Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supramolecular tripodal Au(I) assemblies in water. Interactions with pyrene fluorescent probe.

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Supporting Information

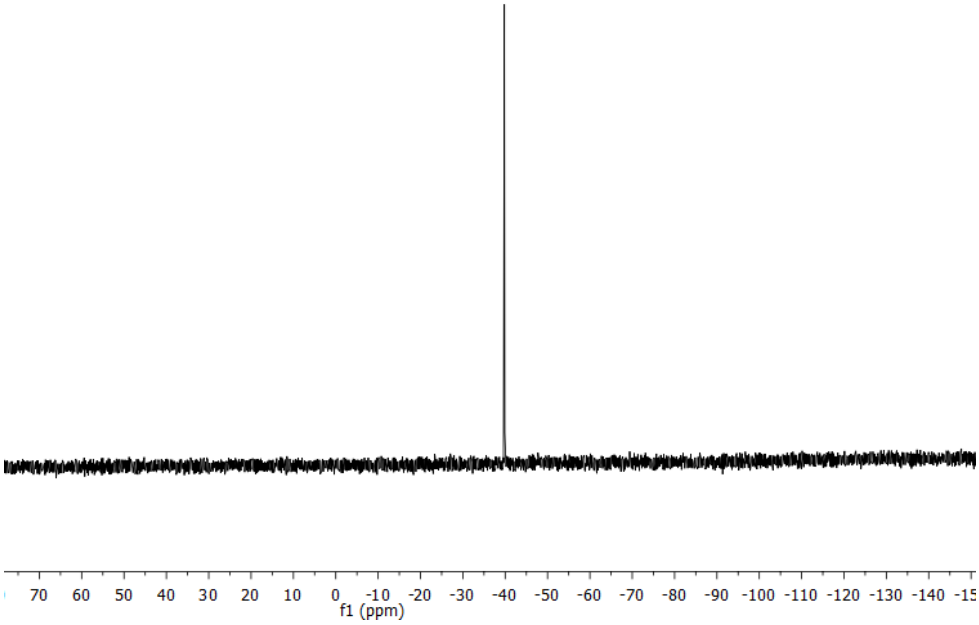


Figure S1. ^{31}P NMR spectrum of **1** in $CDCl_3$.

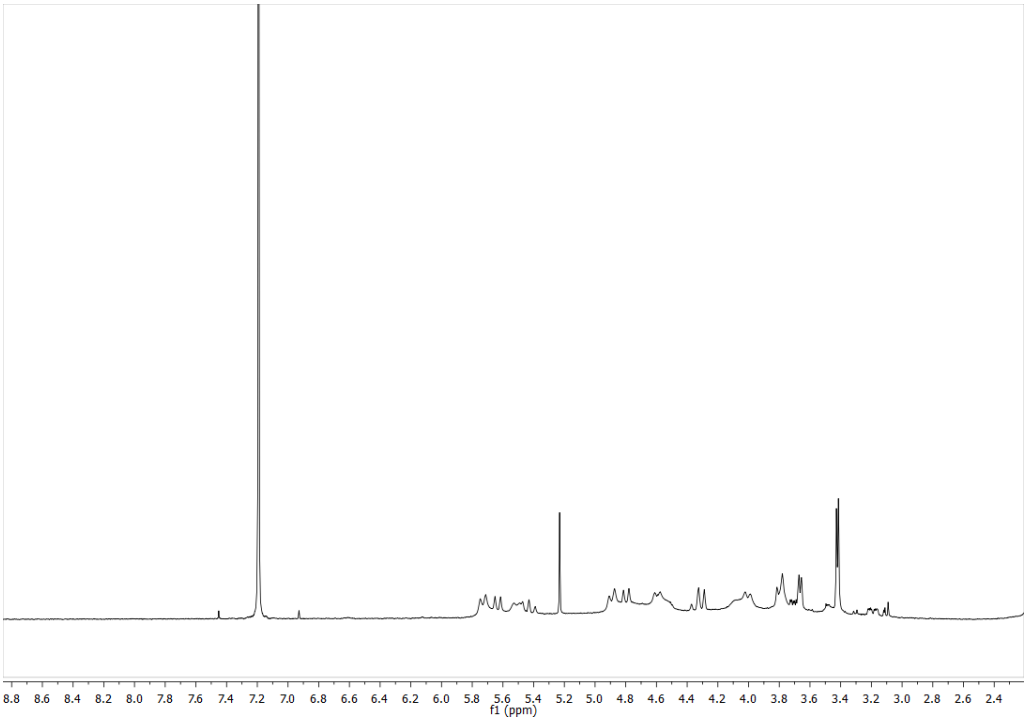


Figure S2. ^{1}H NMR spectrum of **2** in $CDCl_3$.

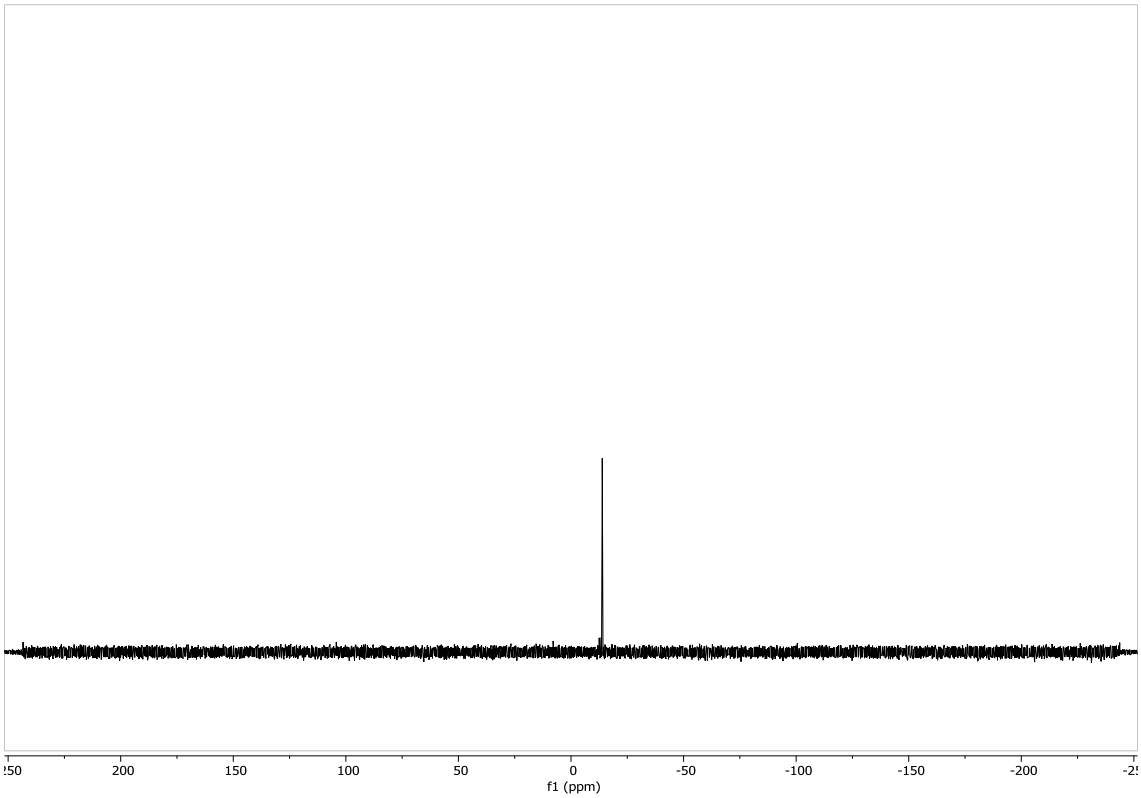


Figure S3. ^{31}P NMR spectrum of **2** in D_2O.

