Supplementary Material (ESI) for Soft Matter

Electronic Supplementary Information for:

Argentophilic hydrogels: elucidating the structure of neutral *versus* acidic systems

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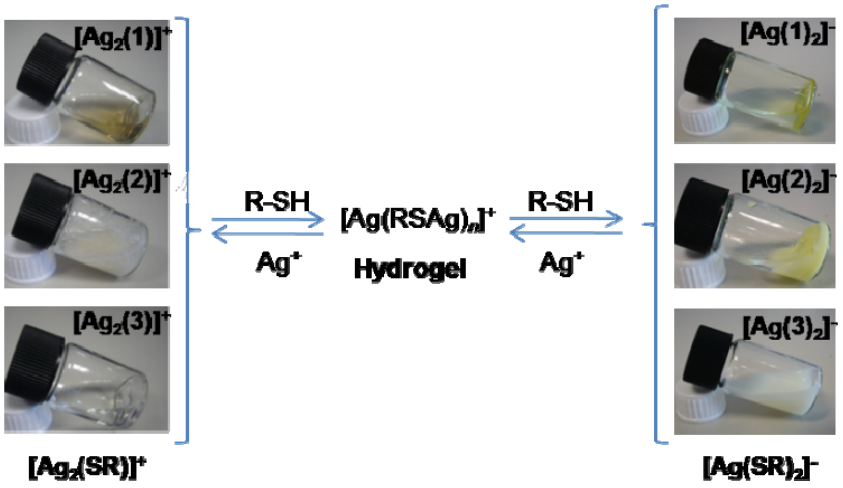
Supplementary Schemes and Figures



Scheme S1 Reversible collapse of the hydrogels **Ag(1–3)** upon the addition of a 2-fold excess silver (left) and a 2-fold excess of thiol (right).

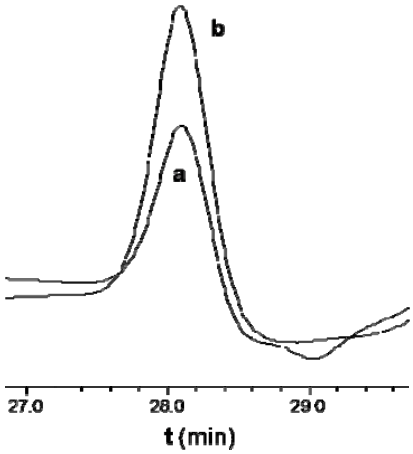
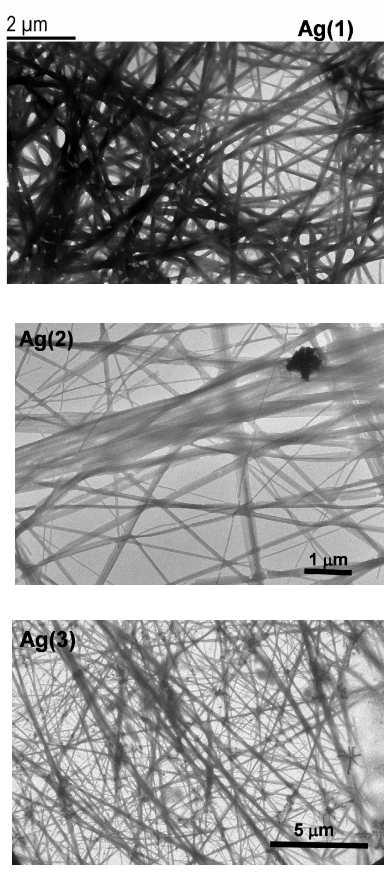


Fig.S1 SEC traces of $[Ag_2(1)]^+$ (a) and $[Ag_2(3)]^+$ (b).

