

Supplementary material *and/or* Additional information:

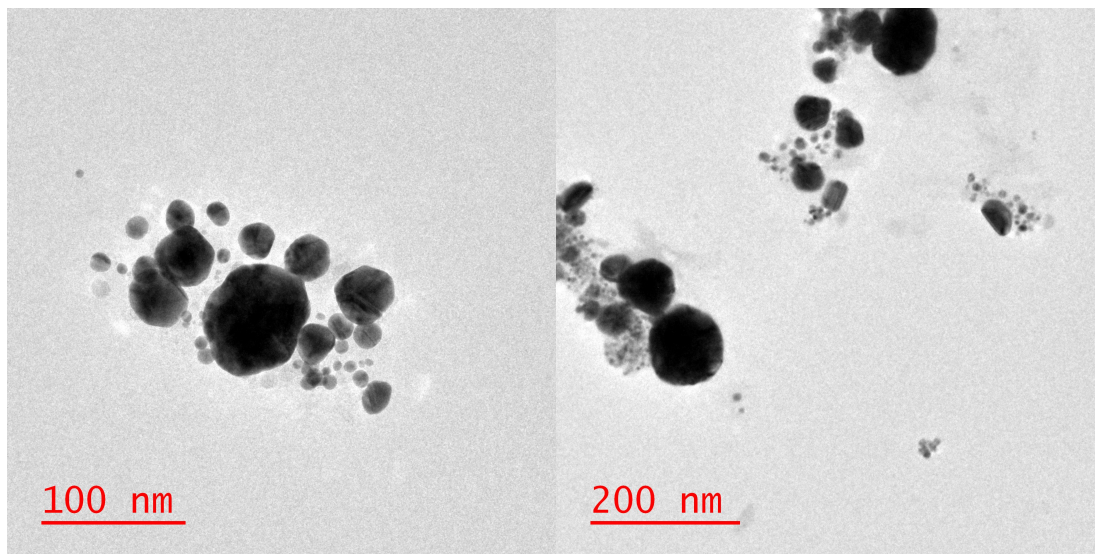


Fig. S3. HRTEM images of Fe₃O₄-AuNPs synthesized for 1.5 hours without an incremental increase in temperature (10°C/minute) (200 and 100 nm scale bars)

