

Electronic Supplementary Information (ESI)

Application of ferrocene-resorcinarene in the silver nanoparticles synthesis

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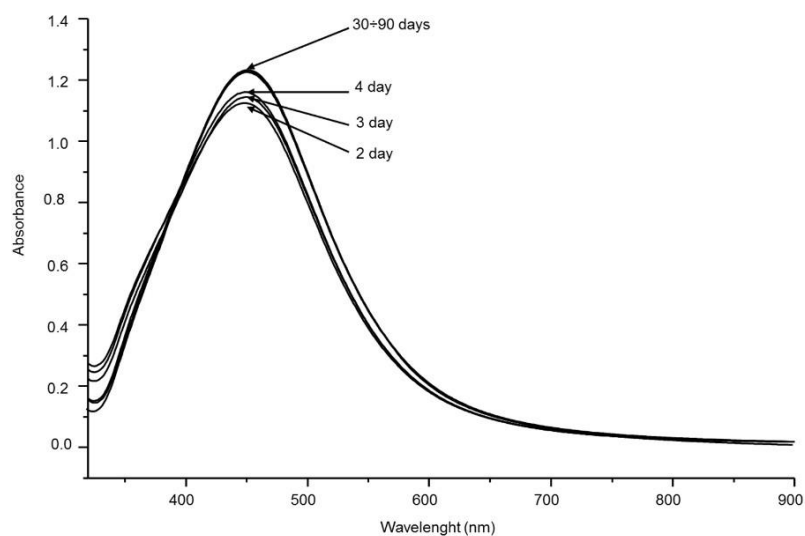


Fig. S1 UV-Vis spectra of the mixture of AgNO₃ and FcCA being reacted from 2 to 90 days ($C(\text{AgNO}_3) = 0.25 \text{ mM}$, $C(\text{FcCA}) = 0.025 \text{ mM}$, $25 \text{ }^\circ\text{C}$, H_2O , $l = 1 \text{ cm}$).

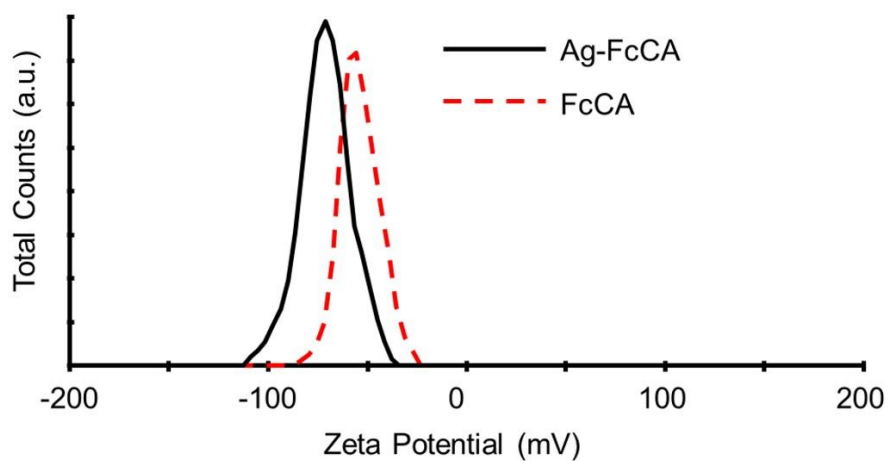


Fig. S2 Zeta potentials of Ag₁₀-FcCA (C = 0.09 mg/ml) and FcCA (C = 0.1 mM) (H₂O, 25 °C).

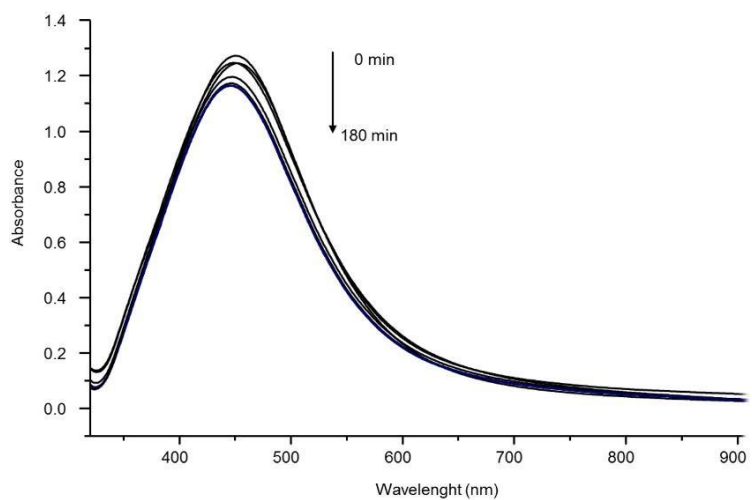


Fig. S3 Ag₁₀-FcCA UV-spectra changes upon irradiation with 450 nm (C = 0.9 mg/ml, 25 °C, H₂O, l = 1 cm).

