Supporting Information

Plasmonic sensor based on interaction between silver nanoparticles and Ni^{2+} or Co^{2+} in water

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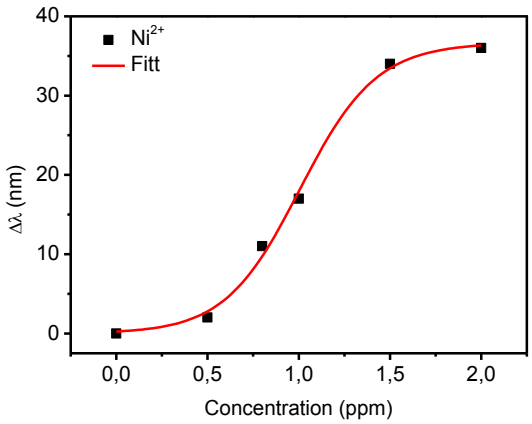
SI-Figure 1. Fitting curves with a sigmoidal Richards for Ni^{2+} (A) and Co^{2+} (B)

Equation: Sigmoidal Richards

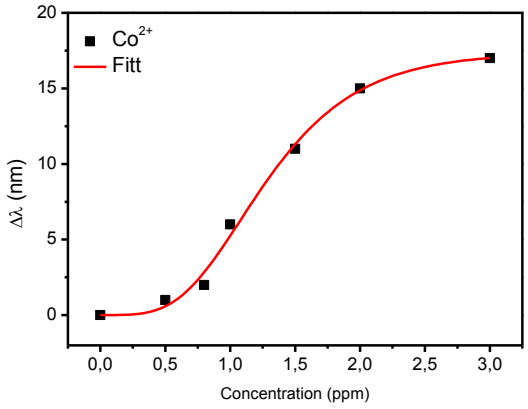
y = a*(1 + (d-1)*exp(-k*(x-xc)))^(1/(1-d))

(A)



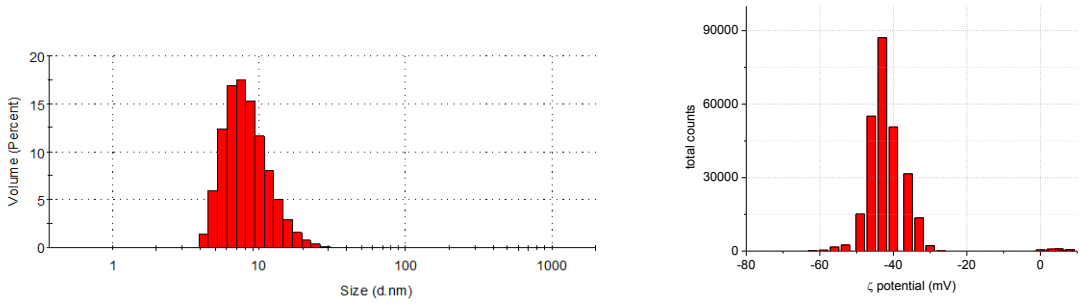
Reduced Chi-Sqr	1,7626		
Adj. R-Square	0,99265		
		Value	Standard Error
DL	a	36,66619	1,69105
DL	xc	1,00389	0,07418
DL	d	1,93313	0,84486
DL	k	4,71923	1,83344

(B)

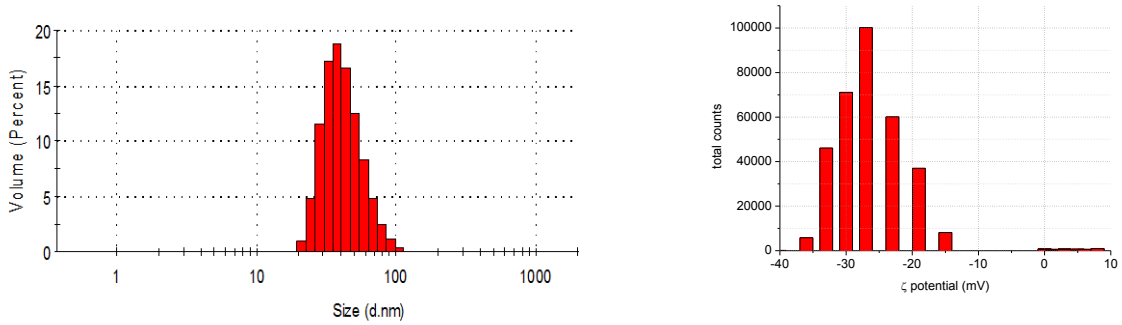


Reduced Chi-Sqr	0,51917		
Adj. R-Square	0,98925		
		Value	Standard Error
DL	a	17,3625	0,98184
DL	xc	1,08073	0,1617
DL	d	0,97485	0,57236
DL	k	2,03115	0,69884

