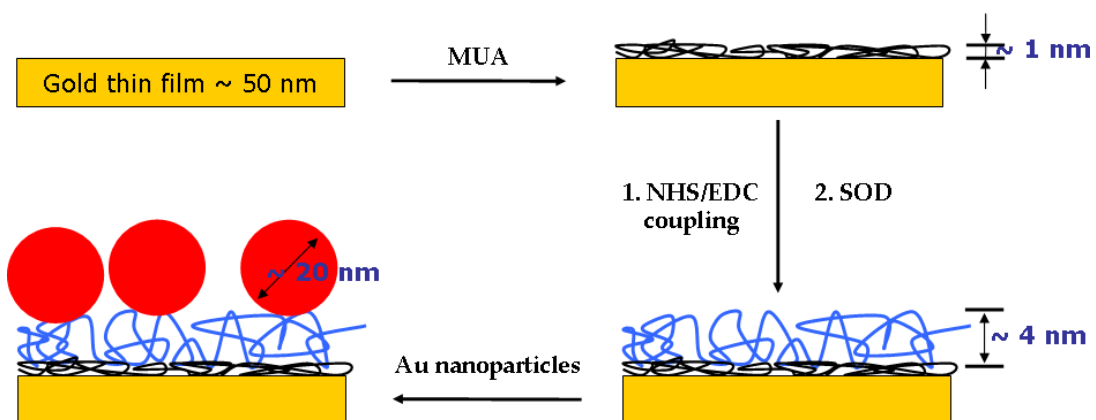


Figure S2. Schematic illustration of the binding reactions that occur, including the self-assembly of MUA, the formation of an NHS ester, SOD1 immobilization, and the attachment of Au nanoparticles (AuNP).

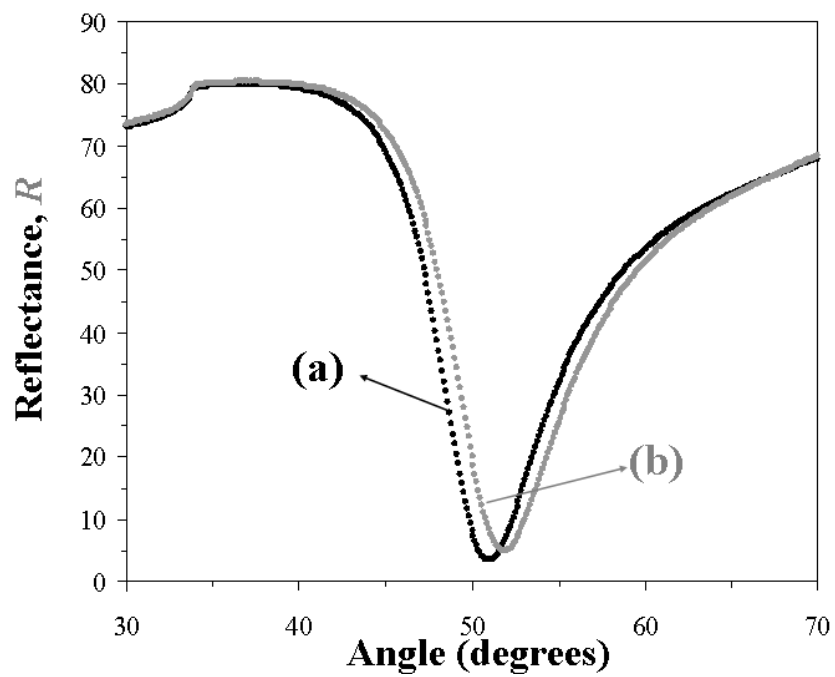


Figure S3. Incident angle dependent SPR contour plots obtained for the MUA-Au surface, after the immobilization of SOD1, using an ambient dielectric of a 25 mM PBS buffer. For each graph, every fourth point for the raw data collected is plotted to preserve the clarity of the contour plot.

