

Electronic Supplementary Information

TEMPO coated Au nanoparticles: synthesis and tethering to gold surfaces

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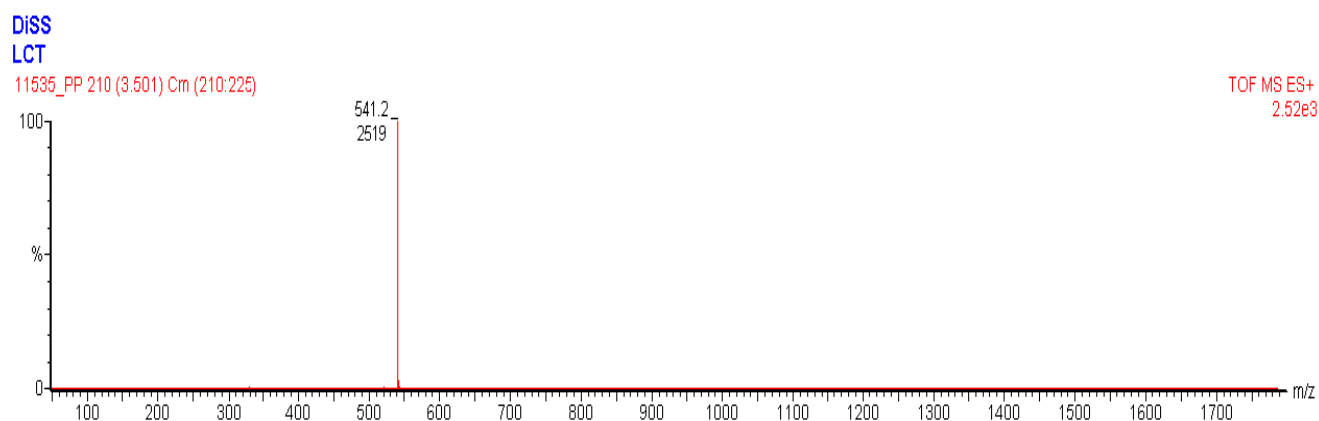


Figure S1. ESI-MS spectrum of bisnitroxide disulfide (DiSS) as a sodium ion $[M + Na]^+$.

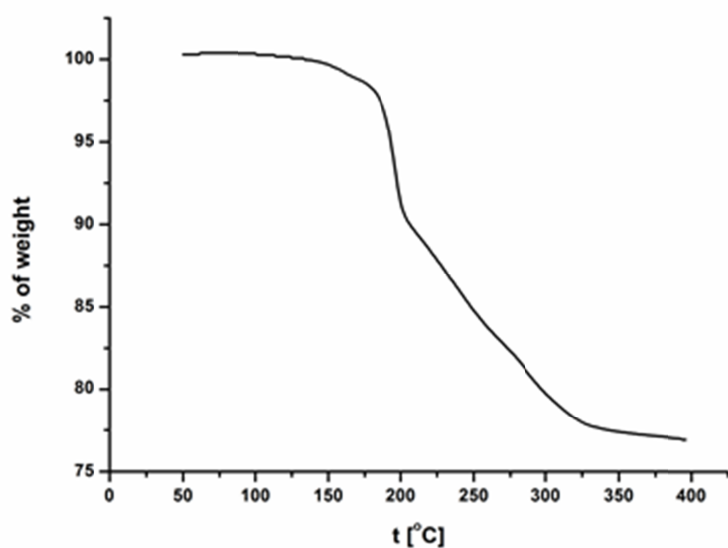


Figure S2. Results of TG analysis obtained for the synthesized AuNPs.

