Supplementary Material (ESI) for New Journal of Chemistry

SUPPLEMENTARY INFORMATION

Polypyridyl Ruthenium complexes as coating agent for the formation of gold and silver nanocomposites in different media. Preliminary luminescence and electrochemical studies.

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Figure S1. ESI-MS spectrum of 3-thiophenimidazo-[4,5-f][1,10]-phenanthroline (L*thiophene*), positive ion mode.

Figure S2. ESI-MS spectrum of $[(Phen)_2Ru(3\text{-thiophenimidazo-}[4,5\text{-}f][1,10]\text{-phenanthroline})]Cl_2$ ($[(phen)_2Ru(L\textit{thiophene})]Cl_2$), positive ion mode.

Figure S3. (a) Experimental and (b) theoretical MALDI-TOF spectra of $[(Phen)_2Ru(3\text{-thiophenimidazo-}[4,5\text{-}f][1,10]\text{-phenanthroline})]Cl_2$ ($[(phen)_2Ru(L\textit{thiophene})]Cl_2$), positive ion mode.

Figure S4. TEM image of Au-**3**-NCs synthesized in acetonitrile using 80 µL of $NaBH_4$ (0.4 M), $R = 2$.

Figure S5. (a) TEM image of Au-**2**-NCs ($R = 6$) after flocculation in acetonitrile and re-dispersion in water (scale: 30 nm). (b) Corresponding absorption spectrum in water. Arrow shows the SPB of Au-NPs.

Figure S6. Experimental XPS spectra of (a) Au_{4f} and (b) Cl_{2p} regions of Au-1-NCs.

Figure S7. TEM images of Au-**3**-NCs in water with $R = 1$. Scale: 100 nm.

Figure S8. TEM images of Ag-**3**-NCs in water with (a) $R = 1$, (b) $R = 2$ and (c) $R = 6$.

Figure S9. CVs of Au-**1**-NCs (full line) and Au-**3**-NCs (dashed line) on platinum electrode in acetonitrile at 10 V/s.

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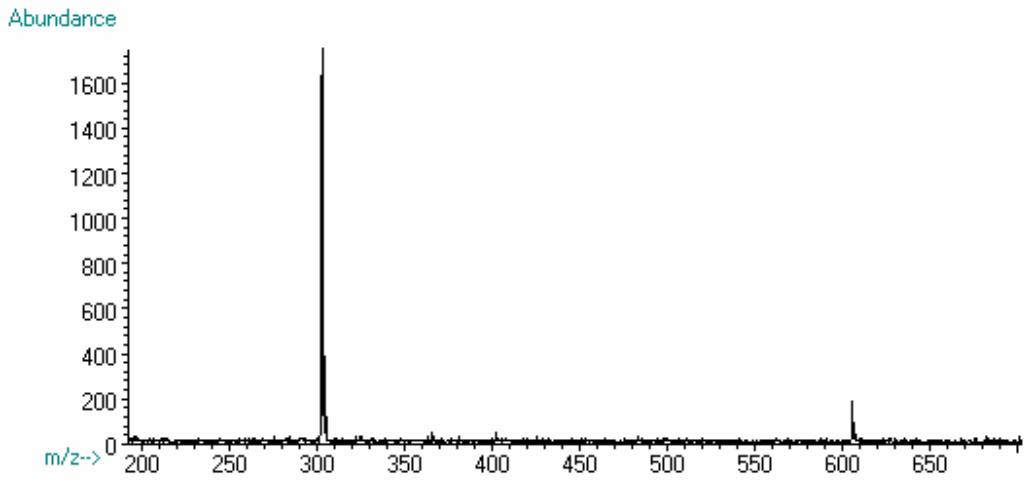
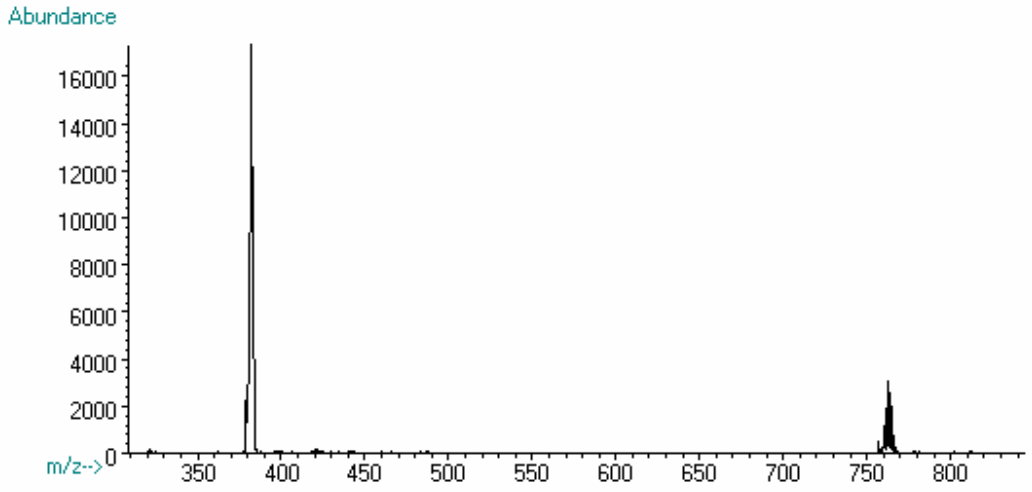


