Electronic Supplementary Information

Colloidal properties of water dispersible magnetite nanoparticles by photon correlation spectroscopy.

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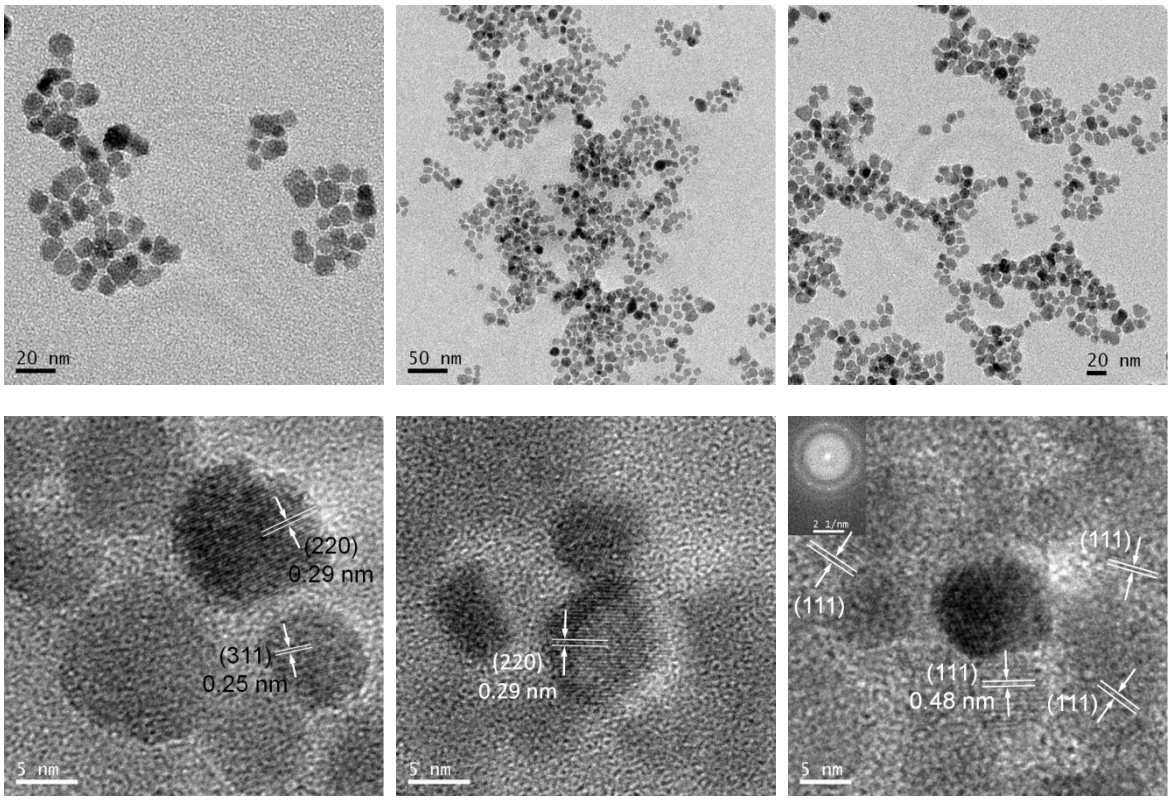


Fig. S1 Bright field as well as high resolution TEM images of TMAH coated magnetite nanocrystals.

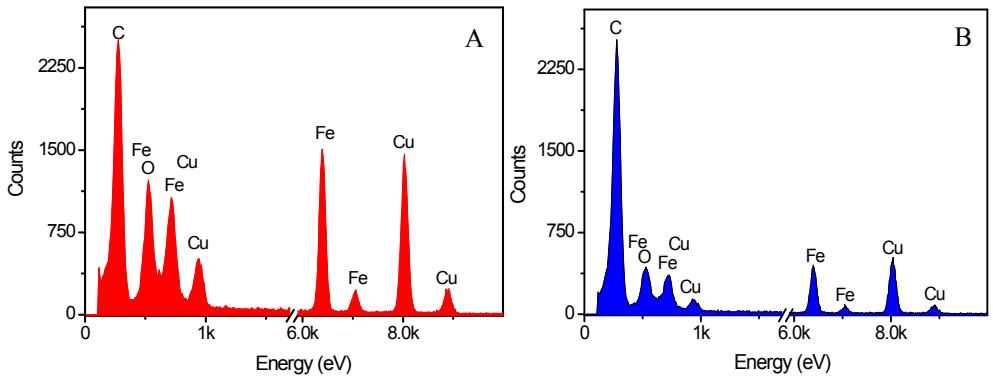


Fig. S2 Energy dispersive spectra of synthetic magnetite A) AM as well as B) coated sample TMA over the TEM grid