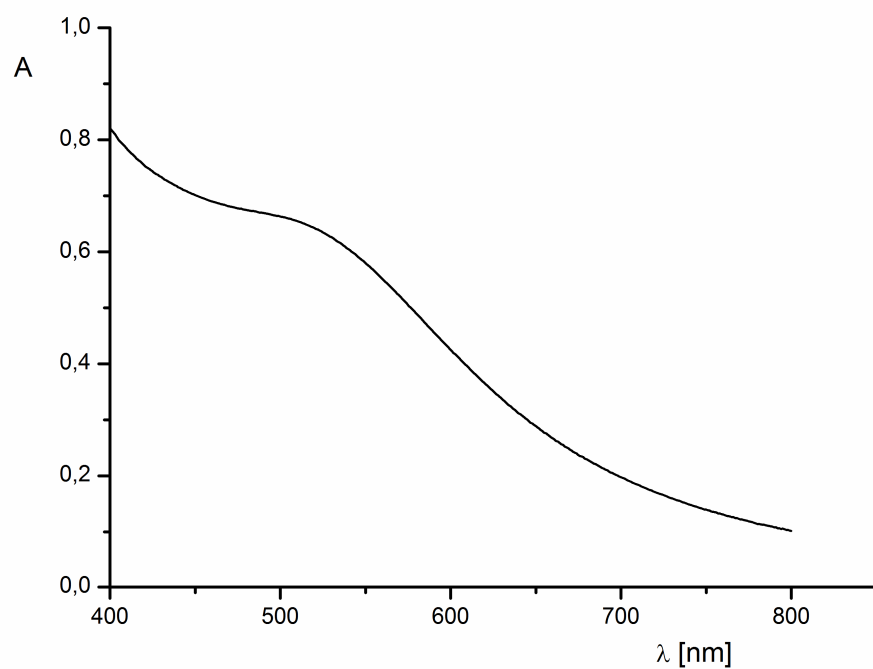


Figure S3. The UV-Vis spectrum of the synthesized AuNPs in THF solution.