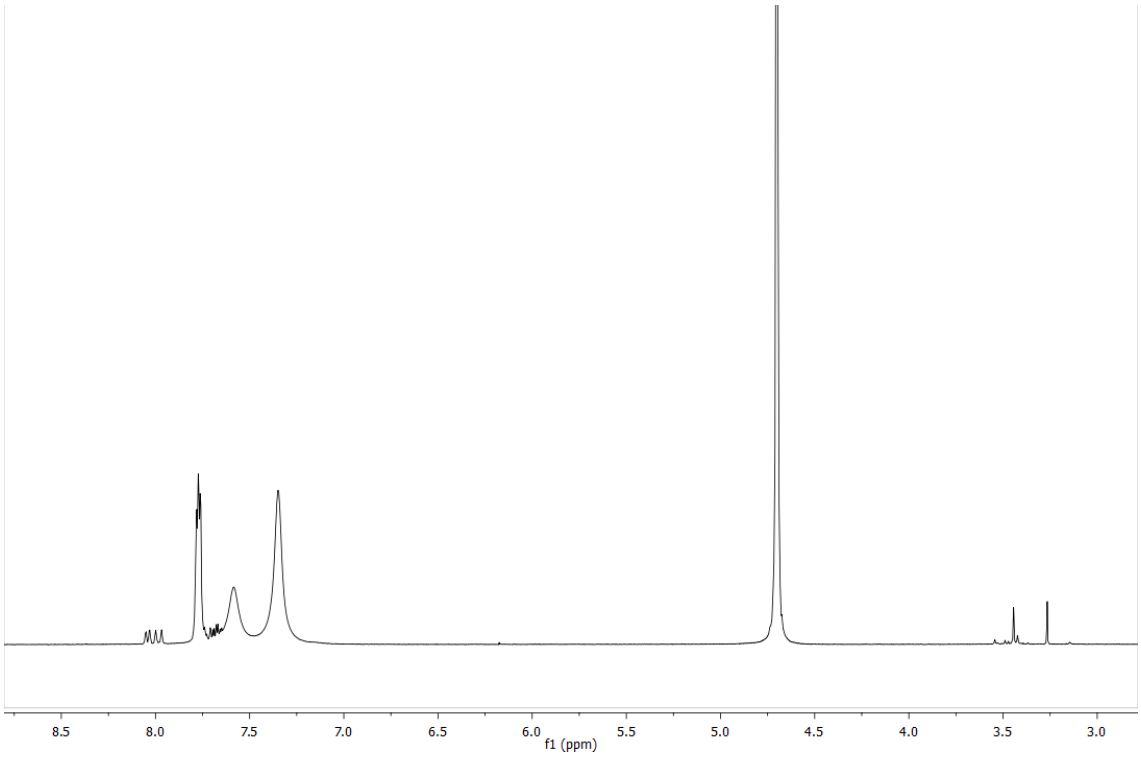


Figure S4. ^{1}H NMR spectrum of **3** in D_2O.

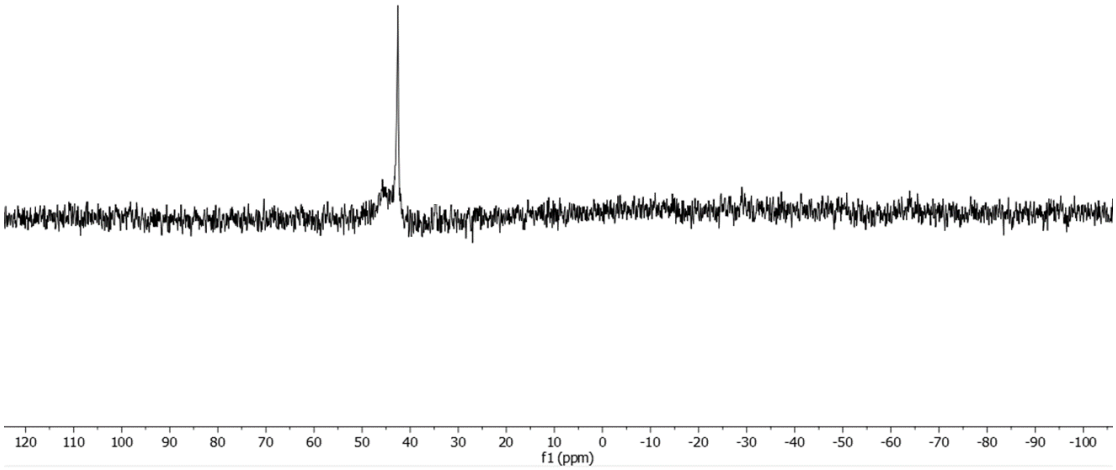


Figure S5. ^{31}P NMR spectrum of **3** in D_2O.

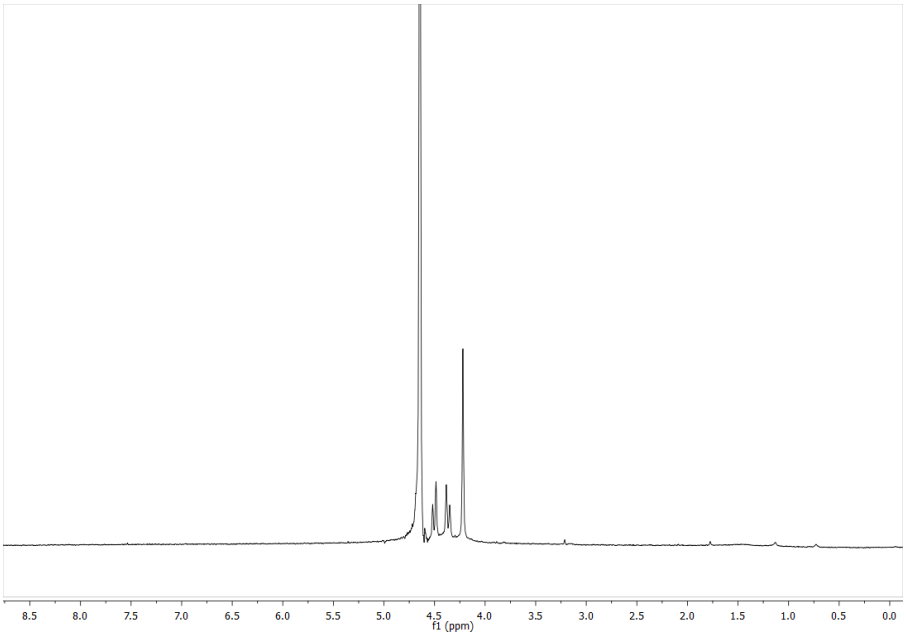
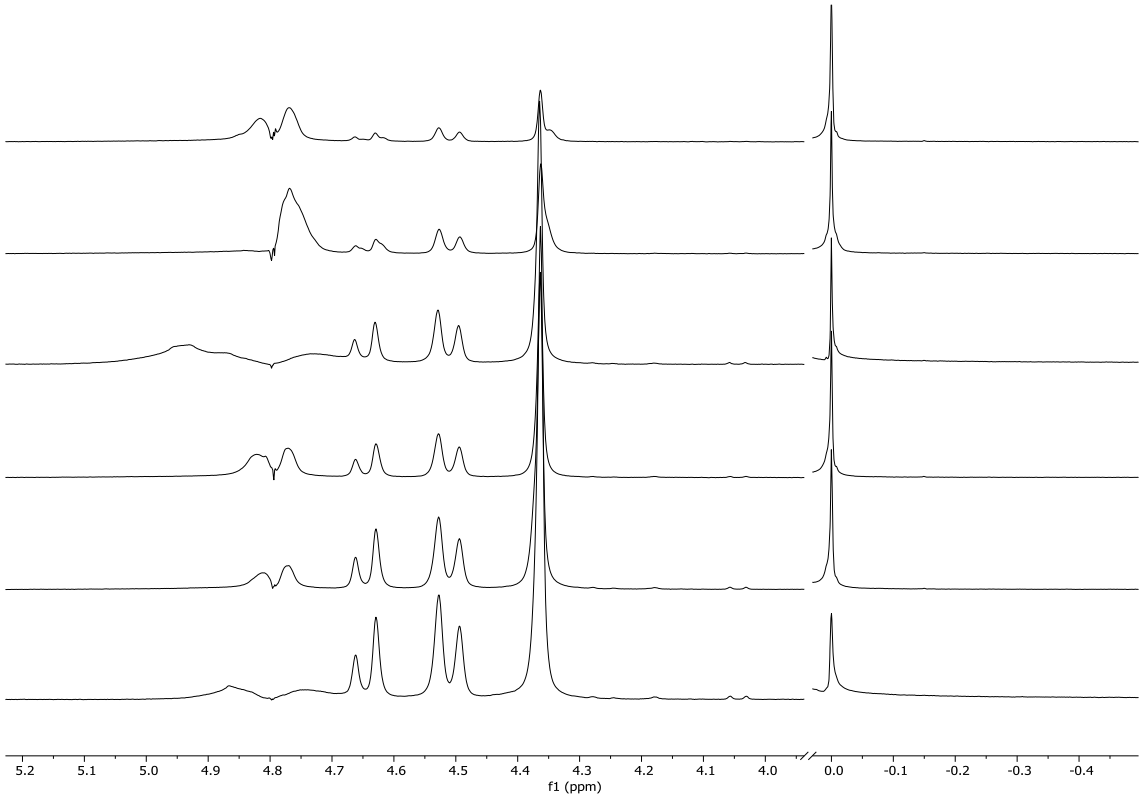


Figure S6. ^{1}H NMR spectrum of **1** in D_2O.



