nanomaterials

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Supplementary Information

Single Step Laser-Induced Deposition of Plasmonic Au, Ag, Pt Mono-, Bi- and Tri-Metallic Nanoparticles

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Table S1. Concentrations (mM) of metal precursors in solutions used for LID.

Metal system	Solvent → / Precursor ↓	H_2O	CH_3OH
		Concentration, mM	
Ag	$C_7H_5AgO_2$	5.8	—
	CH_3COOAg	—	7.0
Au	$H[AuCl_4]\cdot nH_2O$	11.6	—
	$C_6H_9AuO_6$	—	7.5
Pt	$Pt(NH_3)_4(OH)_2\cdot xH_2O$	5.3	—
Ag-Au	$C_7H_5AgO_2$ + $H[AuCl_4]\cdot nH_2O$	0.7 + 14.5	—
	CH_3COOAg + $C_6H_9AuO_6$	—	3.5 + 3.7
Ag-Pt	$C_7H_5AgO_2$ + $Pt(NH_3)_4(OH)_2\cdot xH_2O$	1.1 + 2.2	—
Au-Pt	$H[AuCl_4]\cdot nH_2O$ + $Pt(NH_3)_4(OH)_2\cdot xH_2O$	8.8 + 0.6	—
Ag-Au-Pt	$C_7H_5AgO_2$ + $H[AuCl_4]\cdot nH_2O$ + $Pt(NH_3)_4(OH)_2\cdot xH_2O$	1.7 + 0.15 + 1.0	—

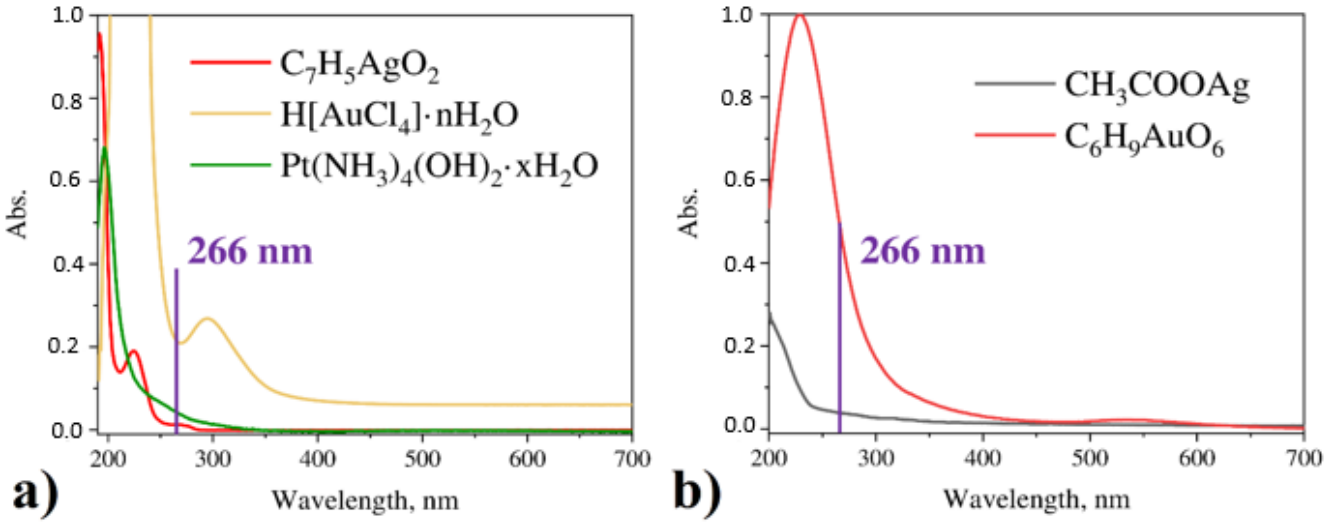

Figure S1. Absorption spectra of complexes solutions (**a**) in water and (**b**) in methanol.