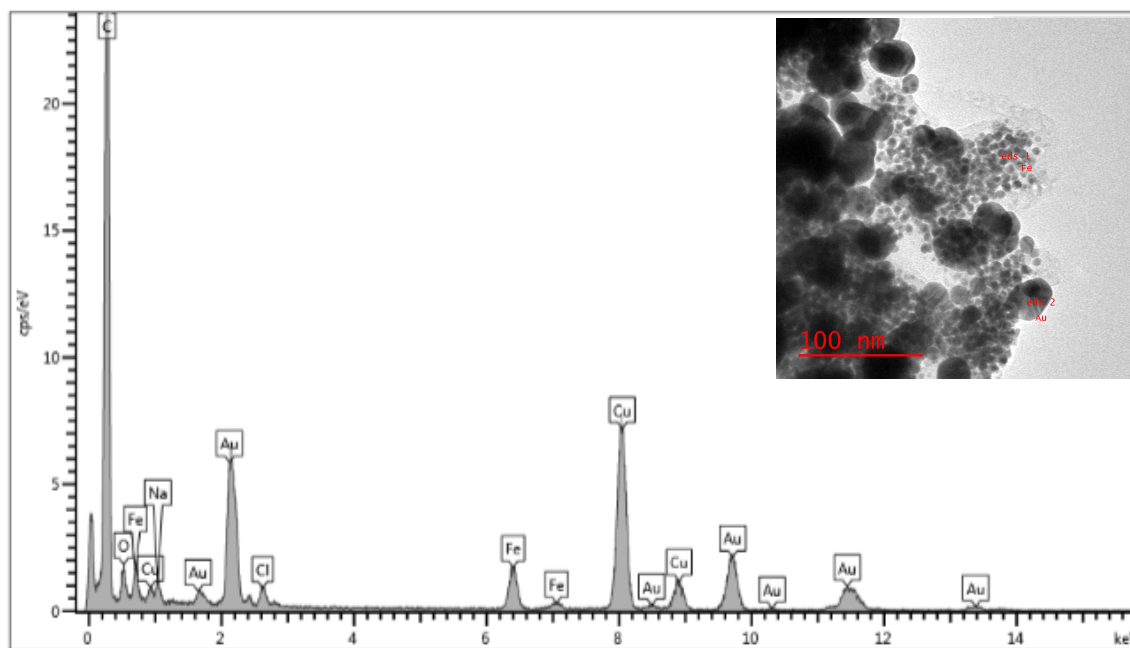


Fig. S4A. HRTEM image and corresponding EDS spectra of Fe₃O₄-AuNPs synthesized for 1.5 hours without an incremental increase in temperature (10°C/minute)

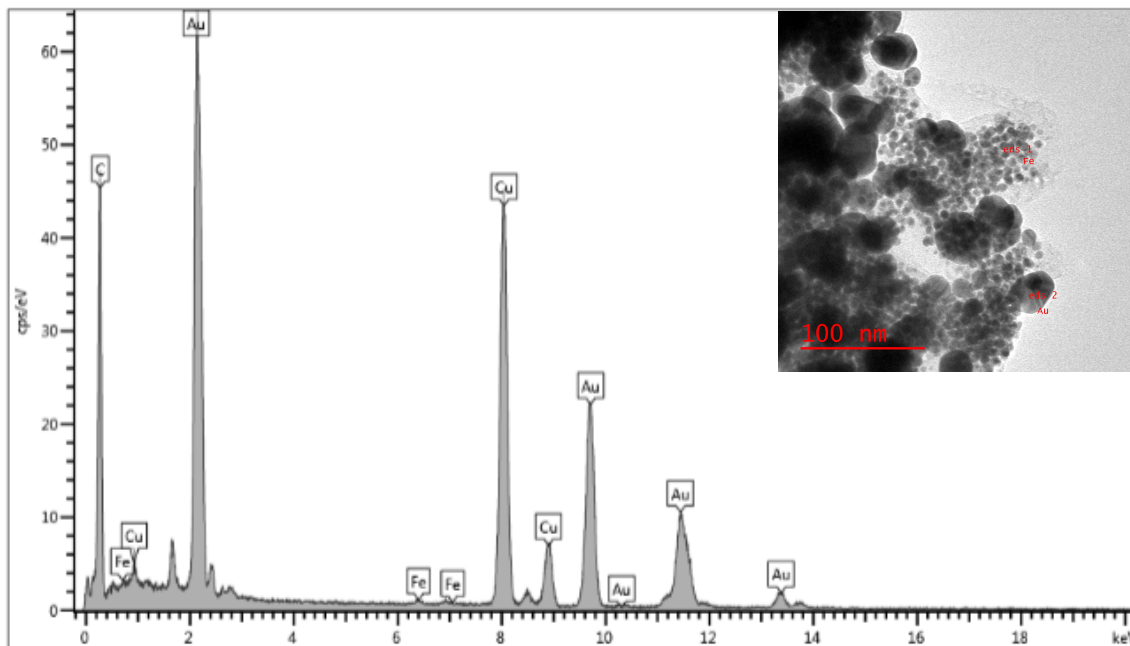


Fig. S4B. HRTEM image and corresponding EDS spectra of Fe_3O_4 -AuNPs synthesized for 1.5 hours without an incremental increase in temperature ($10^\circ\text{C}/\text{minute}$)