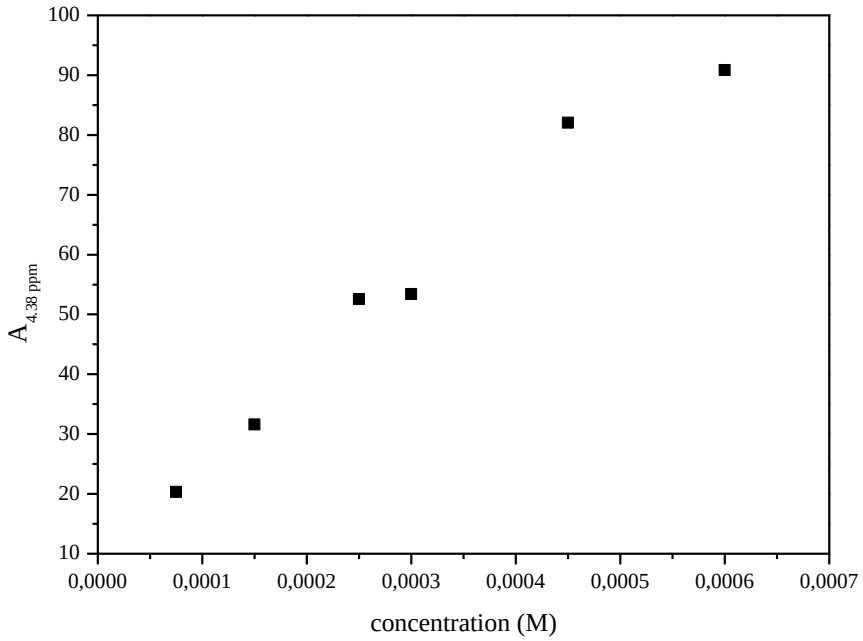
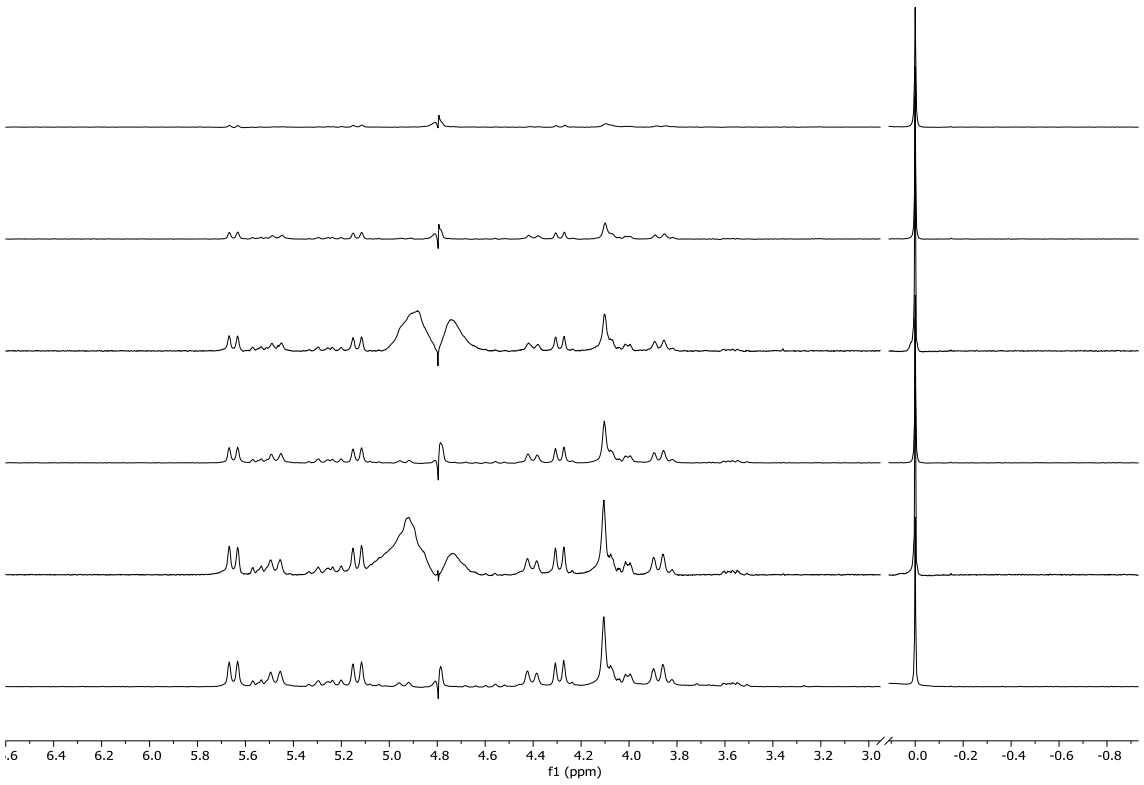


Figure S7. ^{1}H NMR spectra variations on the phosphine protons of **1** using TSP as standard reference (above) and on the area of the protons (below) with concentration. Deviations on the linearity are only observed at the highest recorded concentrations.



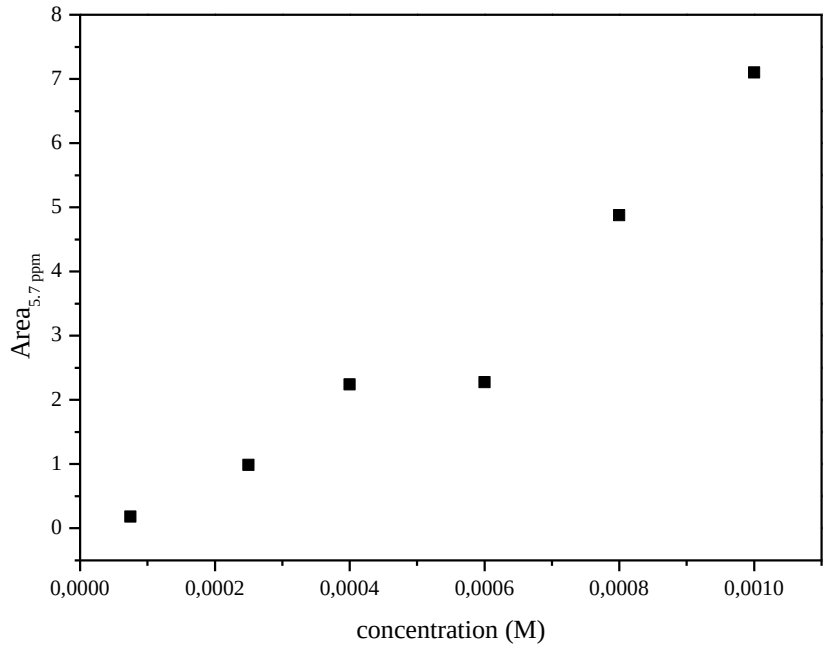


Figure S8. ^{1}H NMR spectra variations on the phosphine protons of **2** using TSP as standard reference (above) and on the area of the protons (below) with concentration in D_2O.