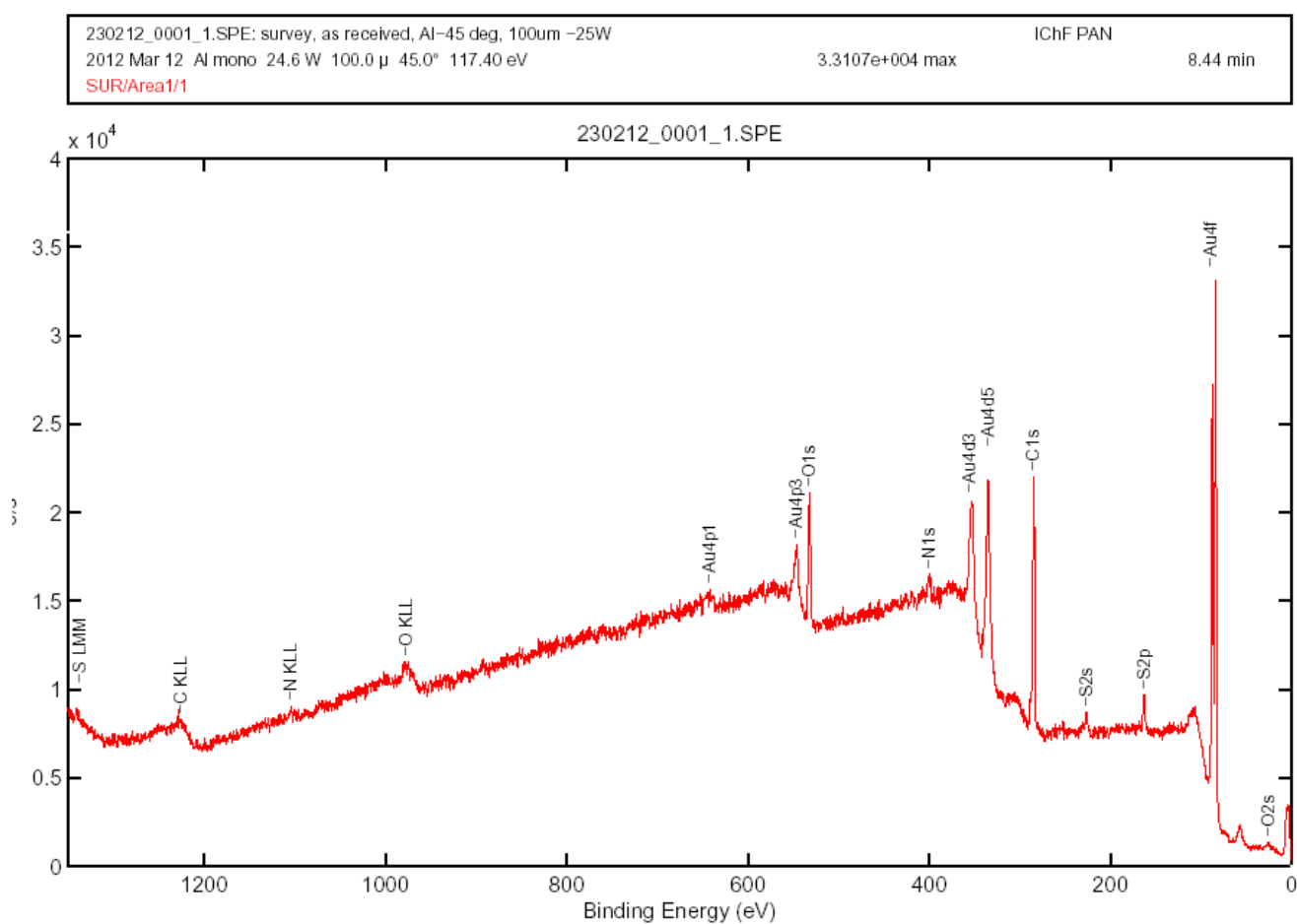


Figure S4. XPS survey spectra of the synthesized AuNPs.

