

Entrapment of organic molecules within binary metal alloys

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Supporting information

Figure S1 shows the UV-vis absorption spectra of the supernatant (line i) and the acidic wash (line ii) for the preparation of NR@Ag-Au with comparison to the spectra of free gold cations (line iii) and the dye (line iv). Information on the silver cations could not be obtained since their absorbance cannot be distinguished from the absorbance of the zinc cations formed due to the entrapment procedure. Looking at the supernatant spectrum (line i), we suggest that the peaks around 300 and 350 nm correspond to those of gold cations (line iii). The acidic wash spectrum (line ii) shows absorbance through a wide range of wavelengths, therefore making it hard to determine the presence of gold cations in it. A rough estimation regarding the presence of gold cations in the acidic wash can be made according to the relative absorption intensities of the dye neutral red's peaks (at 530 and 270 nm) in the free dye's spectrum (line iv) compared to those peaks relative intensities in the acidic wash spectrum (line ii). In the free neutral red spectrum, the absorbance is almost the same for the two peaks. On the other hand, the absorbance of the peak around 270 nm in the acidic wash is about twice that of the peak around 530 nm, and since the gold cations absorb in the 270 nm peak region as well, it is possible that they are present in the acidic wash of the NR@Ag-Au sample.

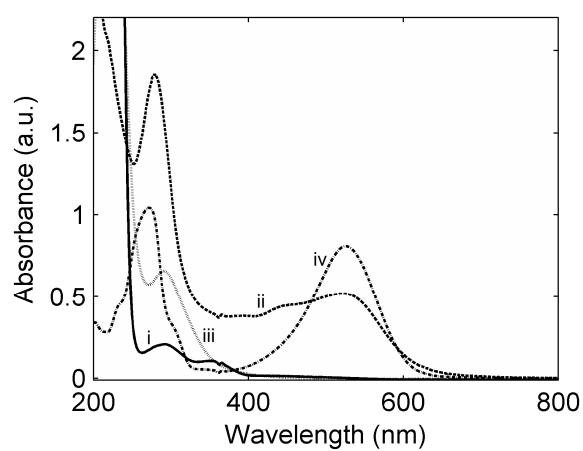


Figure S1: UV-vis absorption spectra of the supernatant (line i) and 1M acidic HCl wash (line ii) compared to the spectra of gold cations (line iii) and the free dye (line iv) in NR@Ag-Au.