Electronic Supporting Information (ESI) available:

Au(I) *N*-heterocyclic carbenes from bis-imidazolium amphiphiles: synthesis, cytotoxicity and incorporation onto gold nanoparticles

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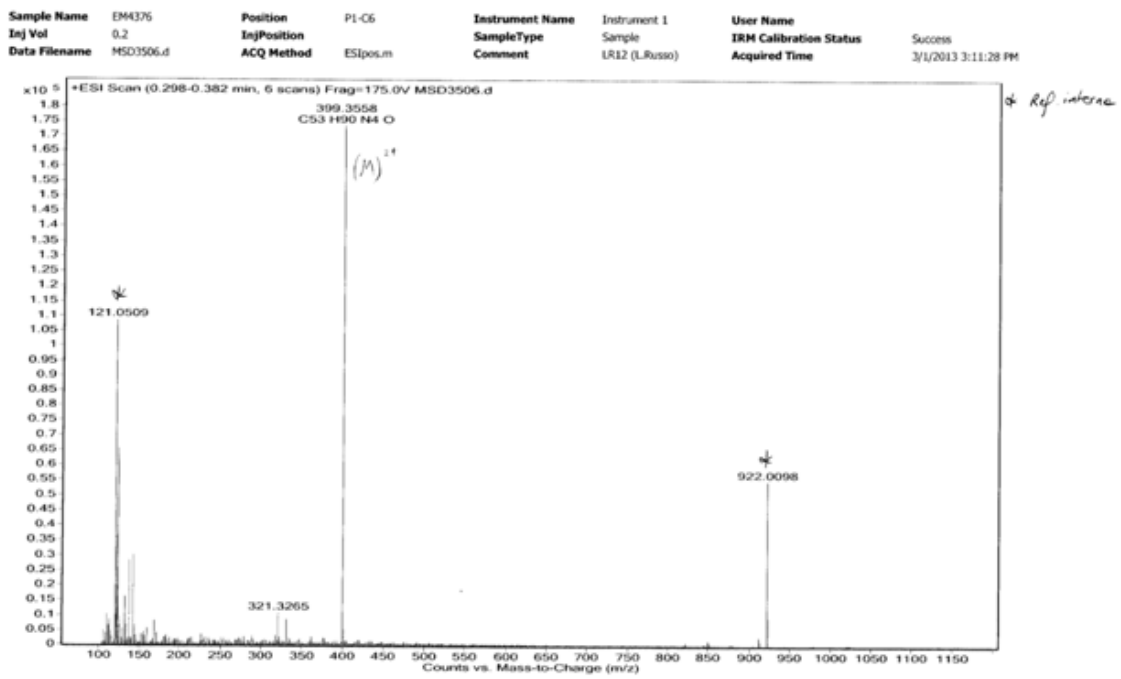