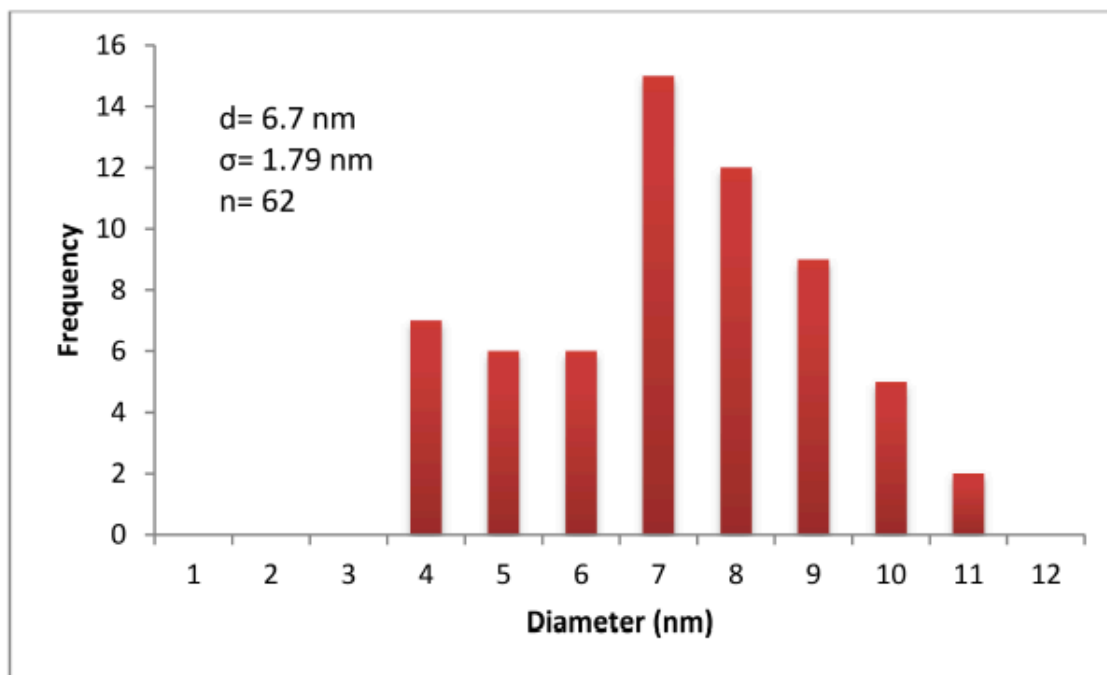


Fig. S5. Size distribution of Fe_3O_4 -AuNPs synthesized for 1.5 hours without an incremental increase in temperature ($10^\circ\text{C}/\text{minute}$)