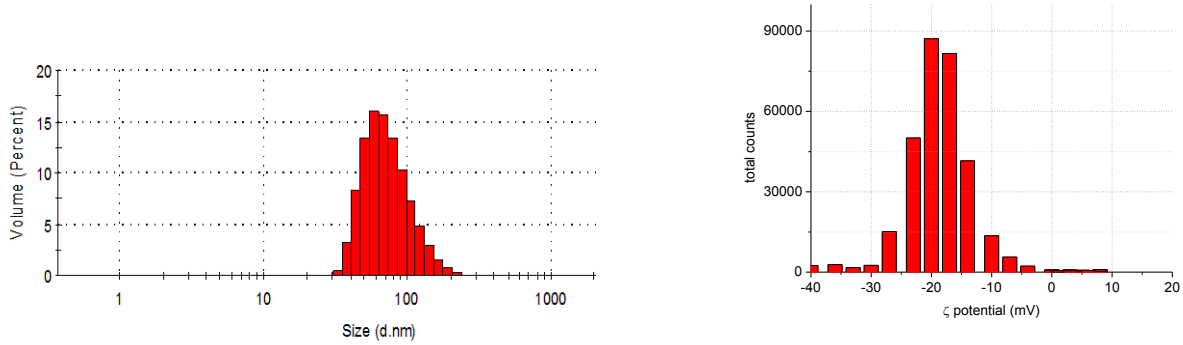
Si- Figure 2. DLS measurements of AgNPs-3MPS : a) $<2R_H>$ = 8.5 ± 2.6 nm; b) ζ potential = - 42 ± 5 (mV)



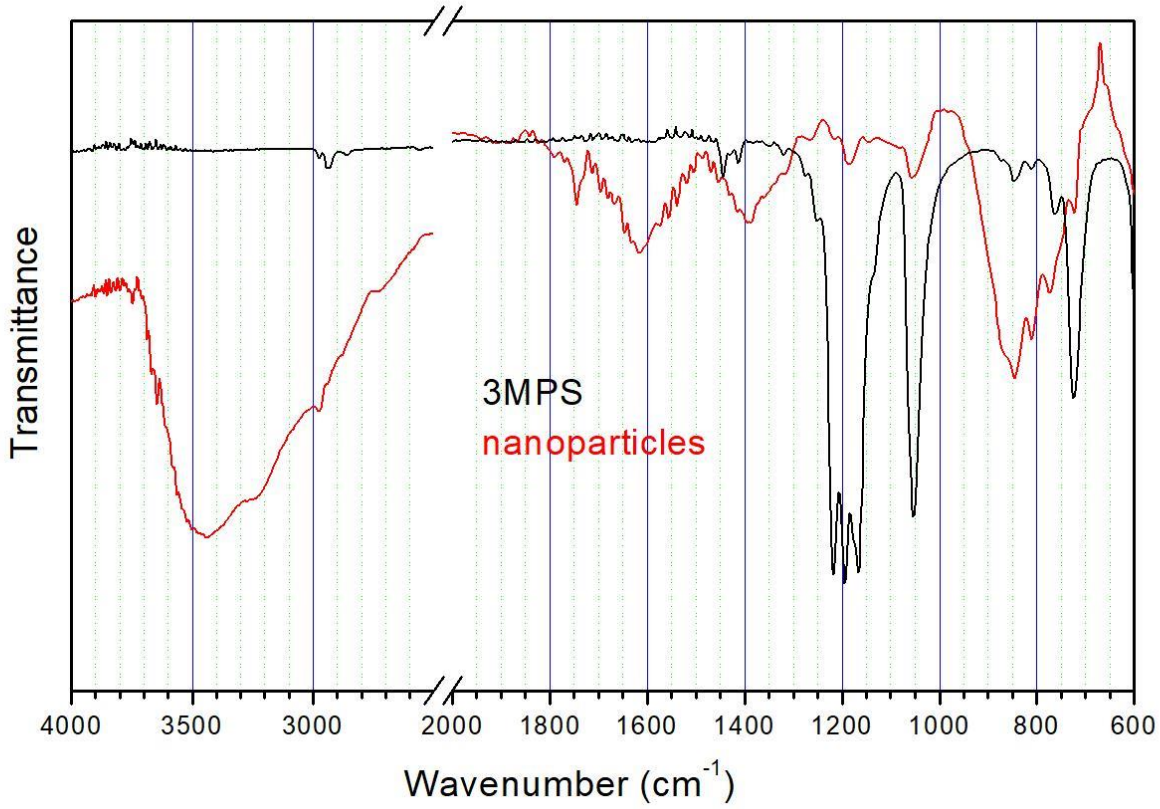
SI-Figure 3. DLS measurements of AgNPs-3MPS in presence of 1 ppm of Ni^{2+}: a) $<2R_H>$ = 43 ± 4 nm; b) ζ potential = -27 ± 10 (mV)