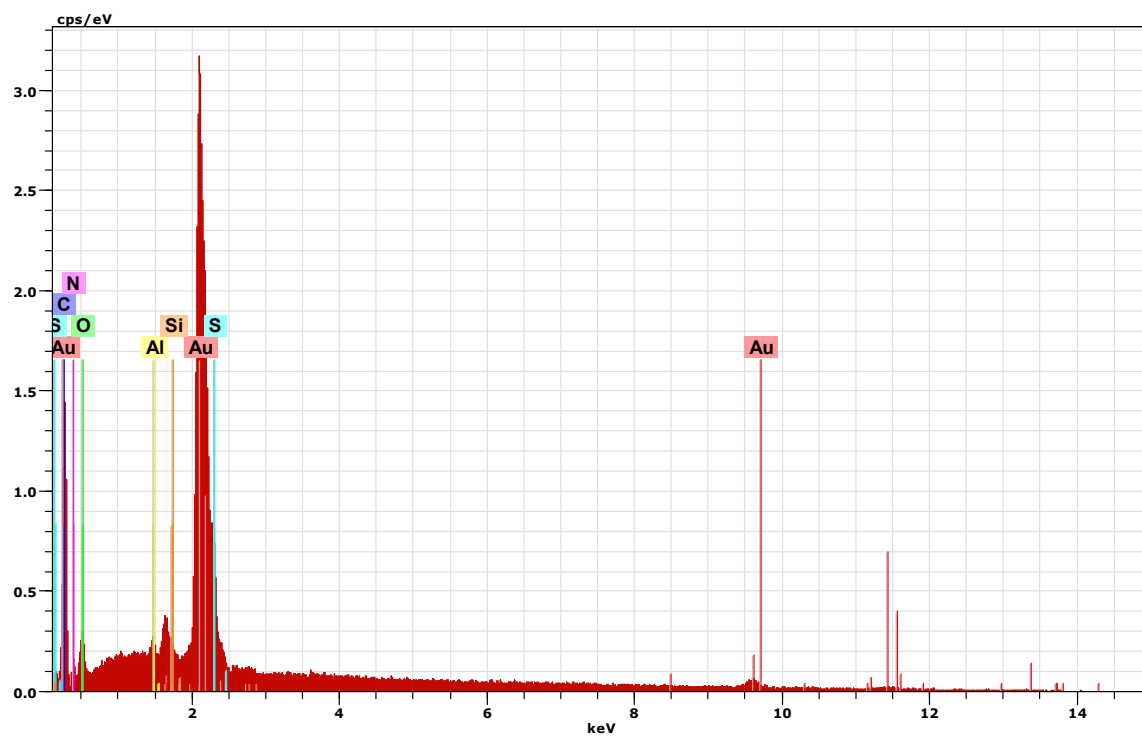


Figure S5. EDS spectrum of the synthesized AuNPs.

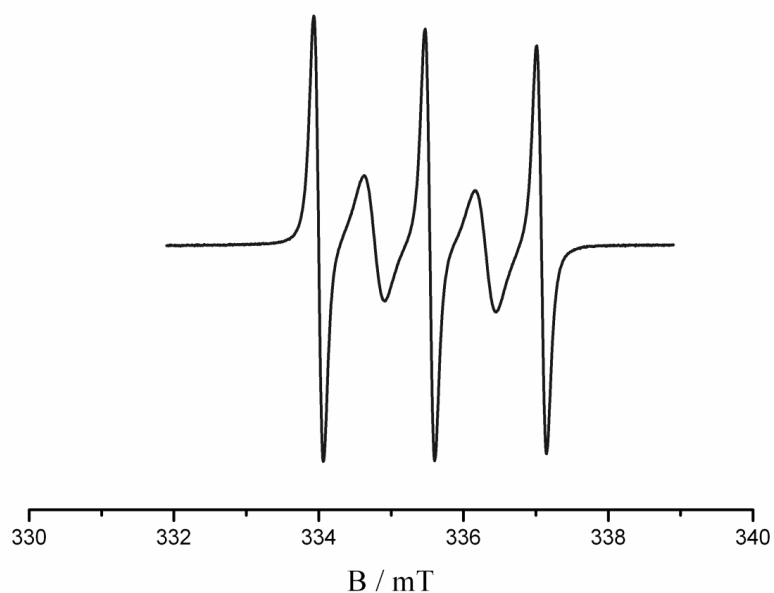


Figure S6. EPR spectrum of DiSS (see Scheme 2) in toluene solution.

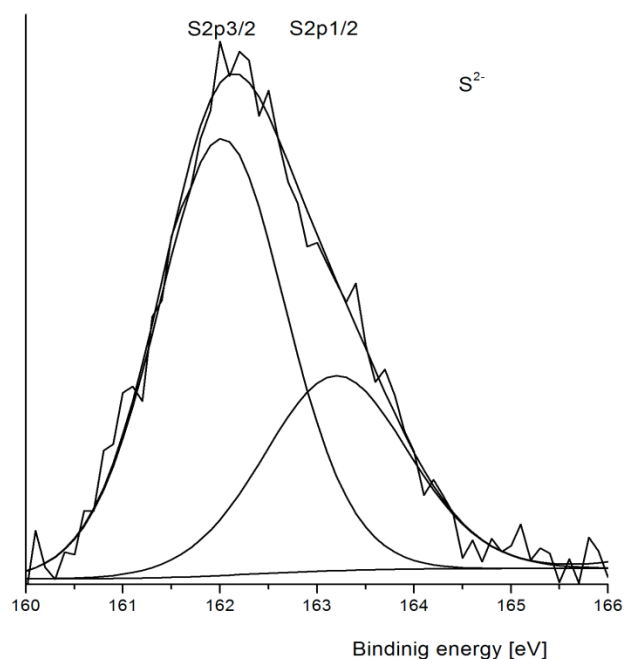


Figure S7. XPS spectrum of the S2p electrons for the synthesized AuNPs (162.4 eV and 163.5 eV corresponding to sulfur atoms bound on the surface of gold nanoparticles)