Figure S2. ESI-MS spectrum of [(Phen)$_2$Ru(3-thiophenimidazo-[4,5-*f*][1,10]-phenanthroline)]Cl$_2$ ([(phen)$_2$Ru(L*thiophene*)]Cl$_2$), positive ion mode.



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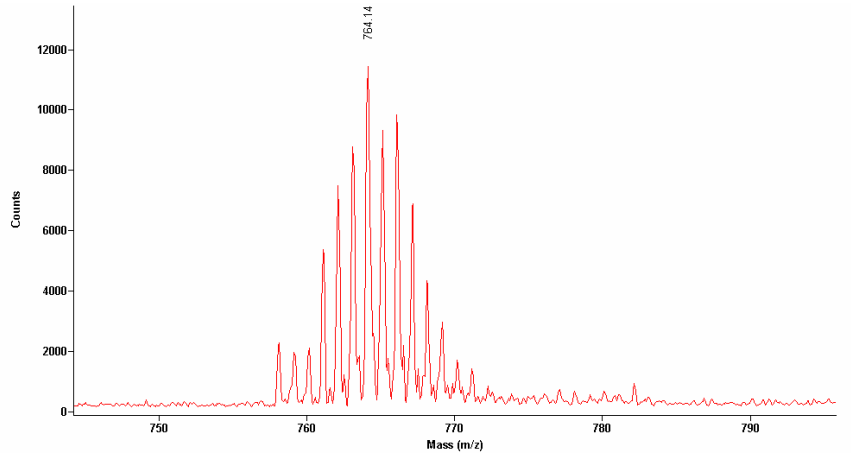
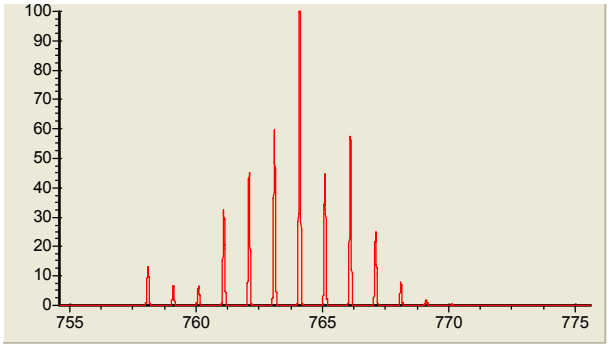
(a)



(b)