Figure S1: ESI-MS spectrum of **2**

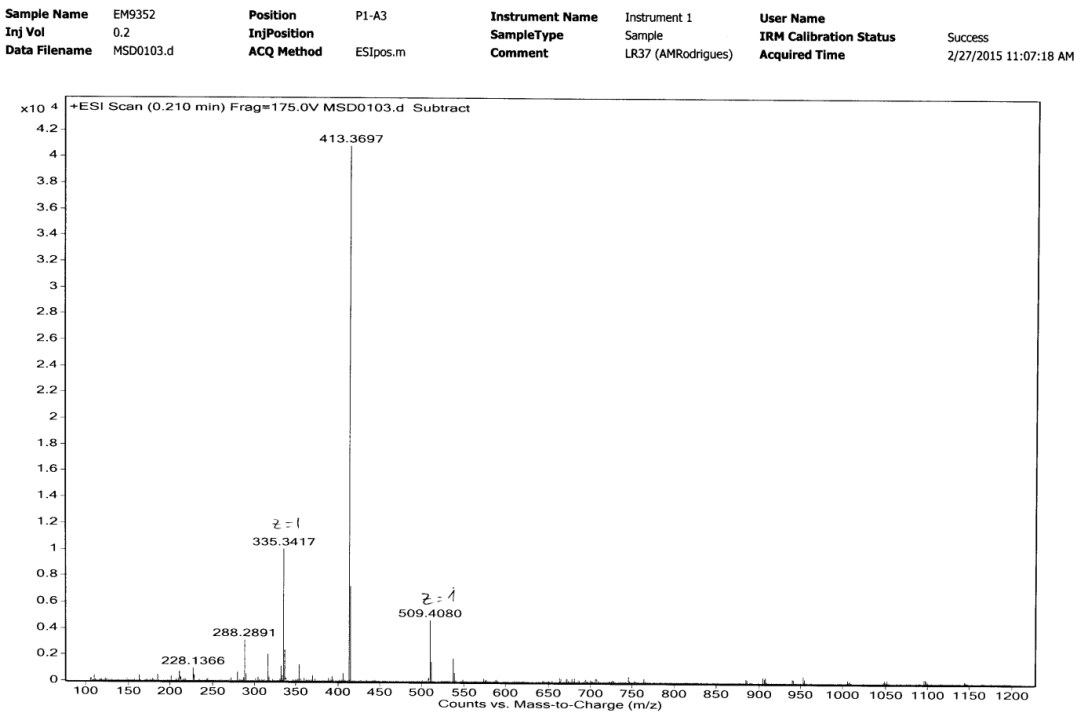

Figure S2: ESI-MS spectrum of **3**.

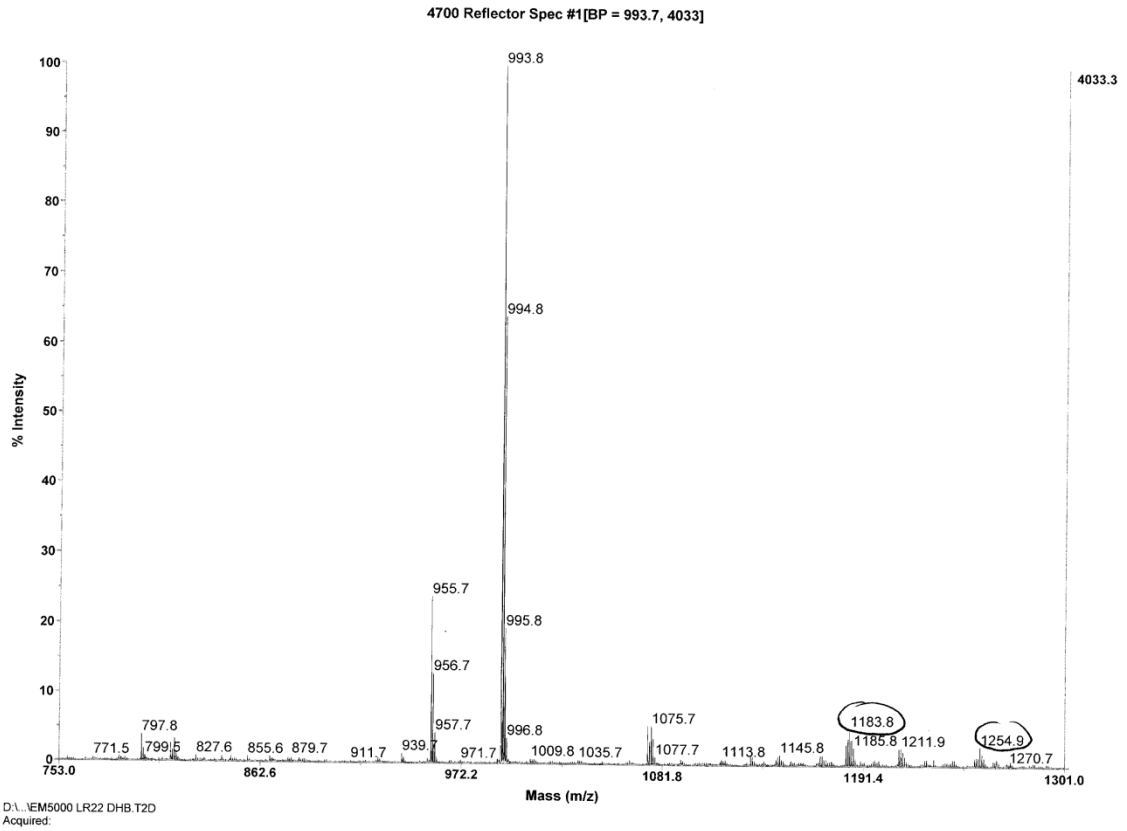

Figure S3 – MALDI-TOF MS spectrum of **4** with DHB as matrix.