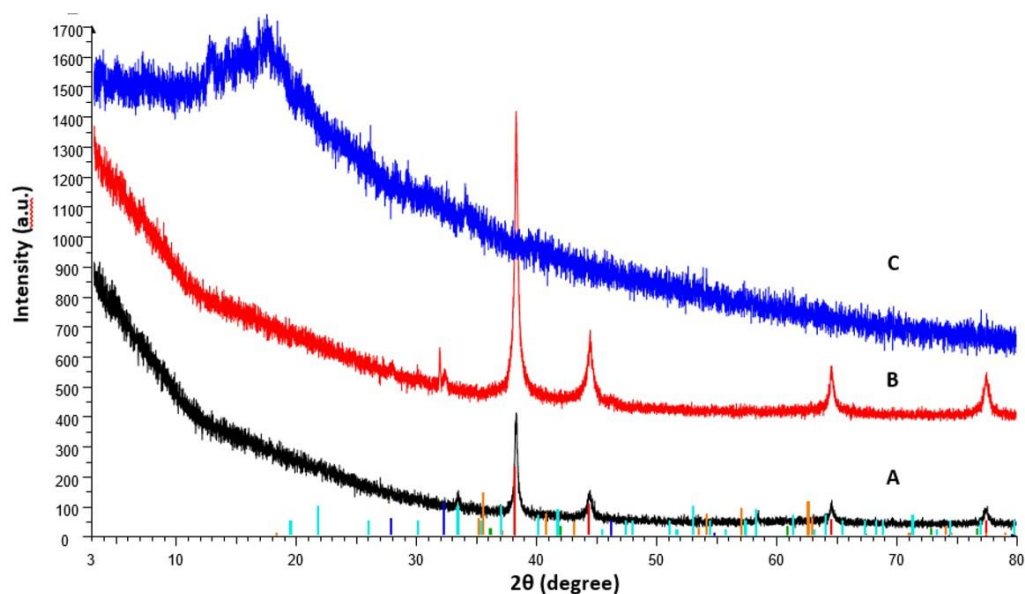


Fig. S4. Experimental diffraction patterns of (A) $\text{Ag}_{10}\text{-FcCA}$, (B) $\text{Ag}_{30}\text{-FcCA}$ and (C) the ferrocene-containing resorcinarene FcCA. Red vertical lines show the position of the interference peaks corresponding to a crystalline silver (Silver, syn., No. 01-087-0720 in the PDF database); dark blue lines correspond to AgBr, syn., No. 01-079-0149; light blue lines correspond to Goethite, $\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$, No. 00-002-0281; green lines correspond to Wustite, FeO, No. 00-002-1180; orange lines correspond to Magnetite, Fe_3O_4 , No. 00-001-1111.

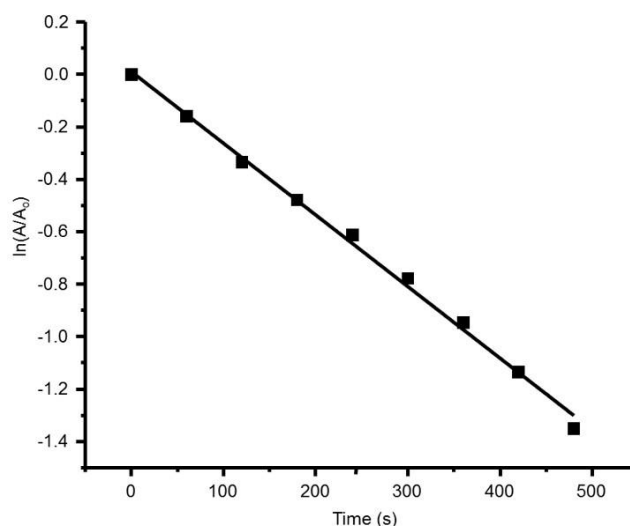


Fig. S5 Plot of $\ln[A/A_0]$ against time for the reduction of 4-NP by NaBH_4 in the presence of 40 nanomoles of $\text{Ag}_{10}\text{-FcCA}$ ($C(\text{pNPh}) = 0.113 \text{ mM}$, $C(\text{NaBH}_4) = 0.5 \text{ M}$, H_2O , $25 \text{ }^\circ\text{C}$, $l = 0.5 \text{ cm}$).