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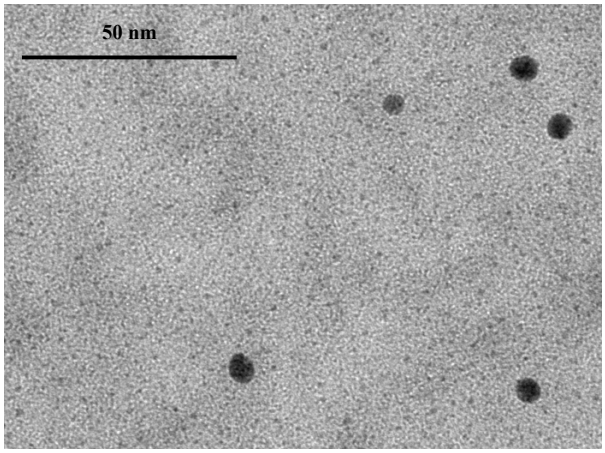
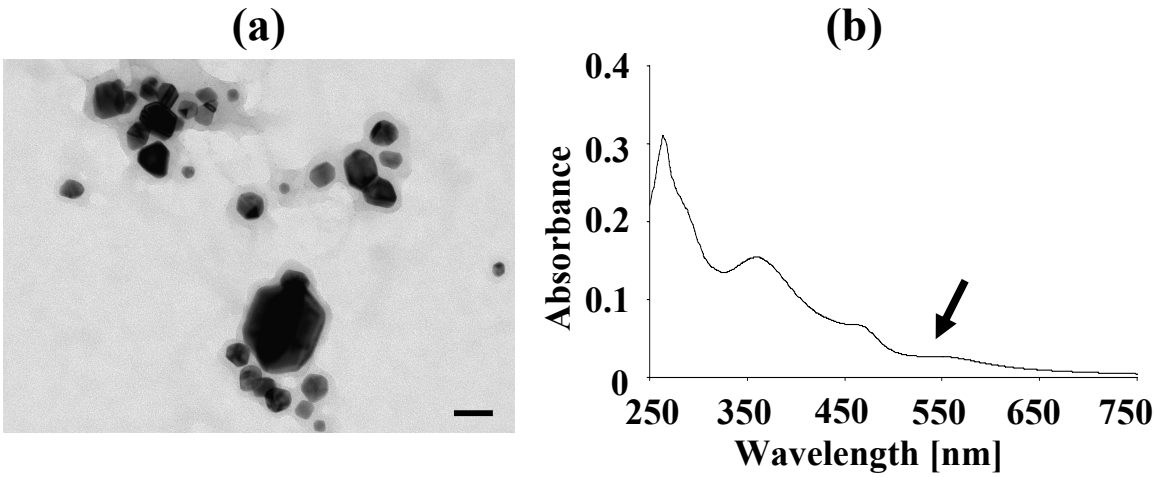


2.

Figure S5. (a) TEM image of Au-**2**-NCs (*R* = 6) after flocculation in acetonitrile and re-dispersion in water (scale: 30 nm). (b) Corresponding absorption spectrum in water. Arrow shows the SPB of Au-NPs.