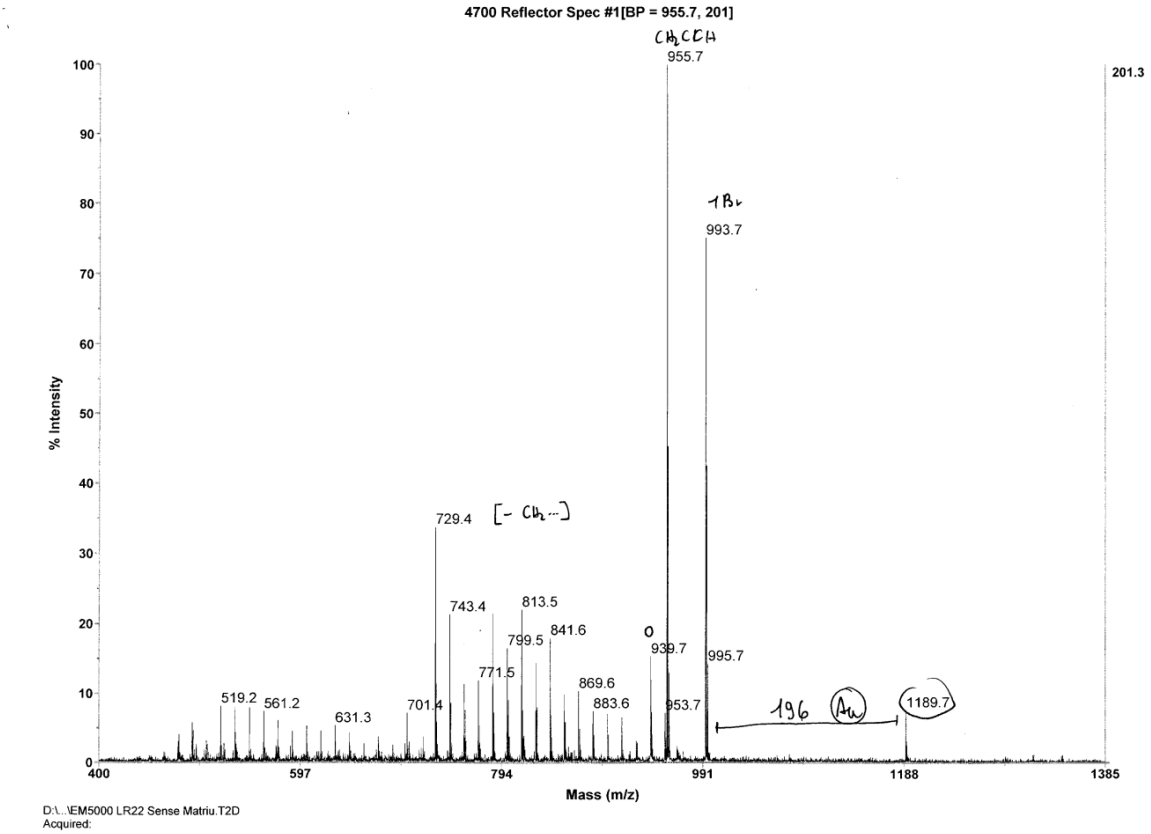

Figure S4 - MALDI-TOF MS spectrum of **4** with no matrix.