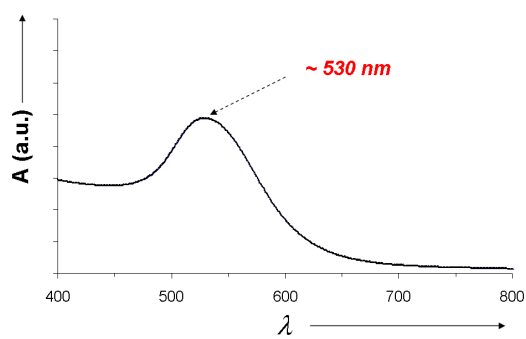
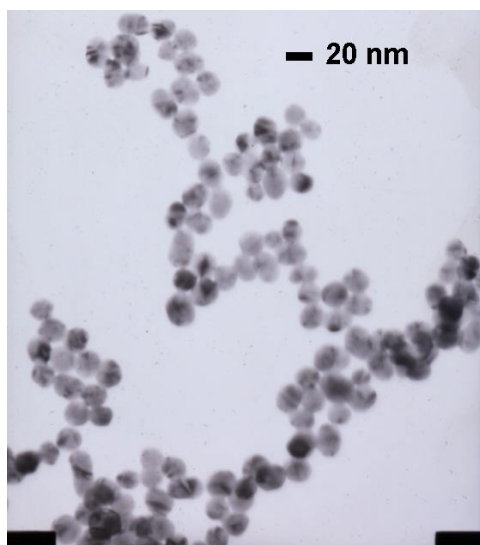


Figure S4. TEM image of as-synthesized Au nanoparticles and the corresponding UV-vis absorption spectrum.

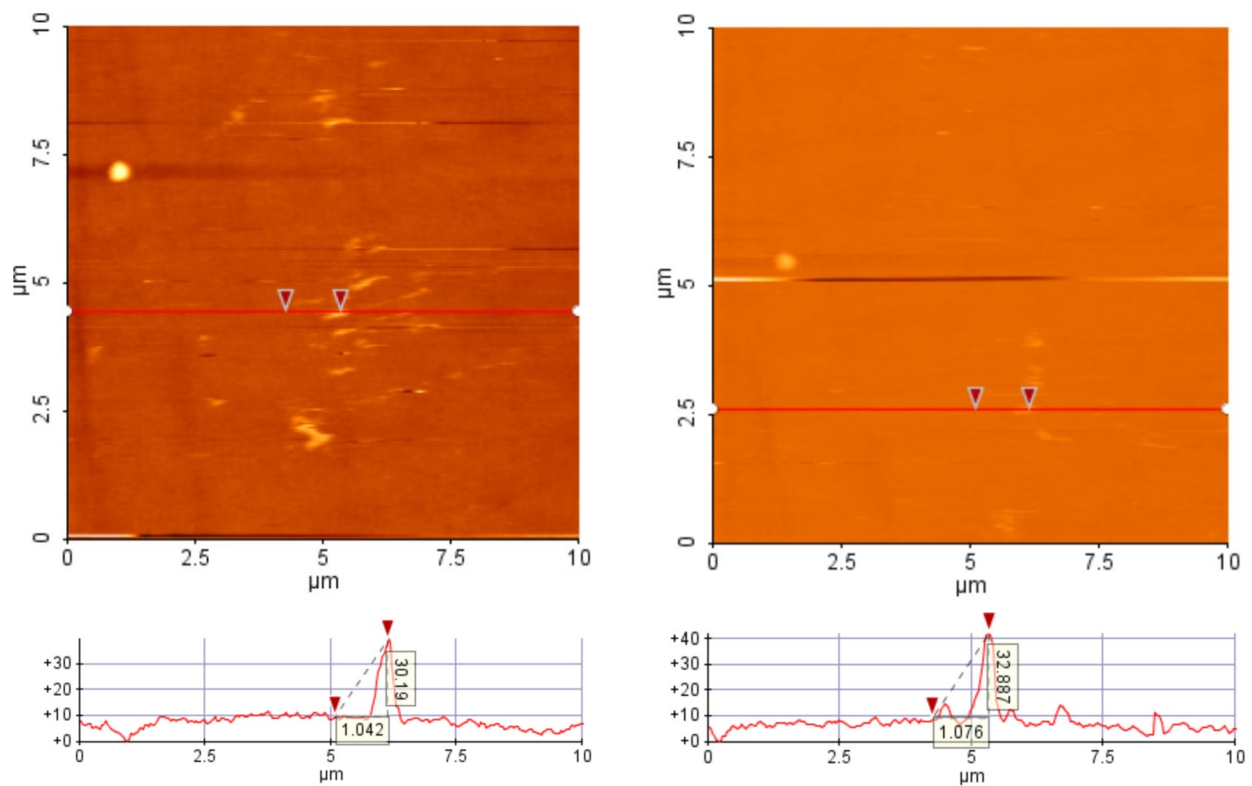


Figure S5. Top: Topographical liquid-AFM images of the surface of AuNP/SOD1/Au before (pH 7) and after exposure to a pH 2.5 solution. Bottom: Corresponding typical linear scans in the scan direction (the same location).