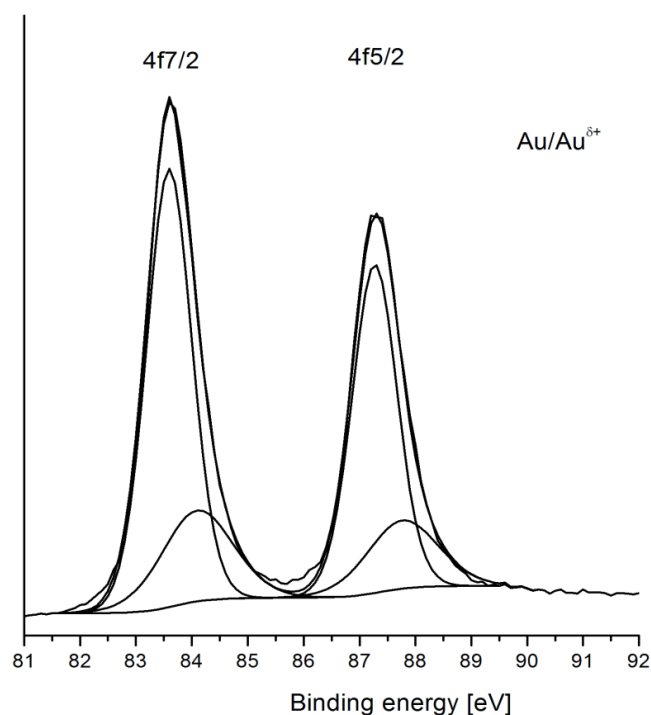


Figure S8. XPS spectrum of the Au4f electrons for the synthesized AuNPs deconvoluted into the following signals: 83.9 eV (corresponding to the: metallic gold (75 % of gold atoms) for

4f7/2), 87.6 eV (for 4f5/2), 84.4 eV (for 4f7/2) and 88.1 eV (for 4f5/2) corresponding to partially oxidized gold).

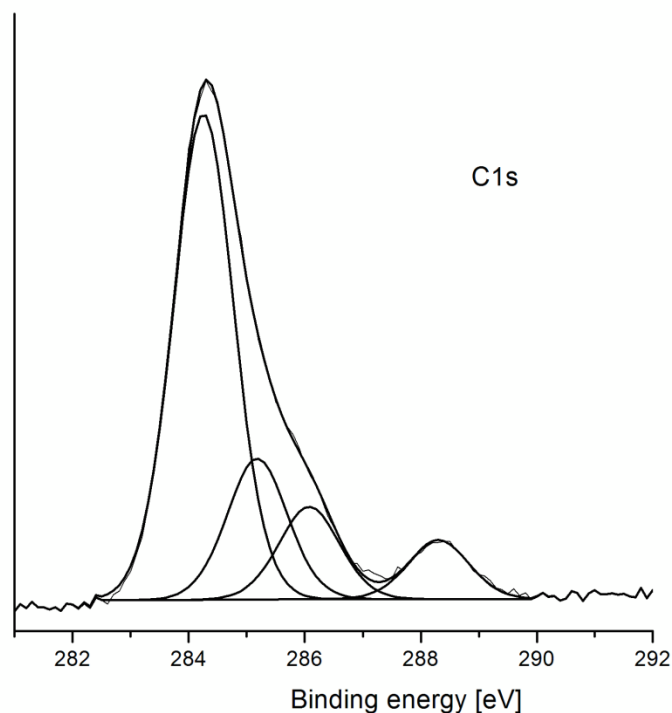


Figure S9. XPS spectrum of the C1s electrons for the synthesized AuNPs (deconvoluted into the following signals: 284.6 eV corresponding to CH_n ; 285.5 eV corresponding to C-COO- , 286.4 eV corresponding to C-O , 288.6 eV corresponding to C=O).