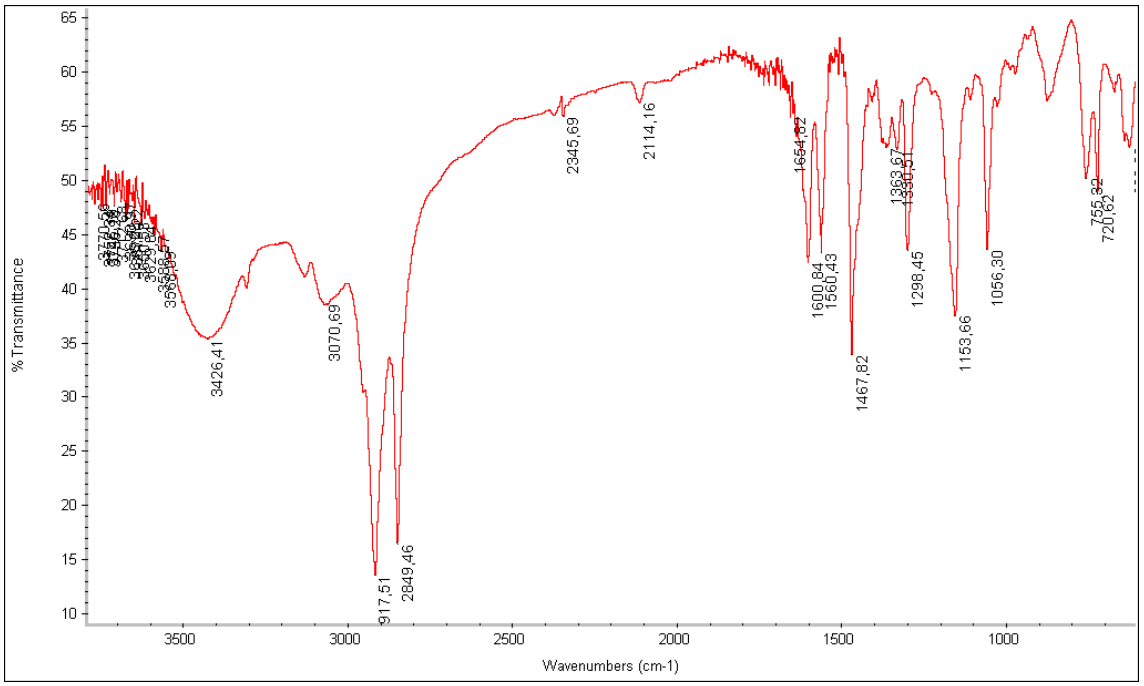

Figure S5 – IR spectrum of **2**.