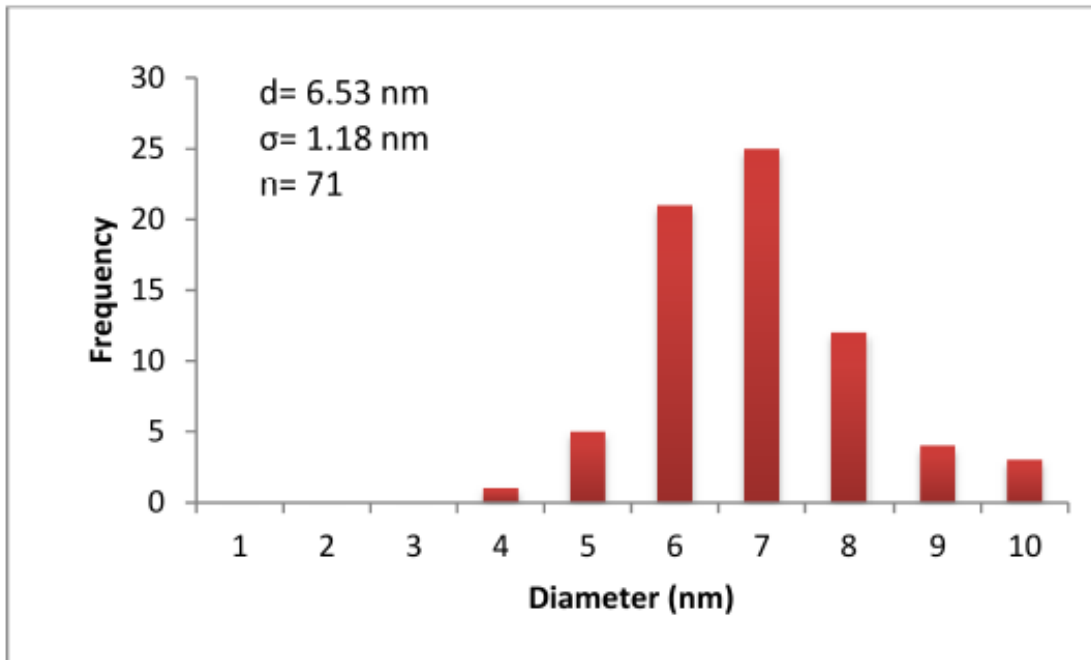


Fig. S6. Size distribution of Fe_3O_4 -AuNPs synthesized for 3 hours with an incremental increase in temperature ($10^\circ\text{C}/\text{minute}$)

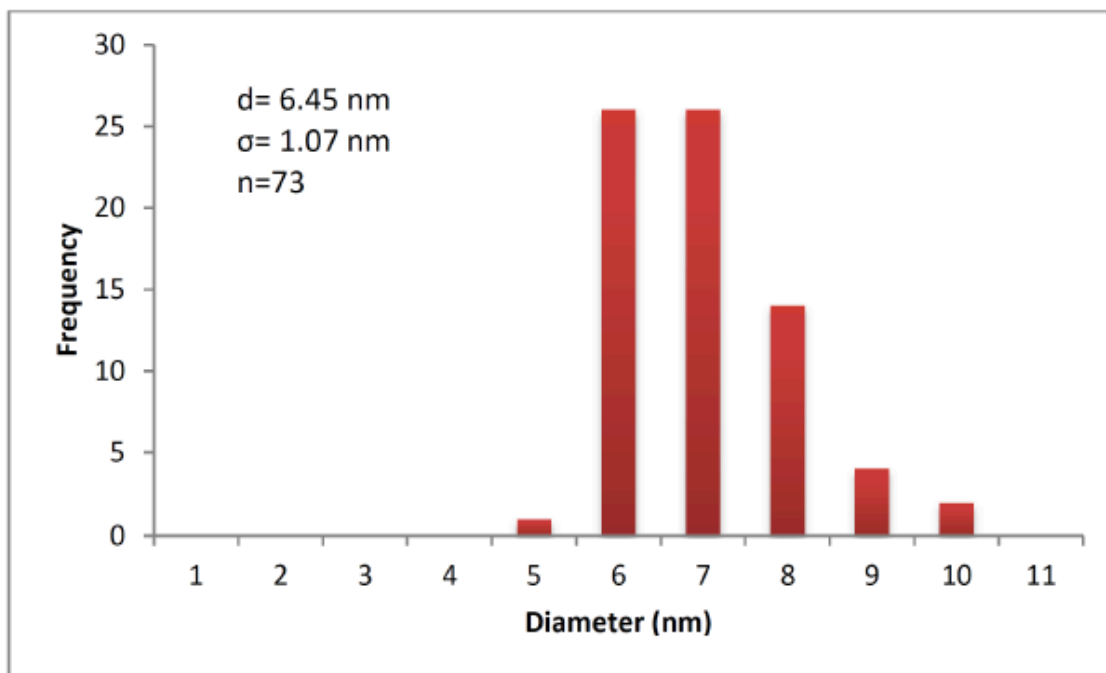


Fig. S7. Size distribution of DMAP transferred Fe_3O_4 -AuNPs

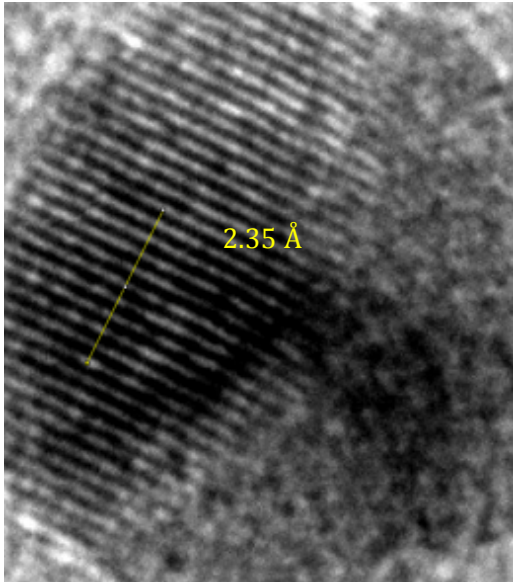


Fig. S8. HRTEM image of Fe_3O_4 -AuNPs displaying the distance over an average of 10 lattice spacings