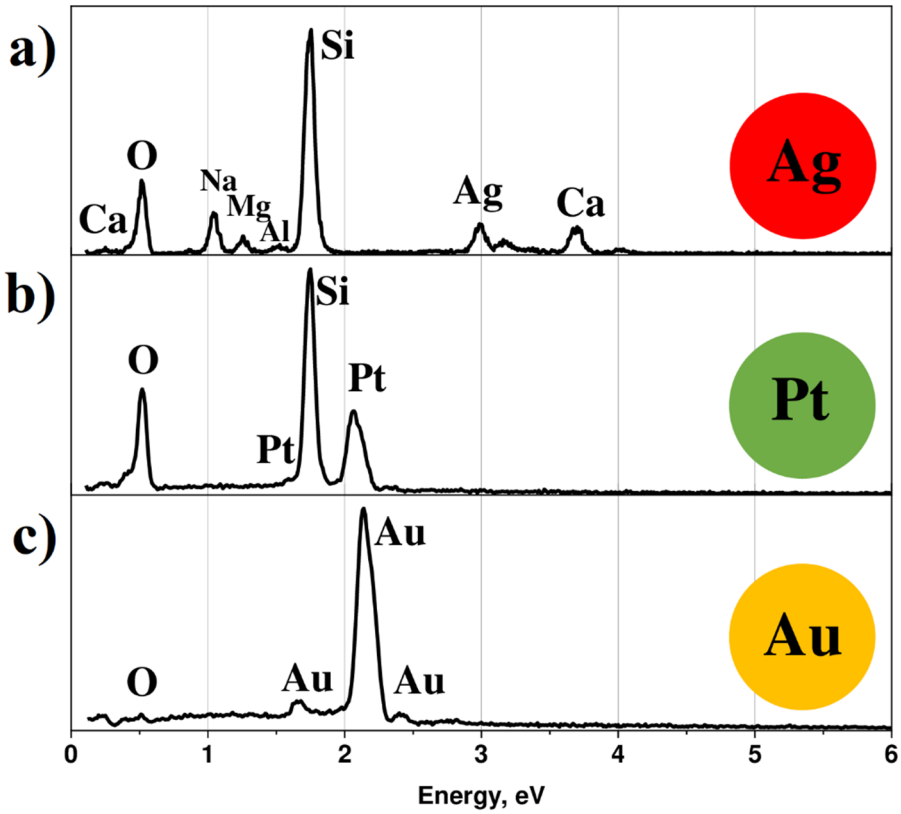

Figure S2. EDX spectrum for single NPs systems from water solutions: (**a**) $C_7H_5AgO_2$; (**b**) $Pt(NH_3)_4(OH)_2\cdot xH_2O$; (**c**) $H[AuCl_4]\cdot nH_2O$.

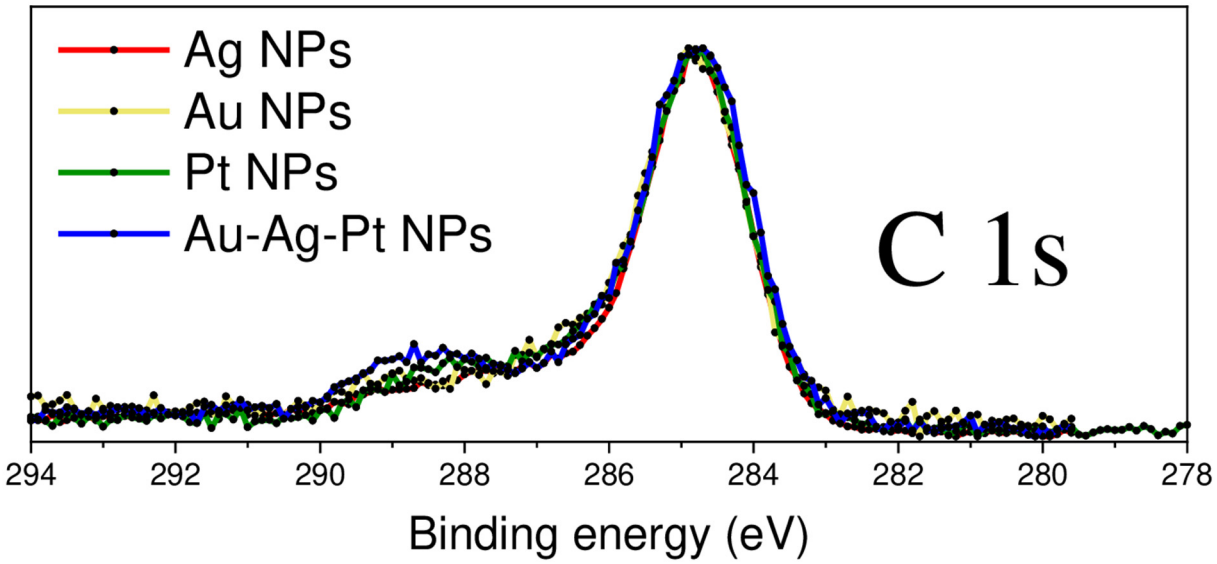

Figure S3. C1s XPS spectra for single (Pt, Ag and Au) and triple (Pt-Ag-Au) systems from water solutions $C_7H_5AgO_2$ + $Pt(NH_3)_4(OH)_2 \cdot xH_2O$ + $H[AuCl_4] \cdot nH_2O$ in H_2O.