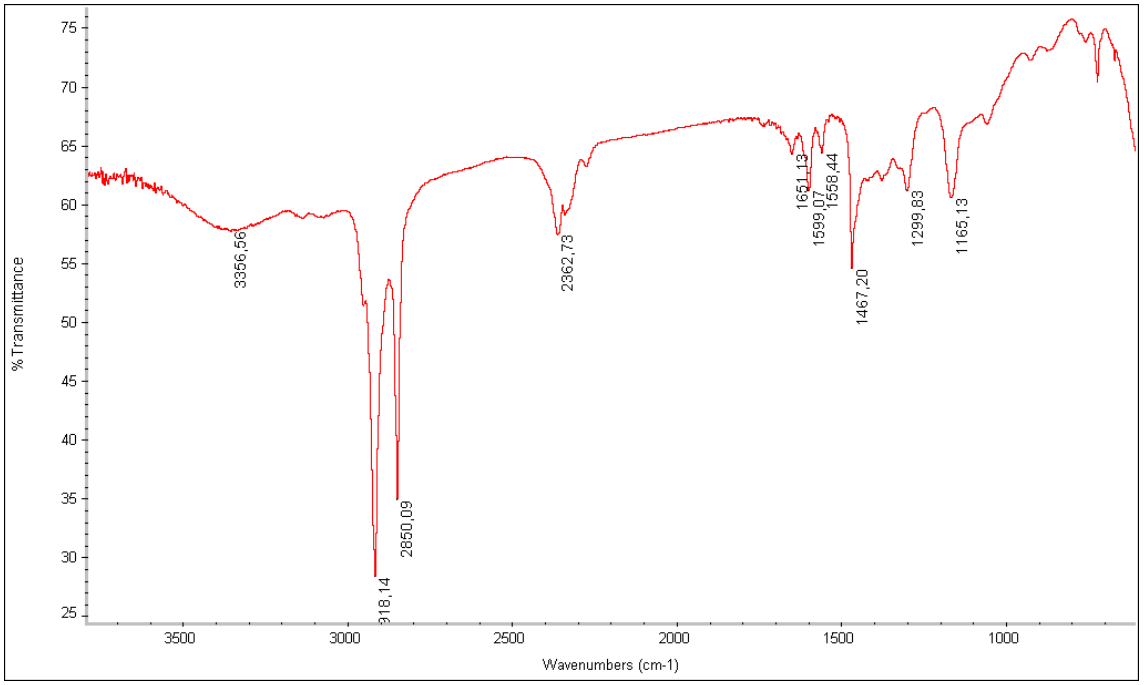

Figure S6 - IR spectrum of **2·AuNP**.