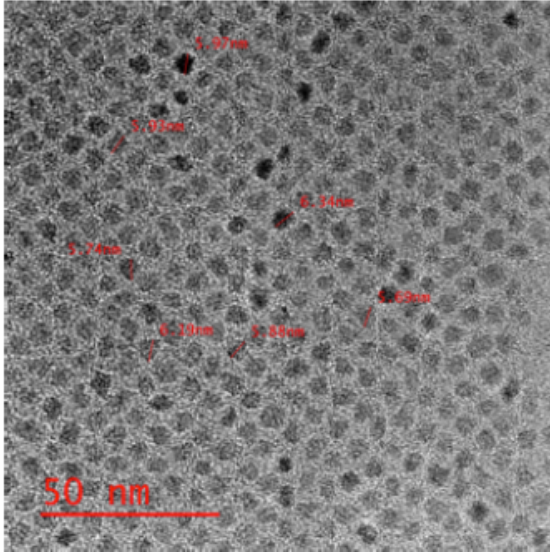


Fig. S9. HRTEM image displaying the average size distribution of Fe_3O_4 NPs with a 50 nm scale bar

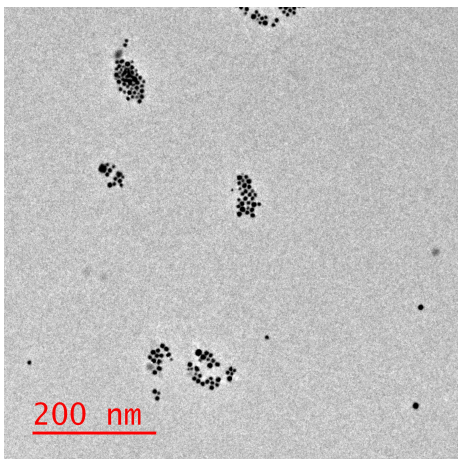


Fig. S10. HRTEM image of TMAOH transferred citrate-capped Fe_3O_4 - AuNPs with a 200 nm scale bar