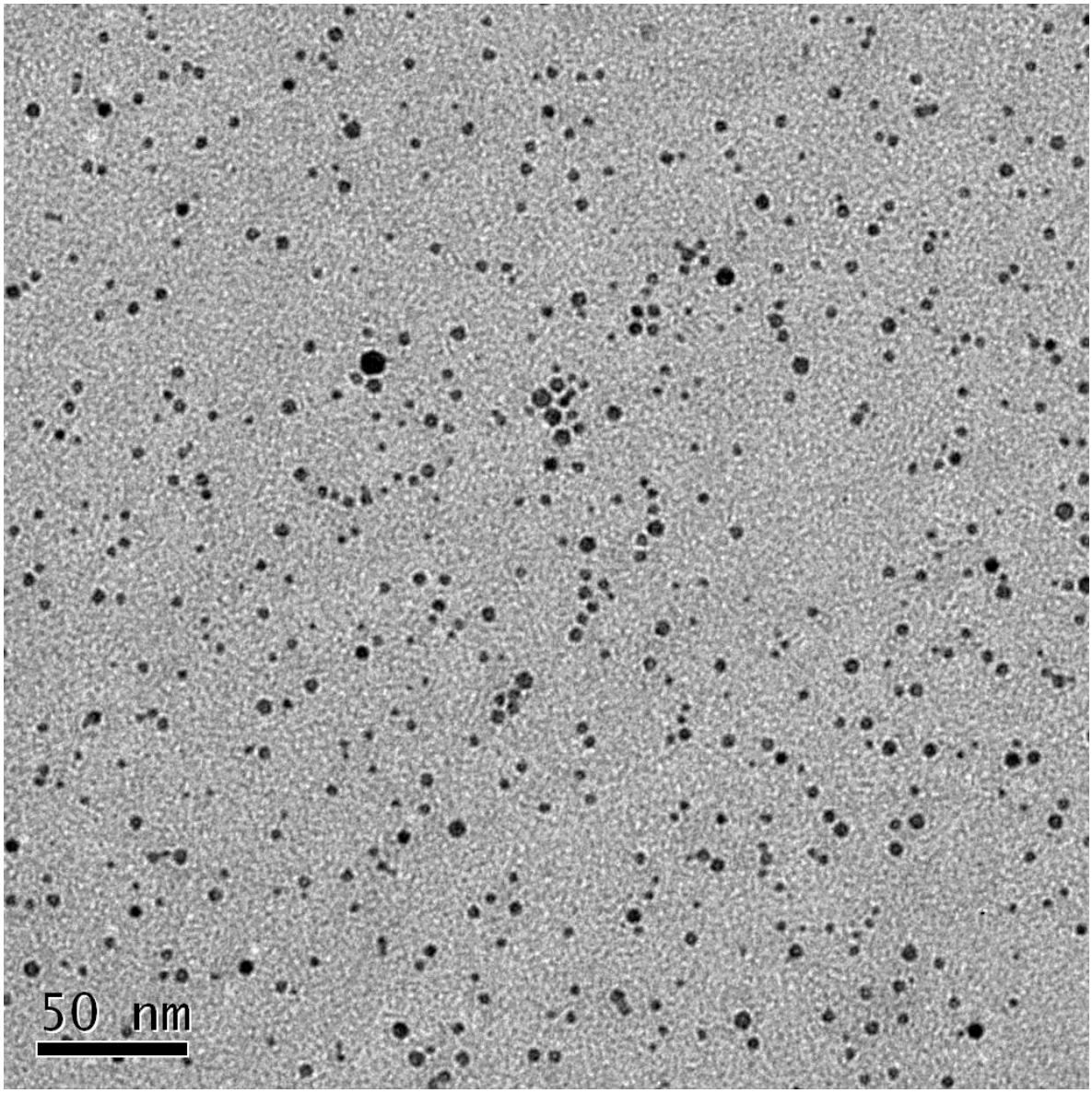
SI-Figure 4. DLS measurements of AgNPs-3MPS in presence of 1 ppm of Co^{2+}: a) $<2R_H>$ = 76 ± 9 nm; b) ζ potential = -22 ± 15 (mV)