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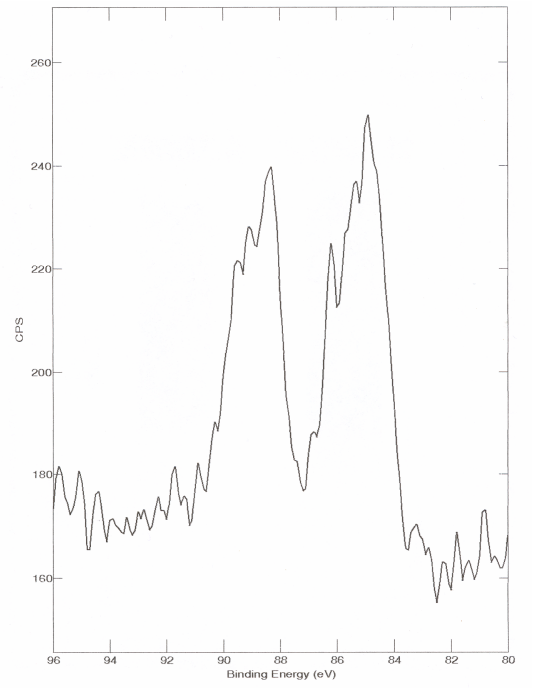
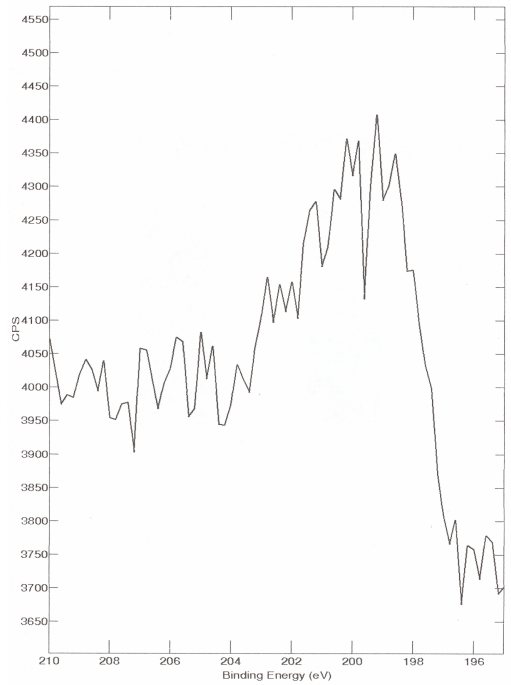
(a)



(b)



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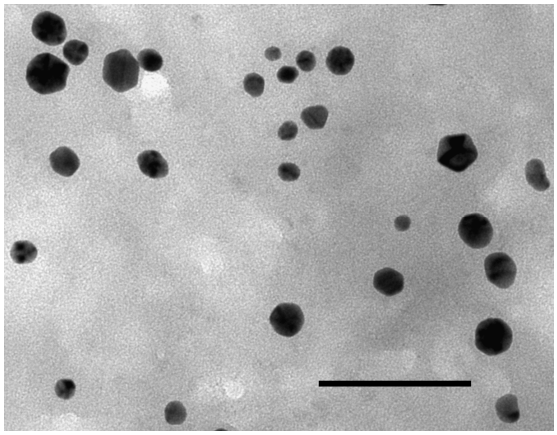
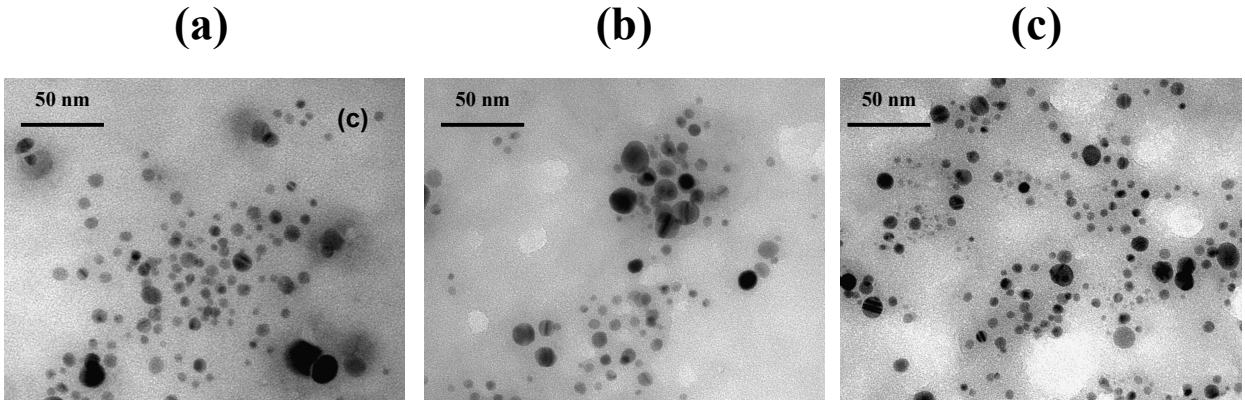


Figure S8. TEM images of Ag-**3**-NCs in water with (a) R = 1, (b) R = 2 and (c) R = 6.



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