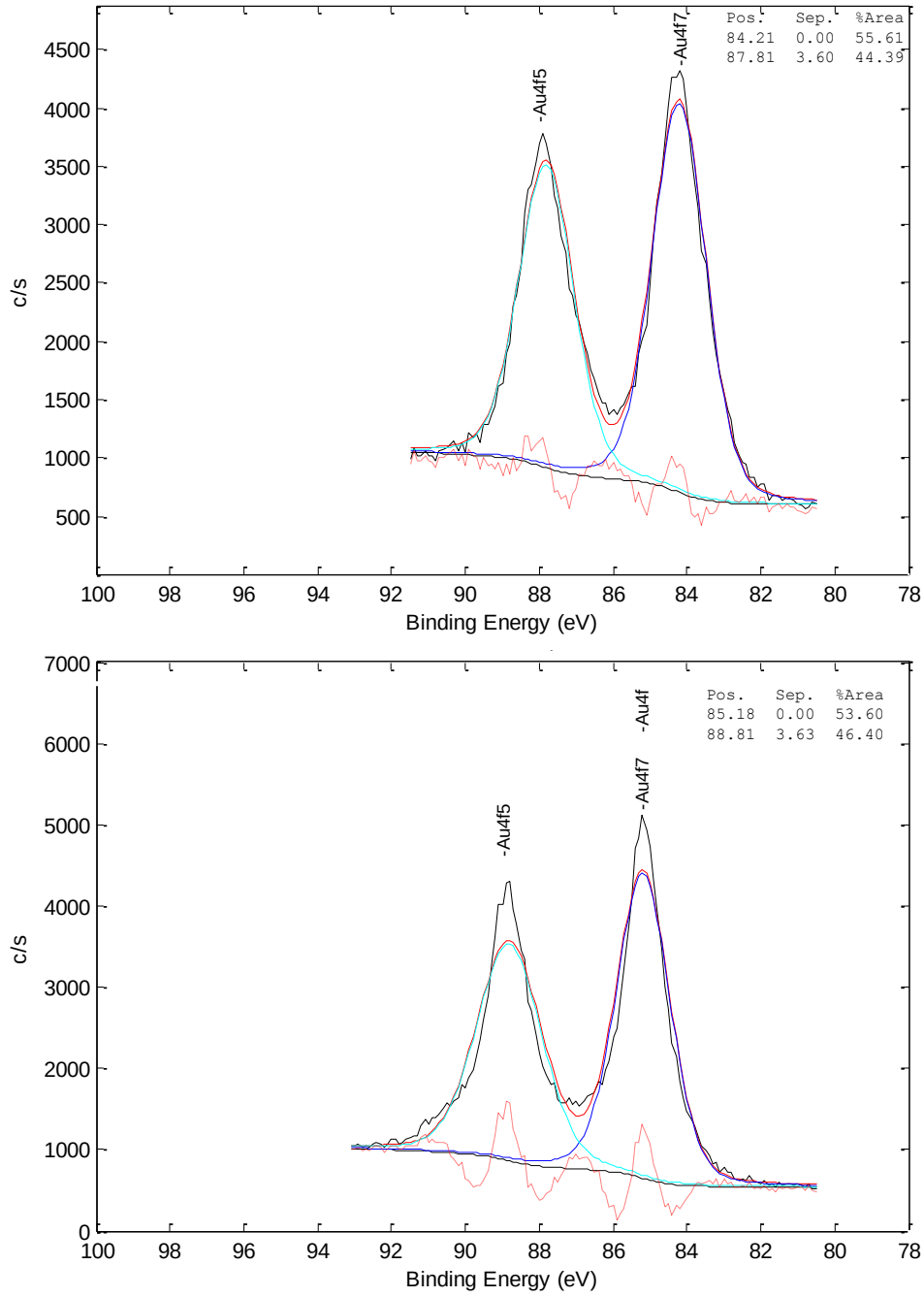

Figure S7: XPS spectrum, with curve fit, of **2·AuNP** (top) and **3·AuNP** (bottom) showing the Au $4f_{7/2}$ and $4f_{5/2}$ peaks with binding energies of 84.2 eV and 87.8 eV (**2·AuNP)**, and 85.2 and 88.8 eV (**3·AuNP**) respectively.