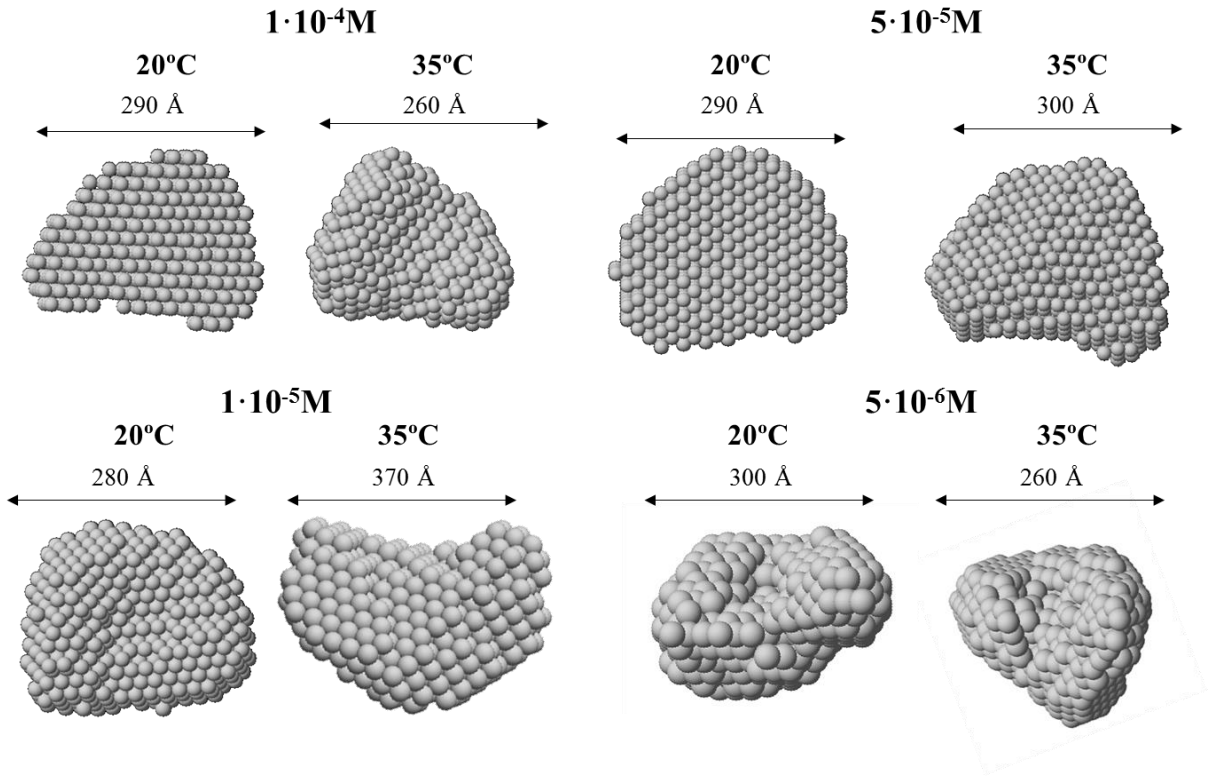


Figure S9. DAMMIN low-resolution structures reconstructed from SAXS patterns for of **1** at different concentrations in water.

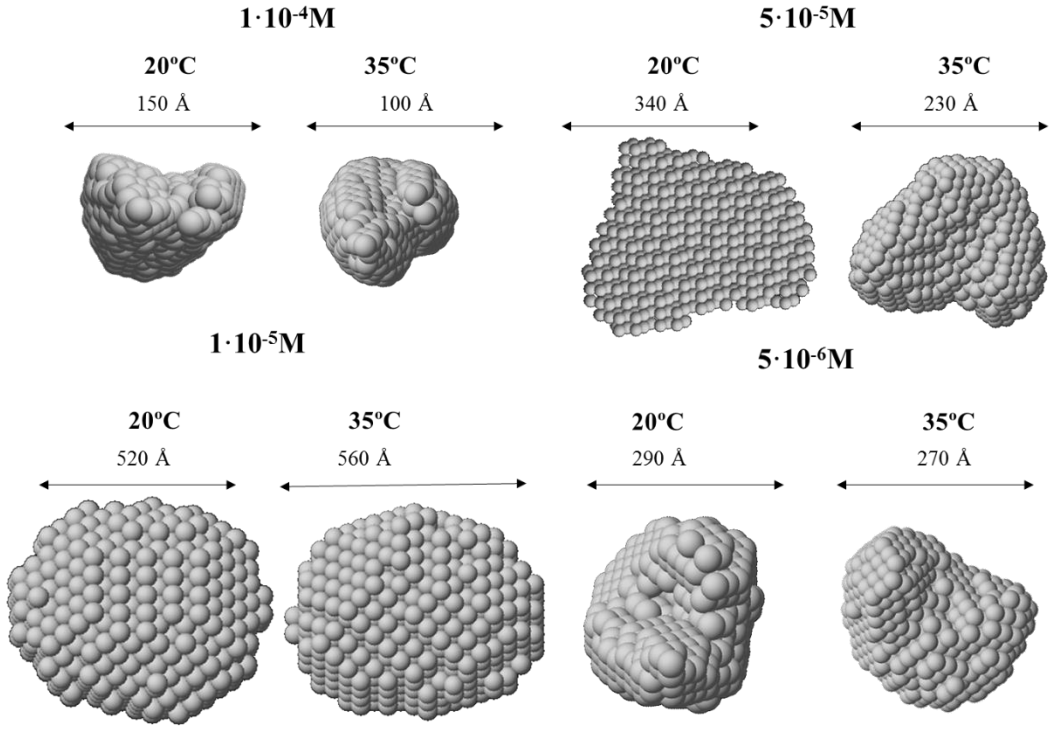


Figure S10. DAMMIN low-resolution structures reconstructed from SAXS patterns for of **2** at different concentrations in water.

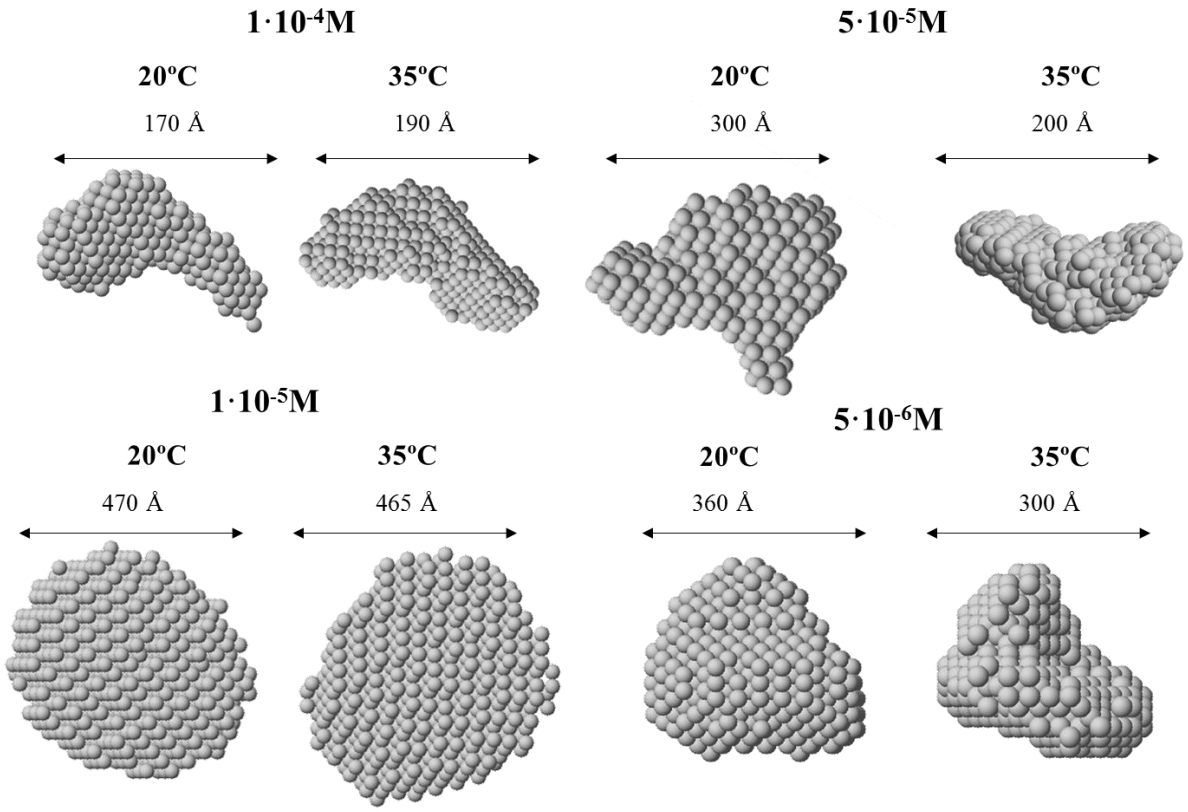


Figure S11. DAMMIN low-resolution structures reconstructed from SAXS patterns for of **3** at different concentrations in water.

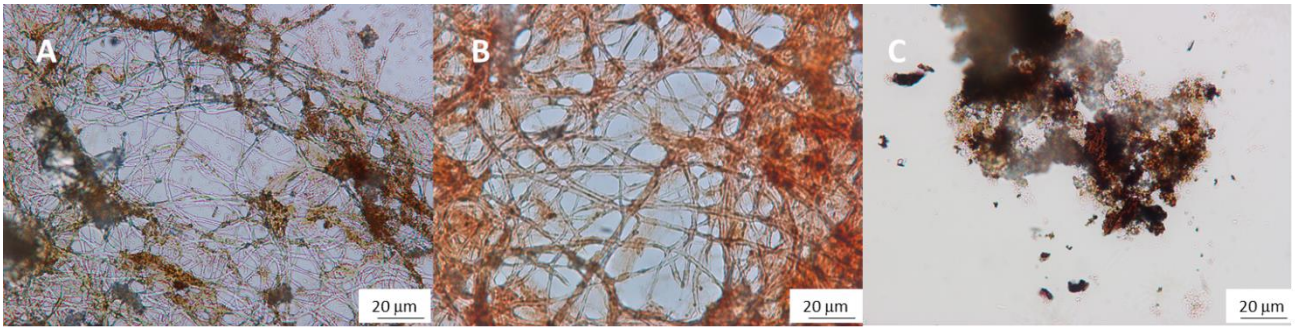


Figure S12. Optical microscopy images of fibers obtained from $1 \cdot 10^{-4}$M aqueous solutions of **1** (A), **2** (B) and **3** (C). 100x magnification.