TEM analysis

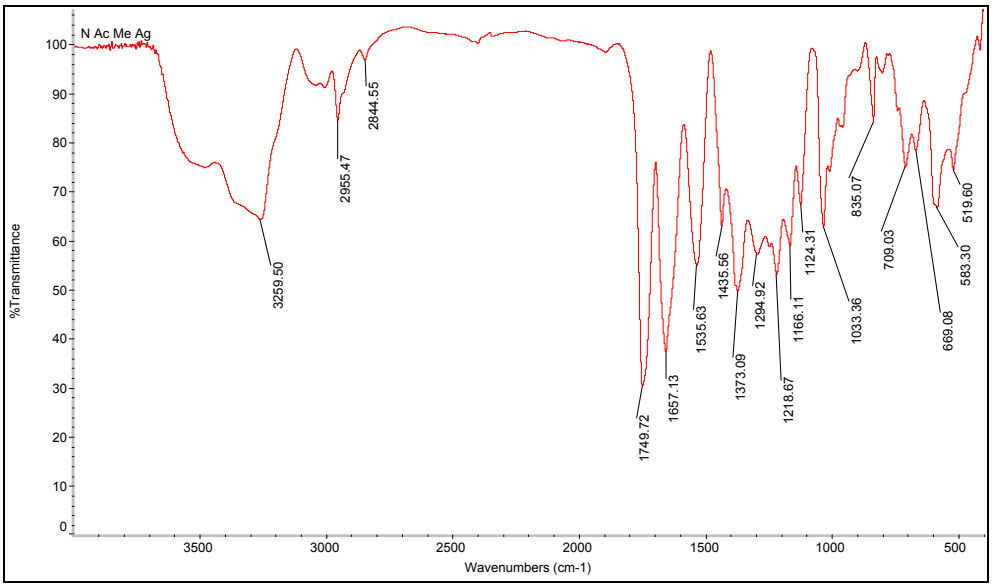
TEM specimens were prepared by adding a drop of hydrogel (sol) onto a carbon-coated copper grid. Images were recorded on a JEOL JEM-2100F UHR apparatus operated at 200 kV. Attempts of analyzing acidic hydrogels **Ag(4-5)** did not give satisfactory results, as there was not any distinguishable microstructure observed.



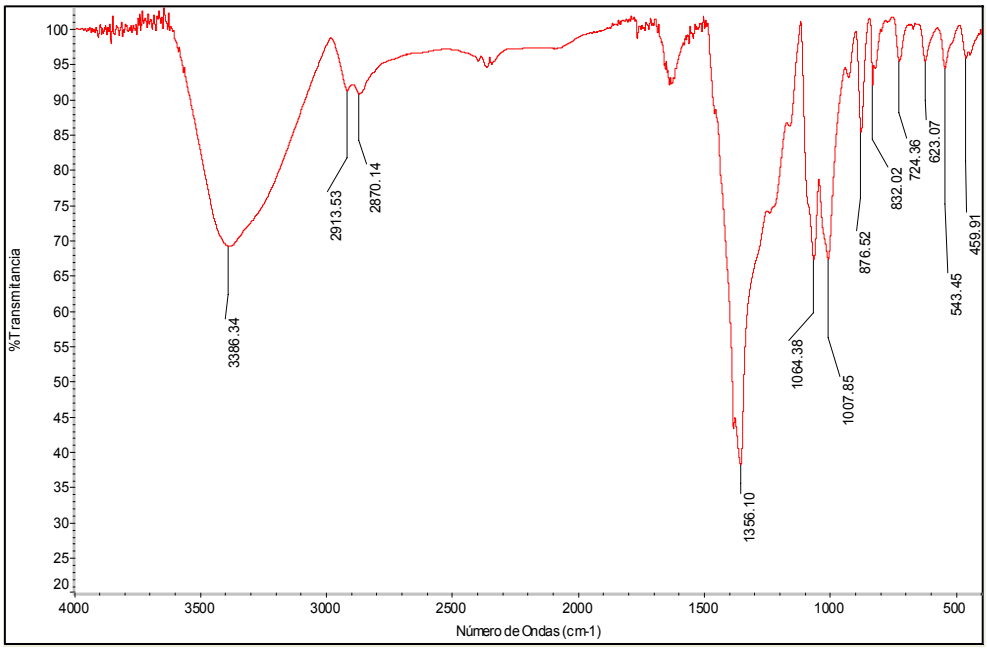
FT-IR Spectra

Fourier Transformed Infra-Red Spectroscopy (FT-IR) spectra were taken from a Nicolet Avatar 360 apparatus. Hydrogels were freeze-dried and analysed in the solid state. All samples were measured in KBr disks. The spectrum for compound **Ag(1)** was published elsewhere.[1]