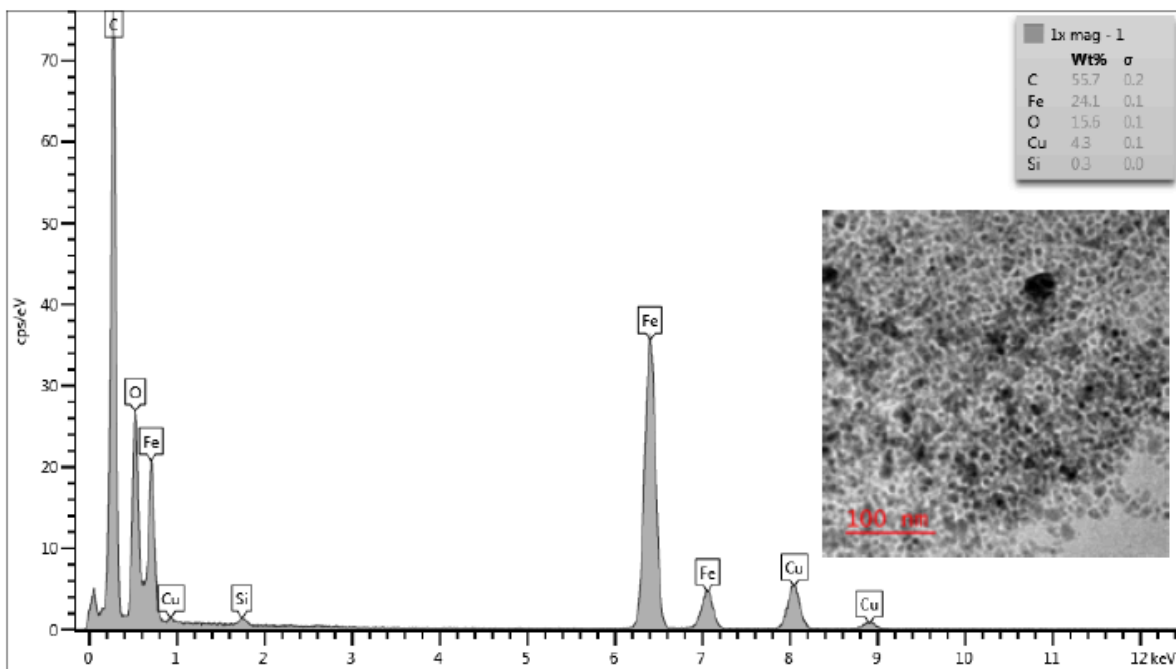


Fig. S11. TEM image with a 100 nm scale bar and associated EDS analysis of nanoparticles on the magnet after a mix of Fe_3O_4 nanoparticles and AuNPs were separated by magnetic separation

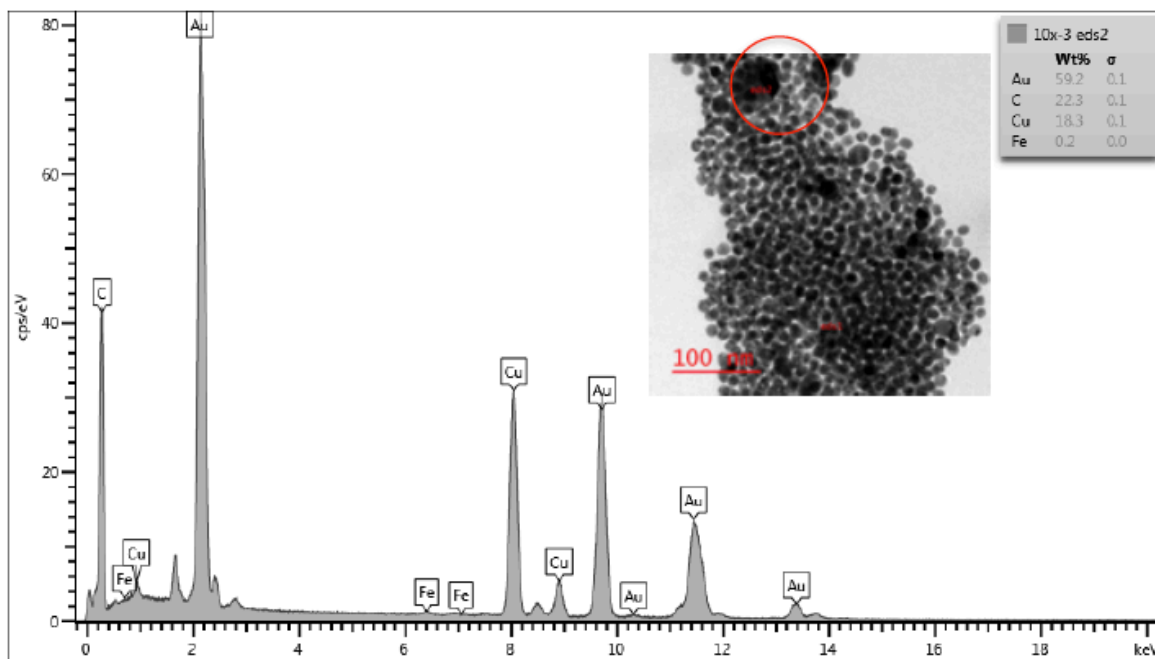


Fig. S11. TEM image with 100 nm scale bar and associated EDS analysis of nanoparticles in the supernatant after a mix of Fe₃O₄ nanoparticles and AuNPs were separated by magnetic separation