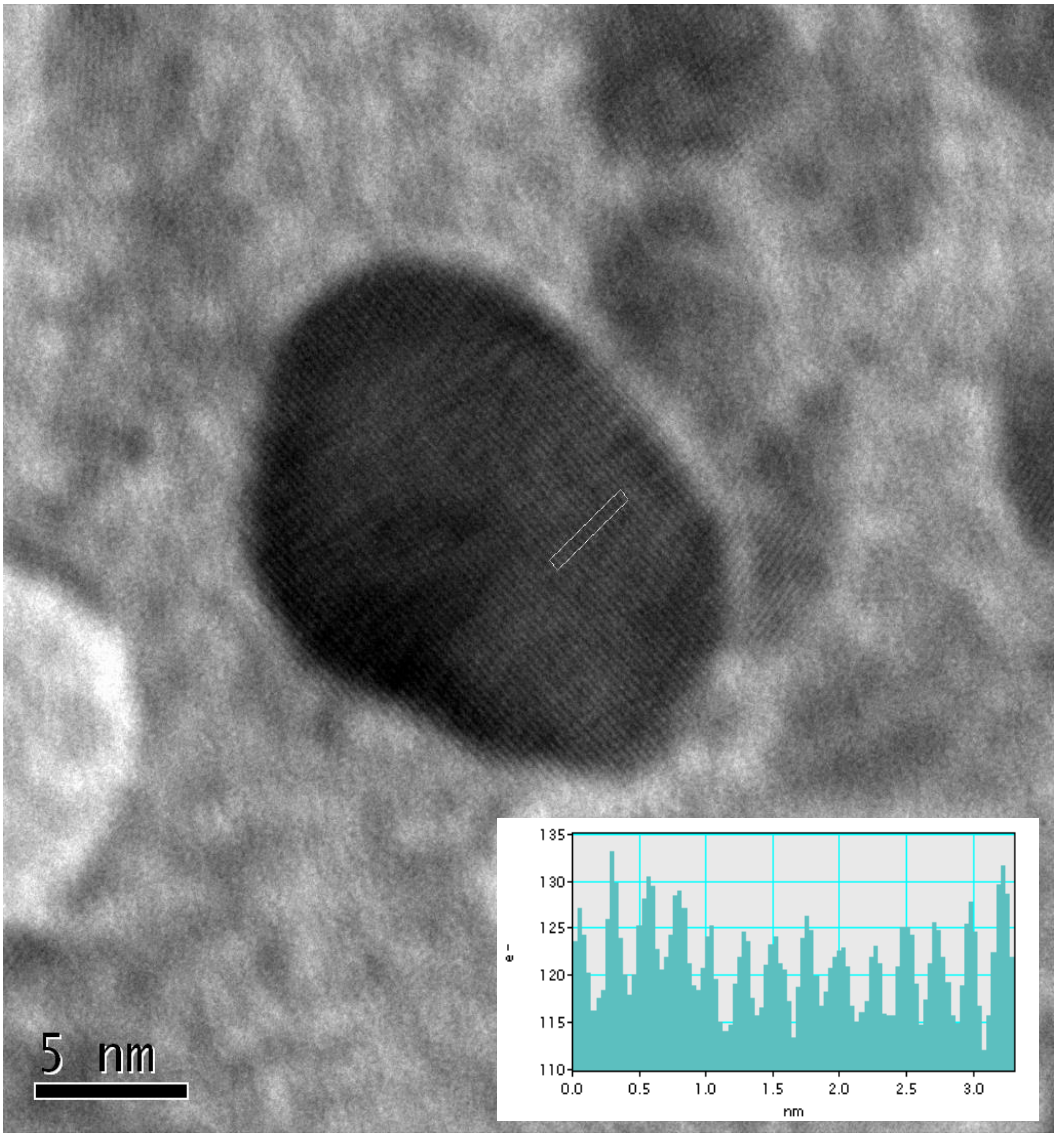
SI-Figure 5. FTIR spectra in the 4000-600 cm^{-1} range (with a 2500-2000 cm^{-1} break) of pristine 3MPS (black line) and AgNP-3MPS after interaction with Ni^{2+} ions (red line).



SI-Figure 6. TEM image of AgNPs-3MPS showing the good uniformity and shape of the nanoparticles.



SI-Figure 7. High resolution TEM image of one nanoparticle showing its crystallinity. The lattice parameter estimated by the image is 0.24 nm as shown in the inset.



SI-Figure 8. Ag3d XPS spectra