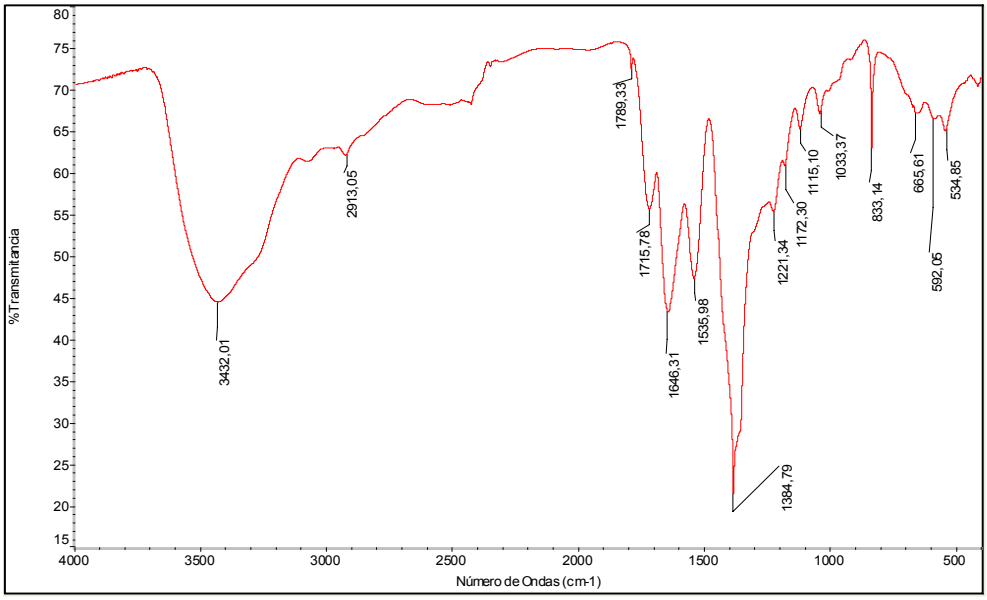
Ag(2)



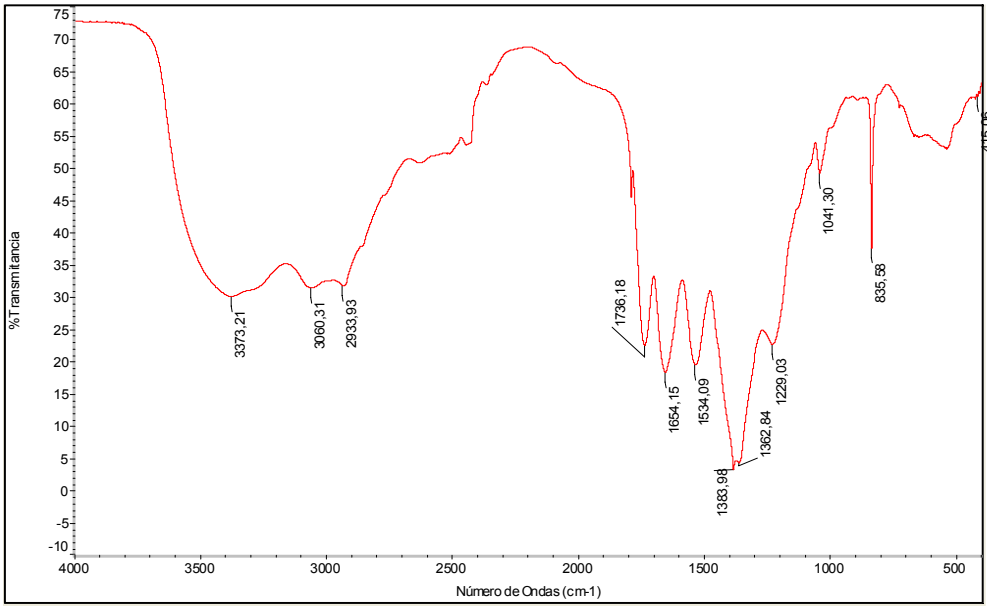
Ag(3)



Ag(4)



Ag(5)



References

1. P. Casuso, I. Loinaz, M. Moller, P. Carrasco, J. A. Pomposo, H. J. Grande and I. Odriozola, *Supramol. Chem.*, 2009, 21, 581-584.