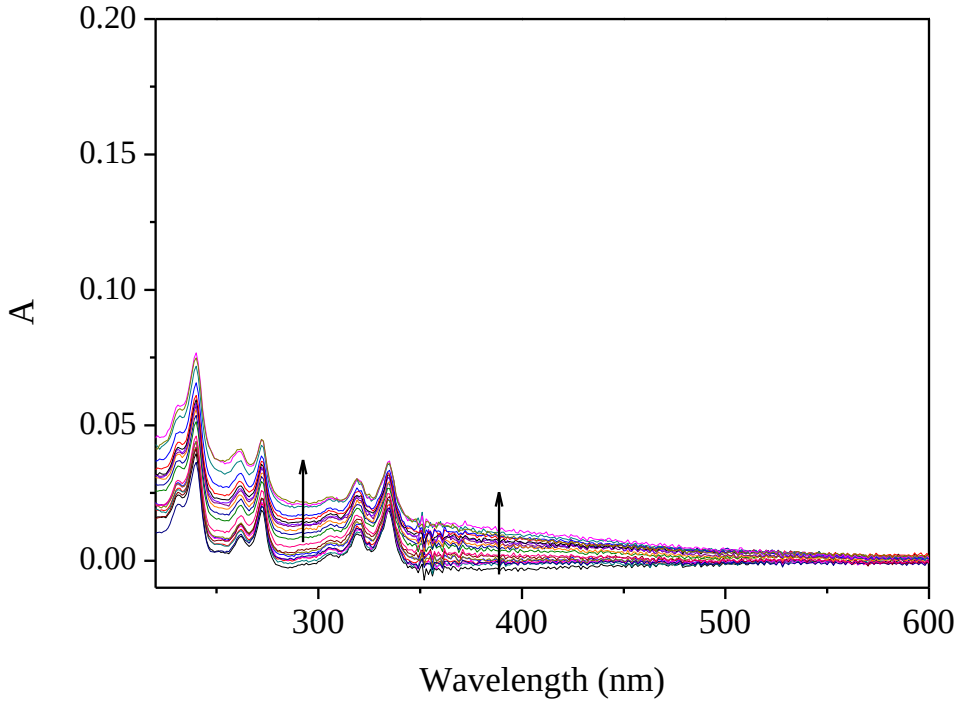


Figure S13. Absorption spectra of a $1 \cdot 10^{-5}$M solution of pyrene in the presence of increasing amounts of **1**. [pyrene] = $1 \cdot 10^{-5}$M. Solvent: water. pH ~ 7.

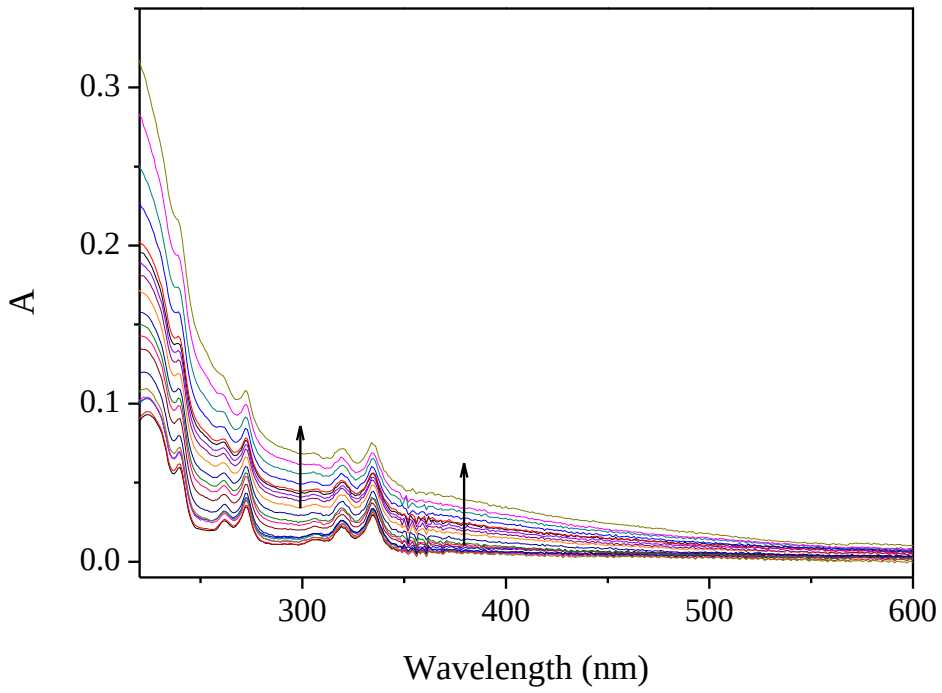


Figure S14. Absorption spectra of a $1 \cdot 10^{-5}$M solution of pyrene in the presence of increasing amounts of **2**. [pyrene] = $1 \cdot 10^{-5}$M. Solvent: water. pH ~ 7.

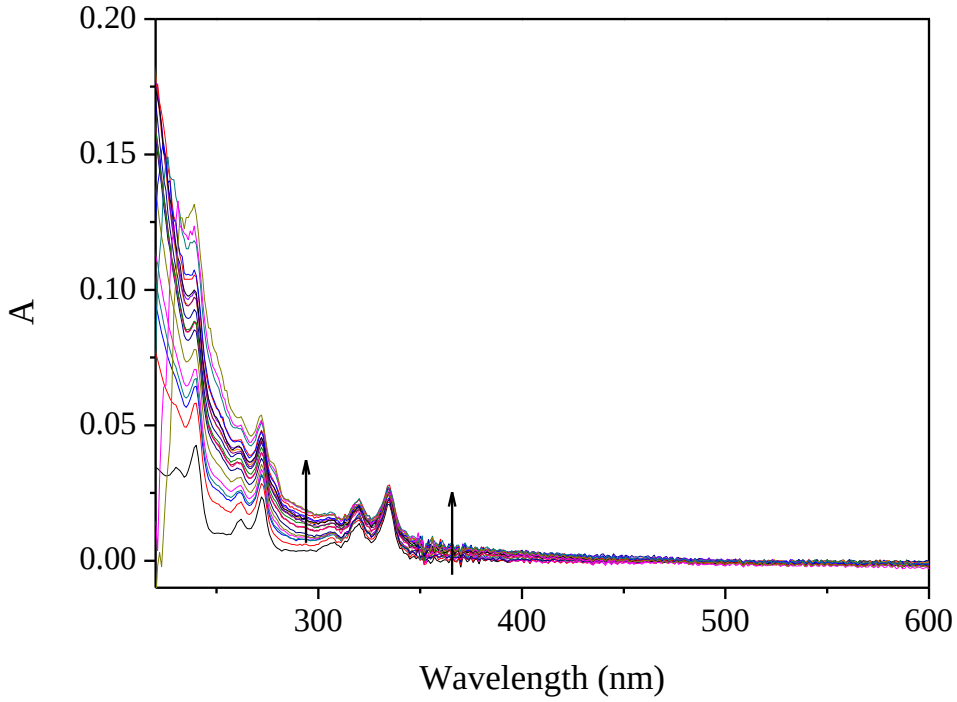


Figure S15. Absorption spectra of a $1 \cdot 10^{-5}$M solution of pyrene in the presence of increasing amounts of **3**. [pyrene] = $1 \cdot 10^{-5}$M. Solvent: water. pH ~ 7.