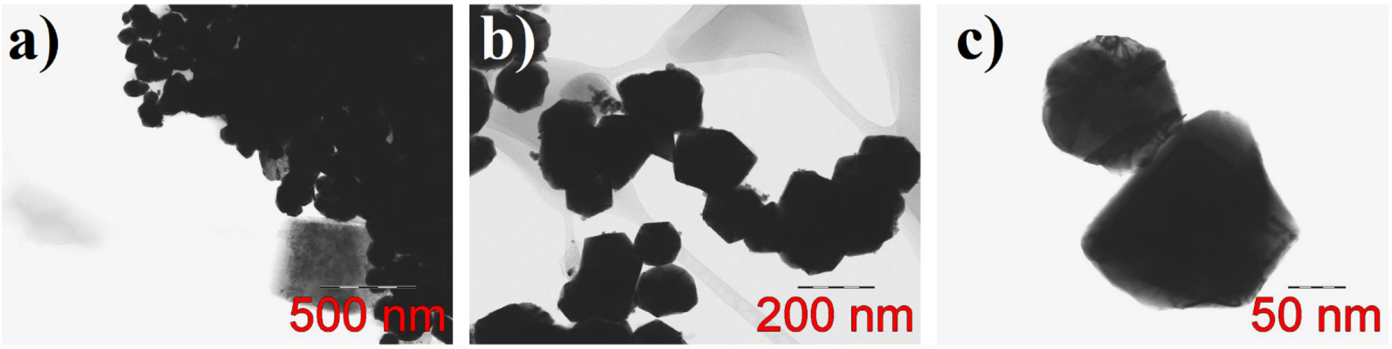

Figure S4. STEM images with different resolutions (**a**–**c**) for monometallic Au particles.

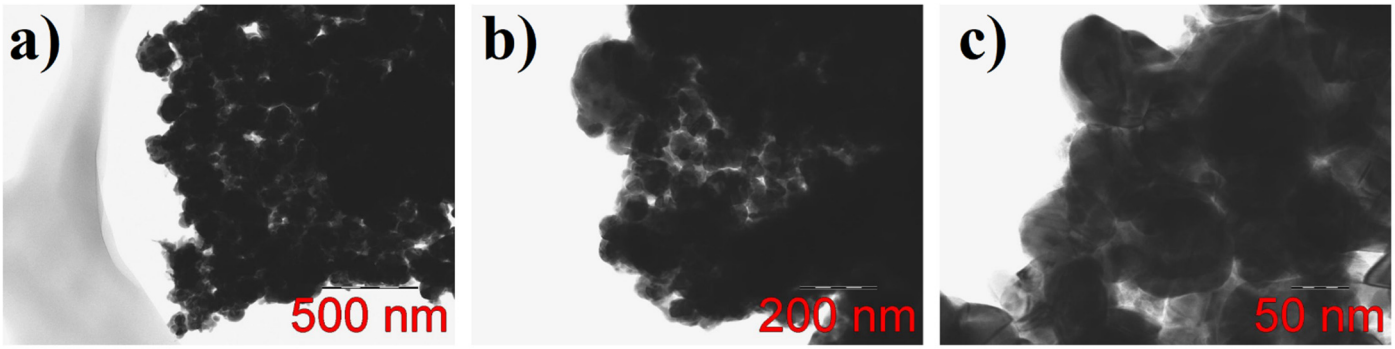

Figure S5. STEM images with different resolutions (**a**–**c**) for monometallic Ag particles.

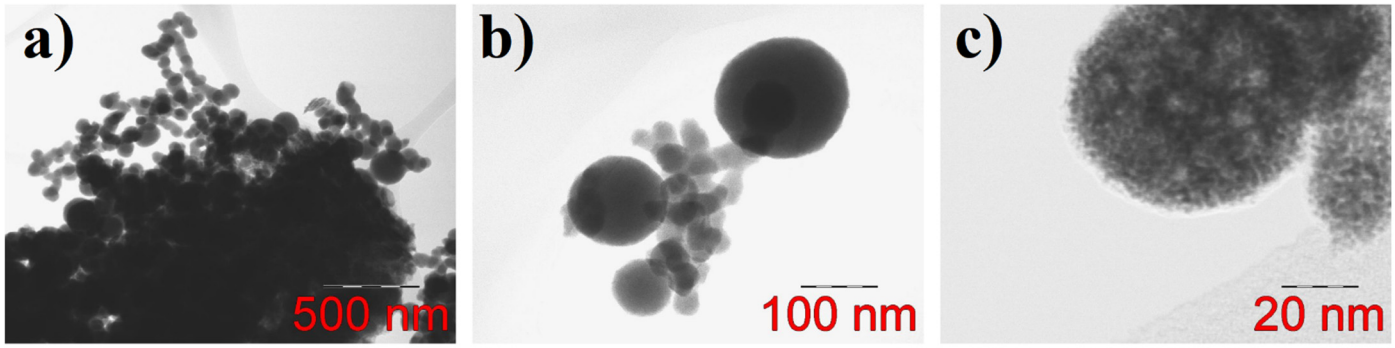

Figure S6. STEM images with different resolutions (**a**–**c**) for monometallic Pt particles.