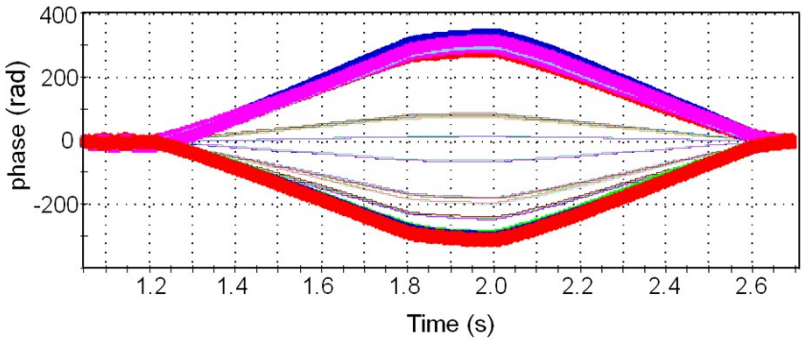
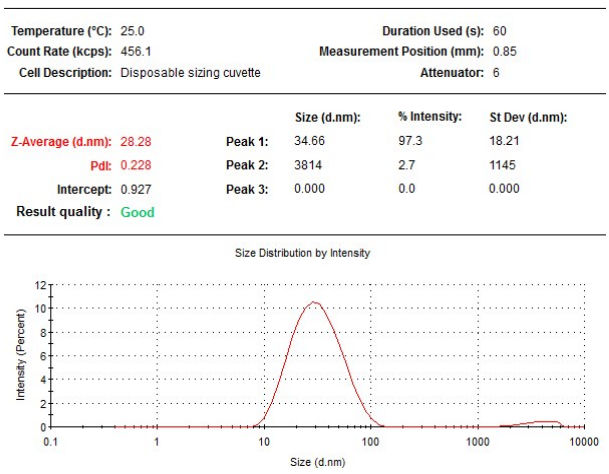
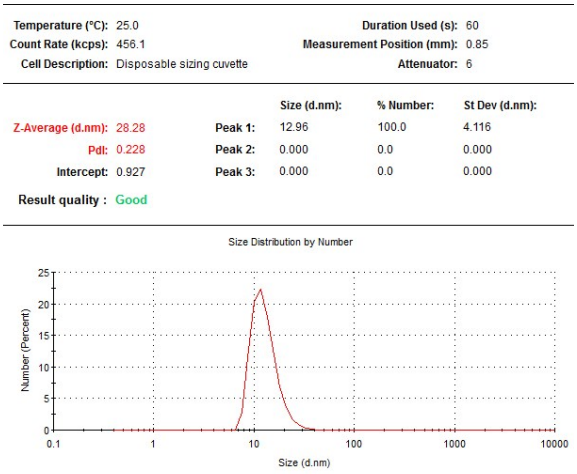
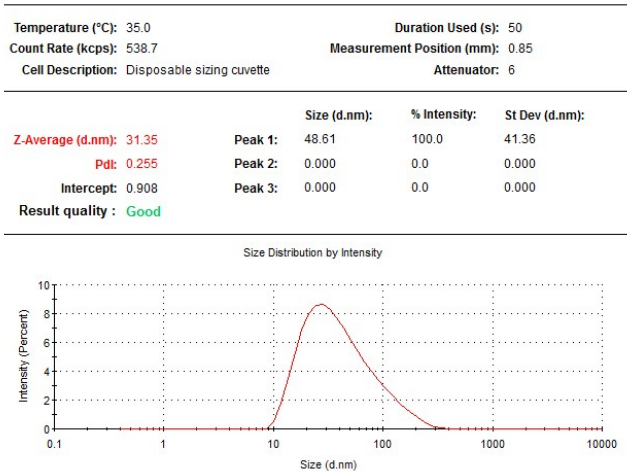
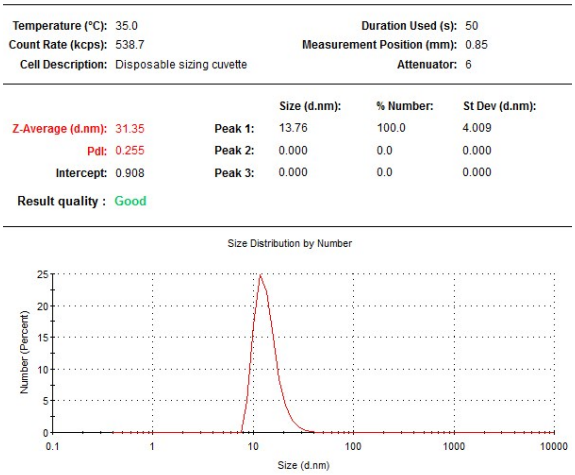


Fig. S3 The associated phase changes from negative to positive with zeta potential of magnetite nanocrystals suspension while varying the pH of surrounding medium from 13-2.