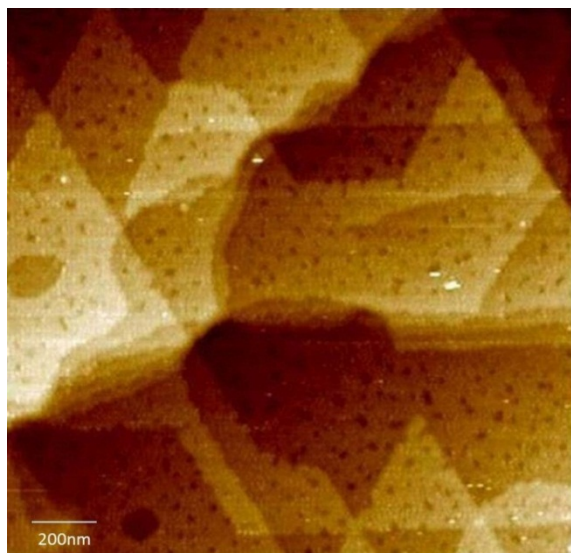


Figure S10. STM image of TEMPO derivative monolayer self-assembled from 5mM solution of acetonitrile. Deposition time 18 h.

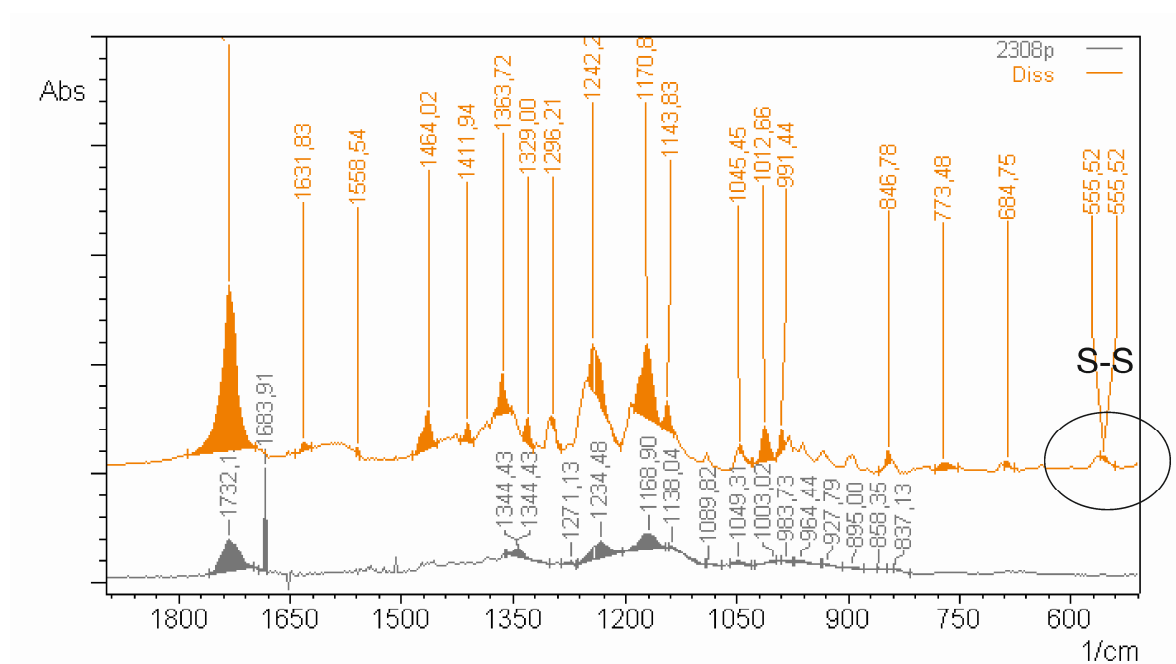


Figure S11. FTIR spectra (in KBr pellets) of DiSS (spectrum above) and the synthesized gold nanoparticles (spectrum below). The characteristic weak peak related to disulfide bond in DiSS disappears in the spectrum of nanoparticles.