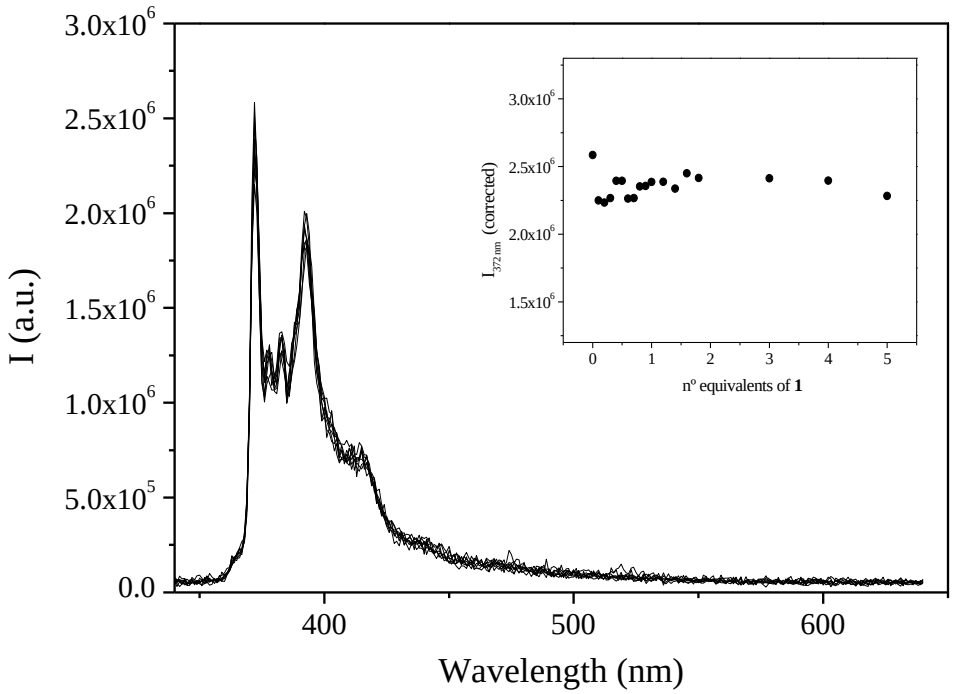


Figure S16. Emission spectra of a $1 \cdot 10^{-5}$M solution of pyrene in the presence of increasing amounts of **1**. Inset: plot of the variation of $I_{372\ nm}$ vs number of equivalents of host. [pyrene] = $1 \cdot 10^{-5}$M. Solvent: water. pH ~ 7.

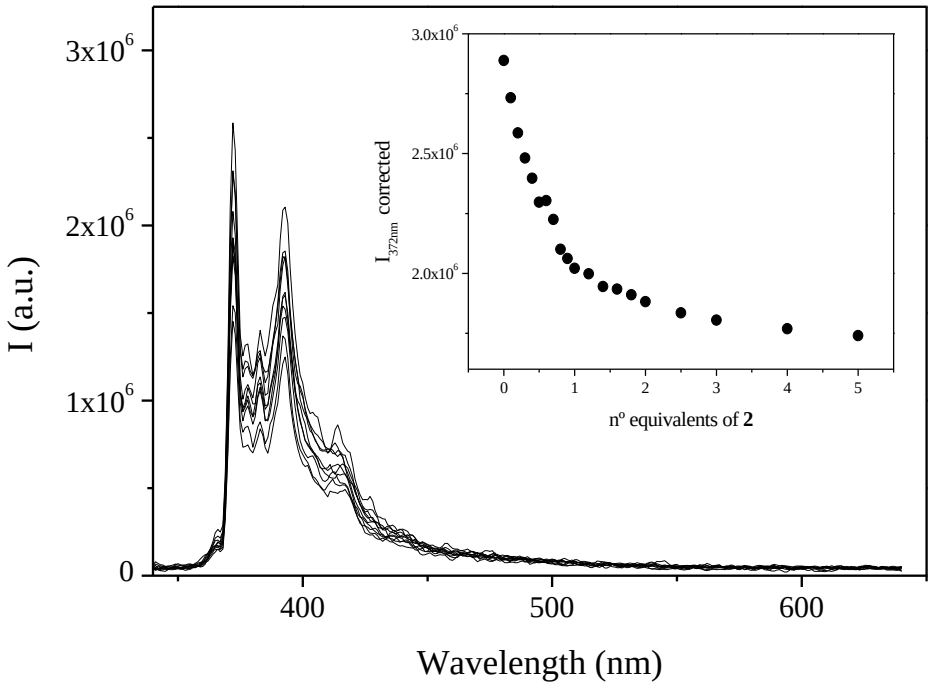


Figure S17. Emission spectra of a $1 \cdot 10^{-5}$M solution of pyrene in the presence of increasing amounts of **2**. Inset: plot of the variation of $I_{372\ nm}$ vs number of equivalents of host. [pyrene] = $1 \cdot 10^{-5}$M. Solvent: water. pH ~ 7.

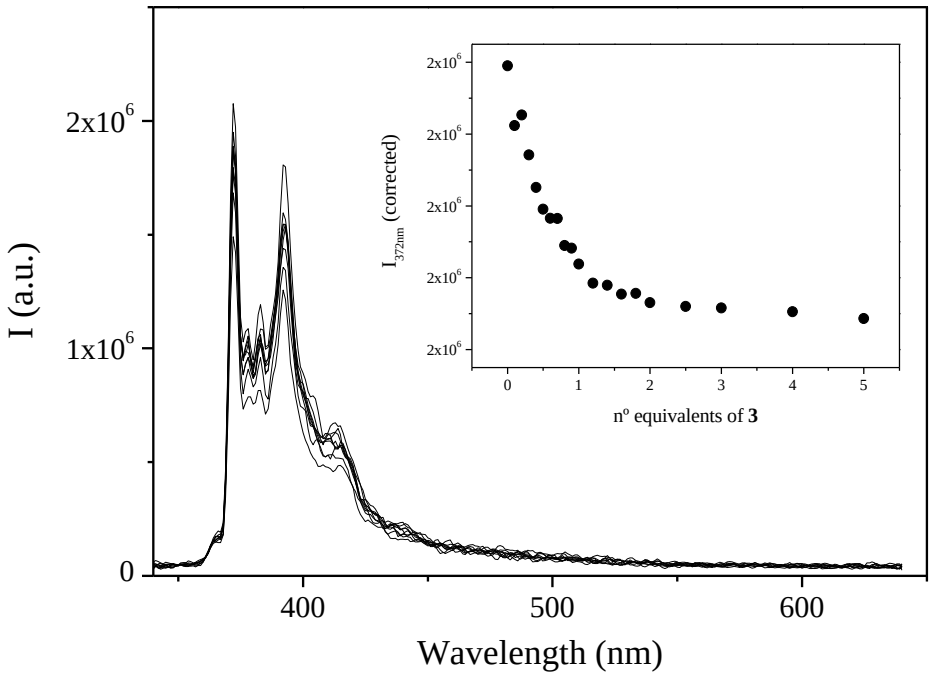


Figure S18. Emission spectra of a $1 \cdot 10^{-5}$M solution of pyrene in the presence of increasing amounts of **3**. Inset: plot of the variation of $I_{372\ nm}$ vs number of equivalents of host. [pyrene] = $1 \cdot 10^{-5}$M. Solvent: water. pH ~ 7.