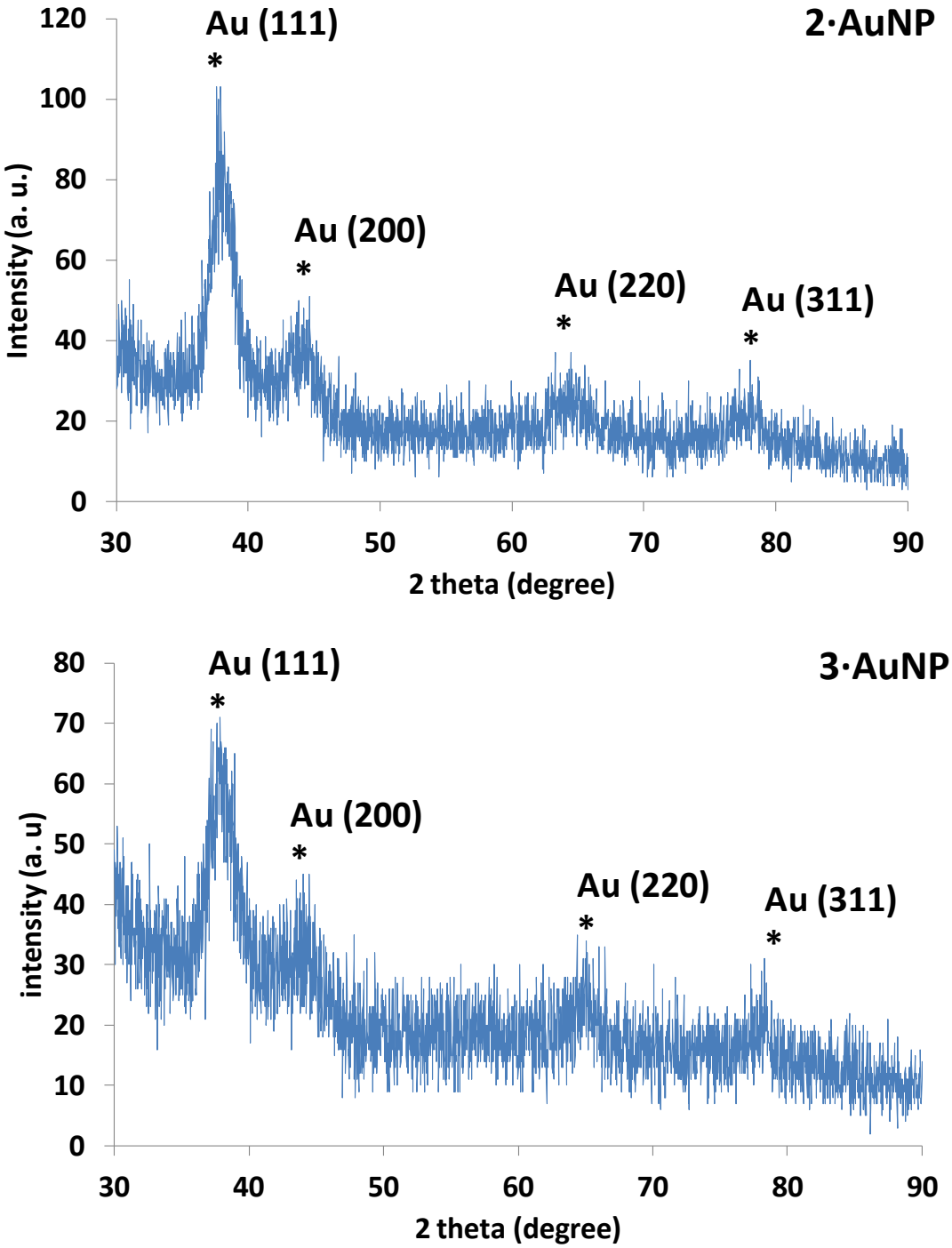

Figure S8: XRD of **2·AuNP** (top) and **3·AuNP** (bottom) showing the Bragg peaks at 37°, 44°, 65° and 78°, corresponding to (111), (200), (220) and (311) planes respectively.

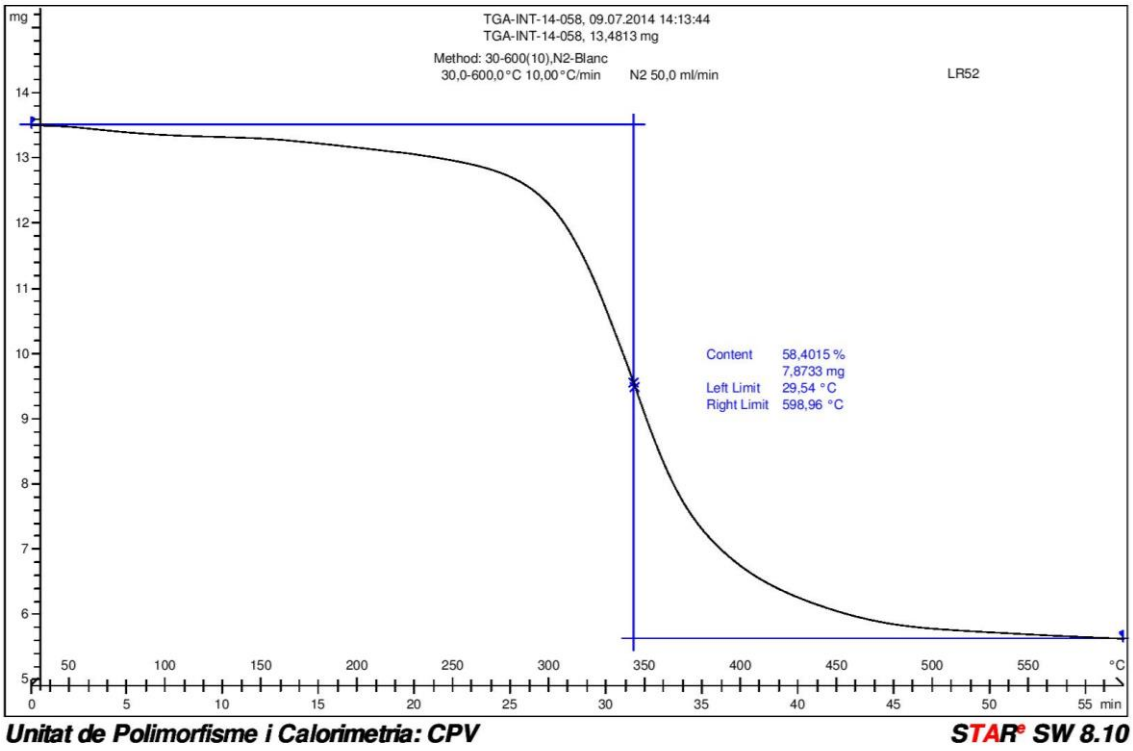

Figure S9 – Thermogravimetric analysis curve of **2·AuNP**.

Table S1

Thermogravimetry results and calculations of amount of ligand per NP and per area of NP surface based on the ratio of ligand to gold present in the GNP and their gold core size obtained by TEM.

Sample	Total mass (mg)	Ligand mass (mg)	Ligand:Au (mmol)	Average diameter (nm)	Moles Au/NP	Ligand/NP	**Ligand/nm^2**
2·AuNP	13.4813	7.8733	0.34599	7.0	1.7597×10^{-20}	3653	**23.73**