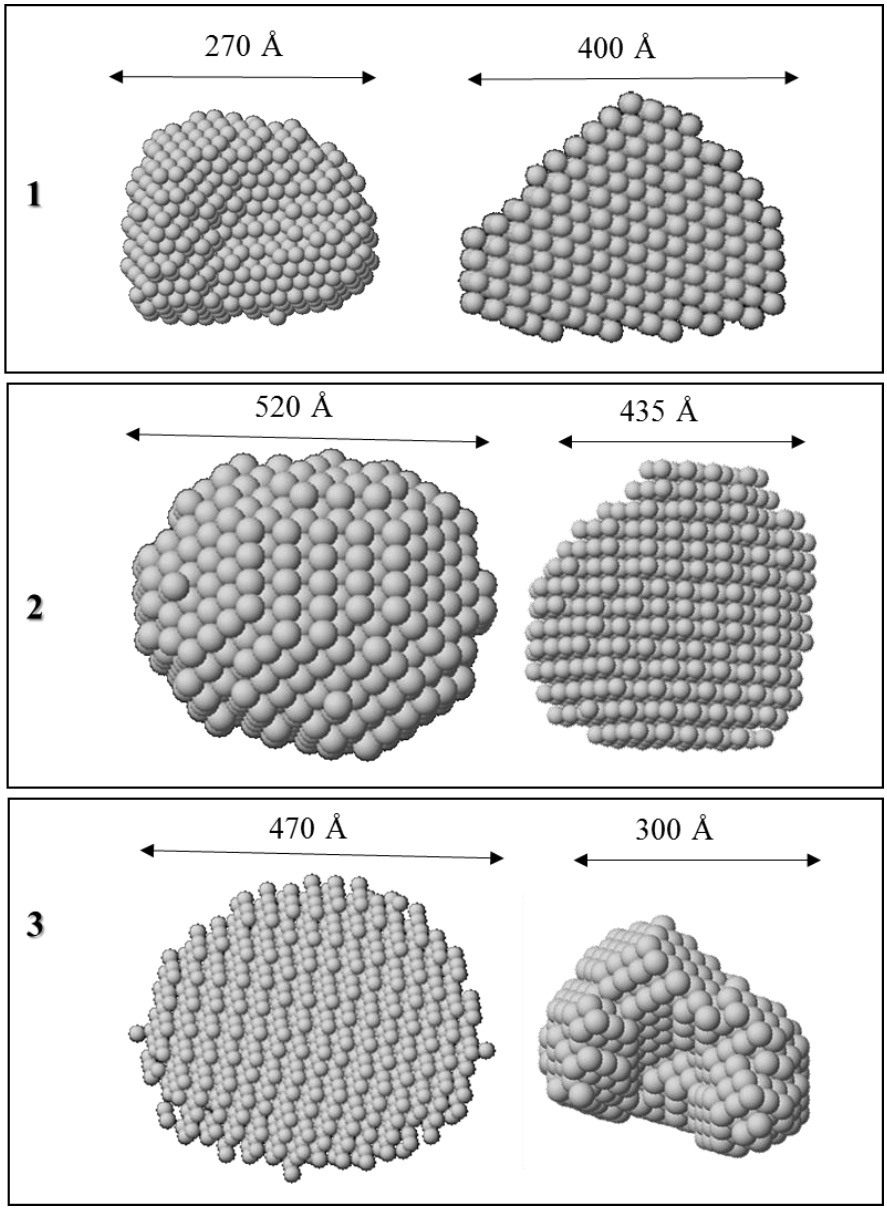


Figure S19. DAMMIN low-resolution structures reconstructed from SAXS patterns for $1 \cdot 10^{-5}$ M solutions of **1** (top), **2** (middle) and **3** (bottom) in the presence of one equivalent of pyrene (right). The corresponding patterns of the solutions of the hosts have been also included in the left column for better comparison purposes.

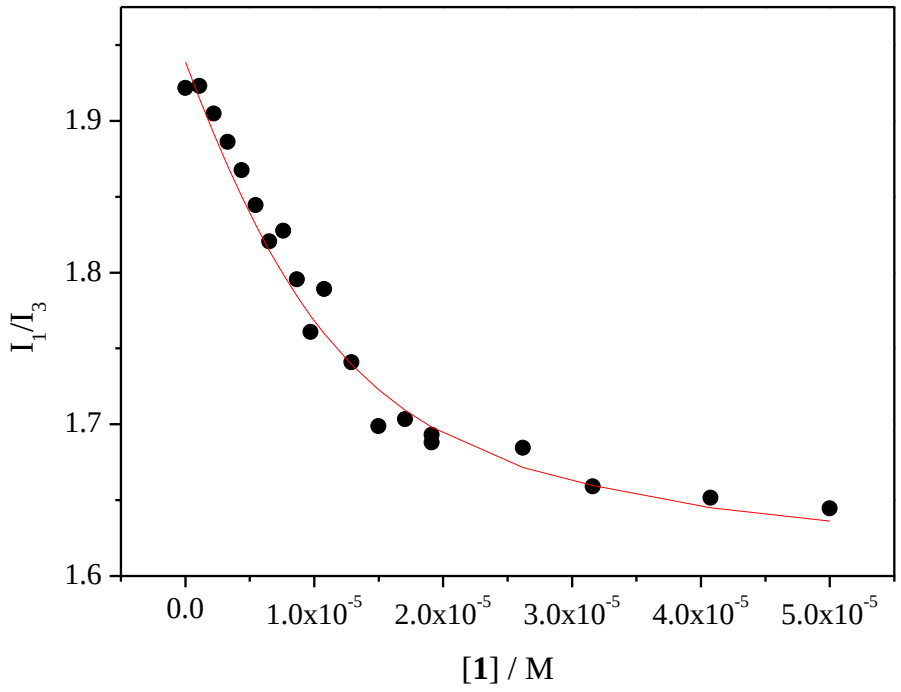


Figure S20. Plot of I_1/I_3 in the emission spectra vs concentration of **1** (black dots) and fitting of the I_1/I_3 emission data, assuming a 1:1 stoichiometry (red line).

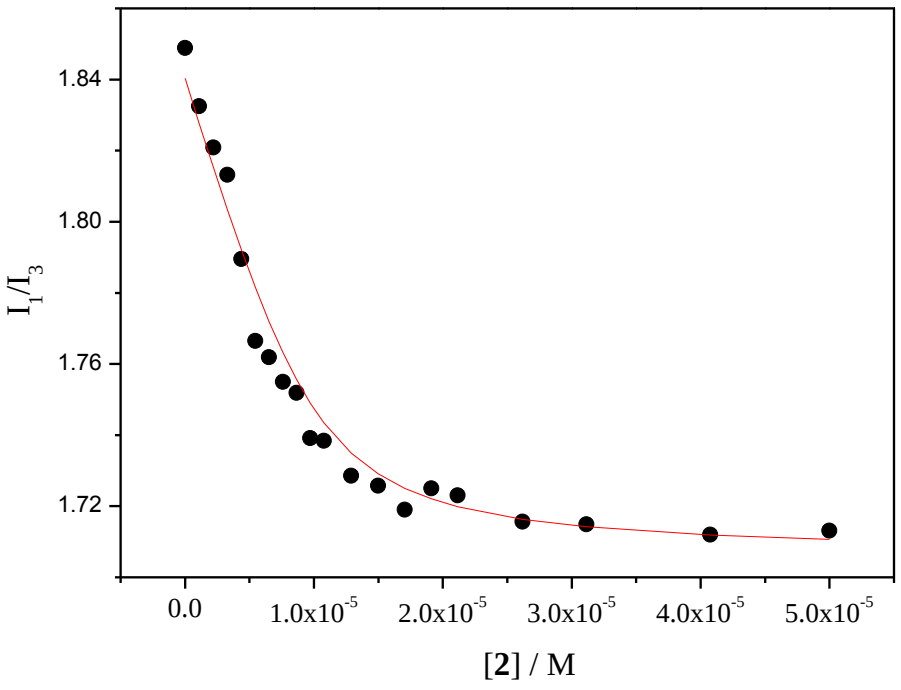


Figure S21. Plot of I_1/I_3 in the emission spectra vs concentration of **2** (black dots) and fitting of the I_1/I_3 emission data, assuming a 1:1 stoichiometry (red line).

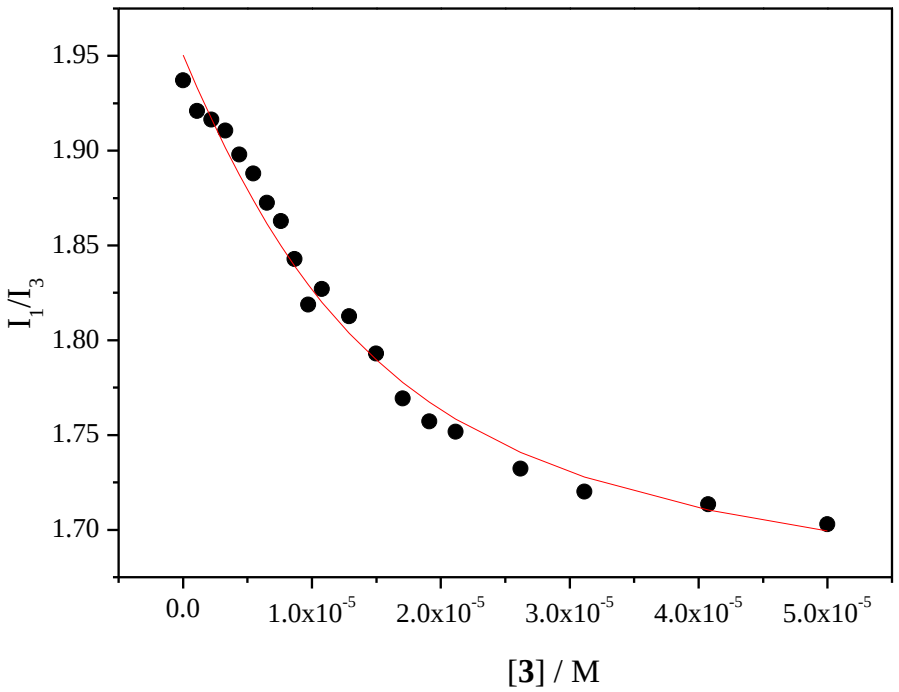


Figure S22. Plot of I_1/I_3 in the emission spectra vs concentration of **3** (black dots) and fitting of the I_1/I_3 emission data, assuming a 1:1 stoichiometry (red line).

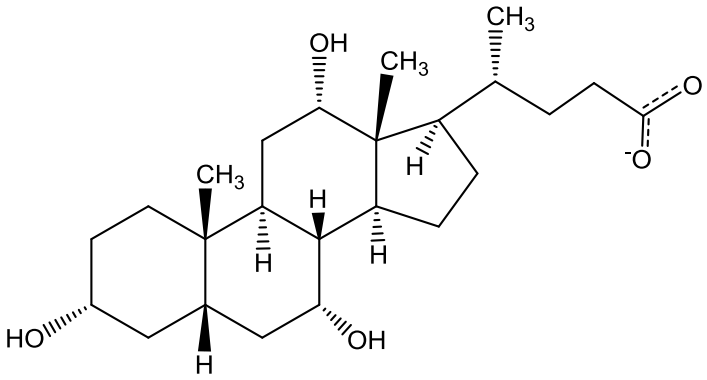


Figure S23. Chemical structure representation of cholate anion.

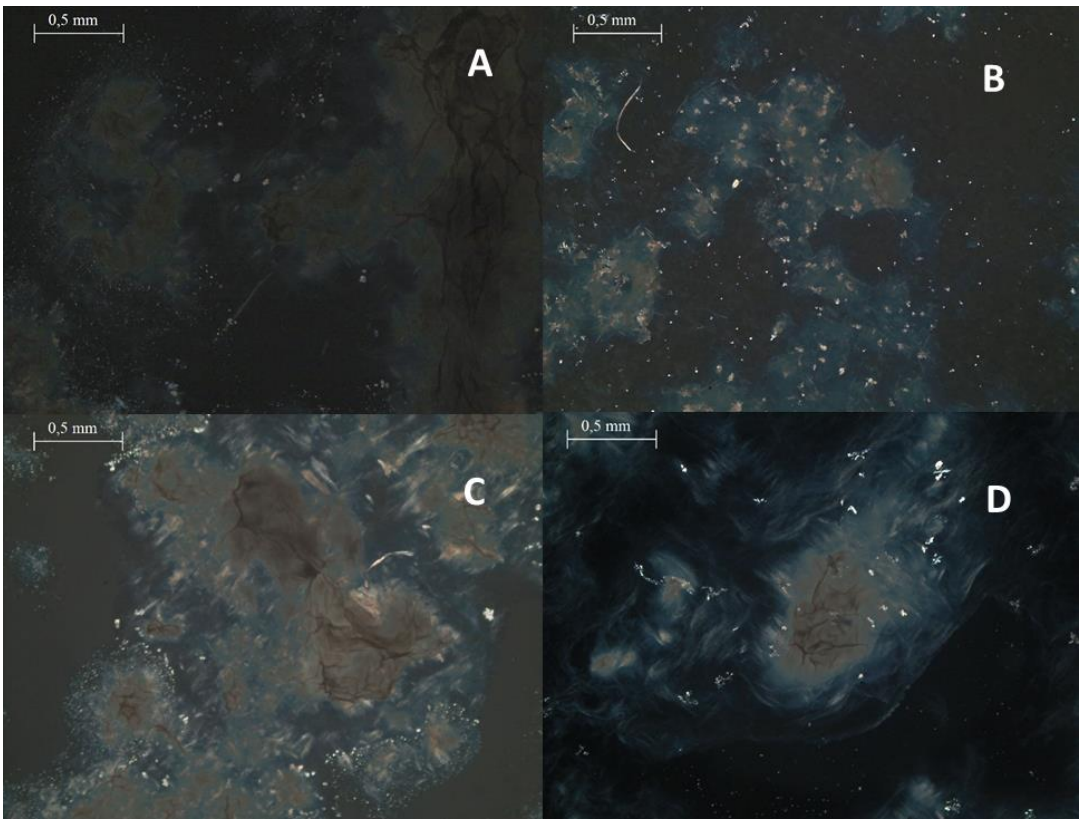


Figure S24. Optical microscopy image of dried samples of cholate hydrogel (A); **1** @ cholate (B); **2** @ cholate (C) and **3** @ cholate (D). Smaller and more brilliant aggregates are indicative of the presence of gold(I) complexes.

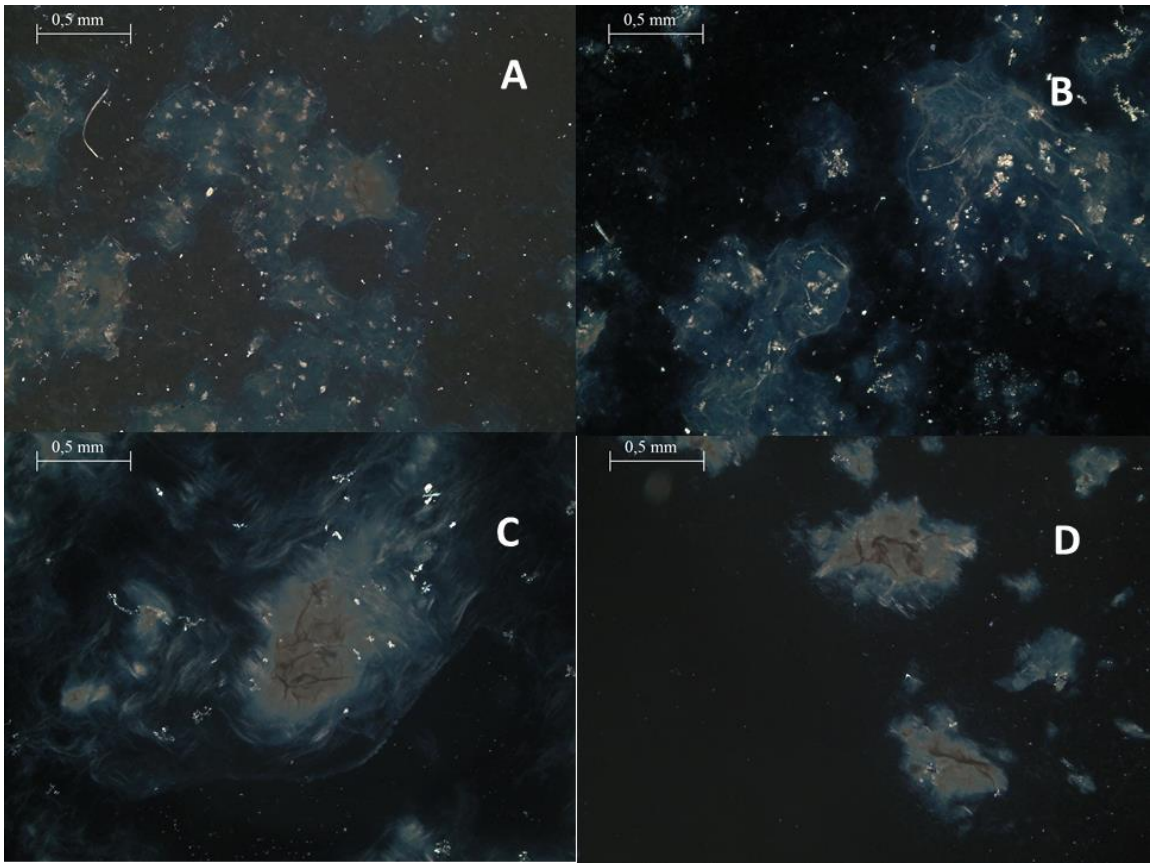


Figure S25. Optical microscopy image of dried samples of **1** @ cholate (A); **1** : pyrene @ cholate (B); **3** @ cholate (C) and **3** : pyrene @ cholate (D).

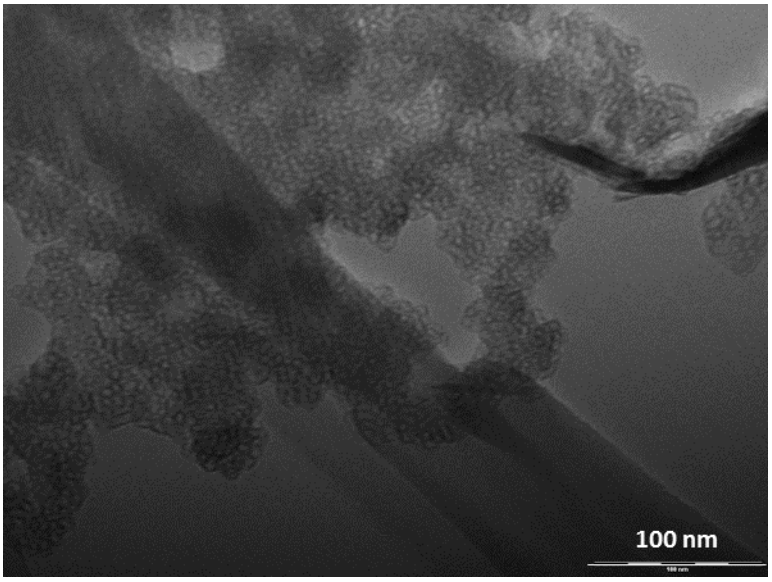


Figure S26. Transmission electron microscopy image of **1**: pyrene @ cholate after electron beam irradiation.