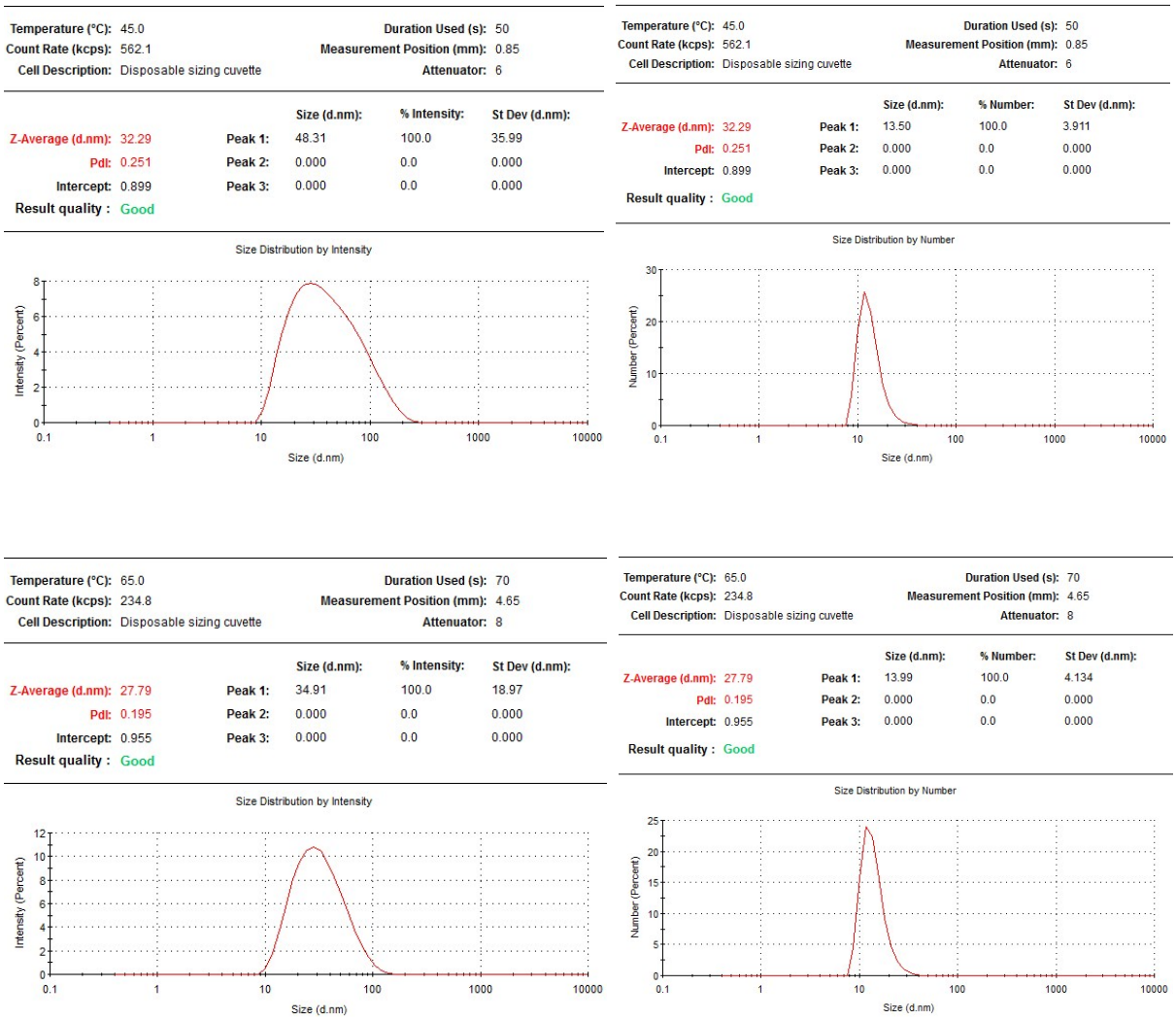


Fig. S4 Few snap shots of aqueous magnetite suspension recored at variuos temperatures 25, 35, 45, 65 °C by photon correlation spectroscopy showed unimodal typical guassian type. Right side is the intensity (%) based size distribution and the left is the number (%) size distribution which was calculated from the corresponding intensity.

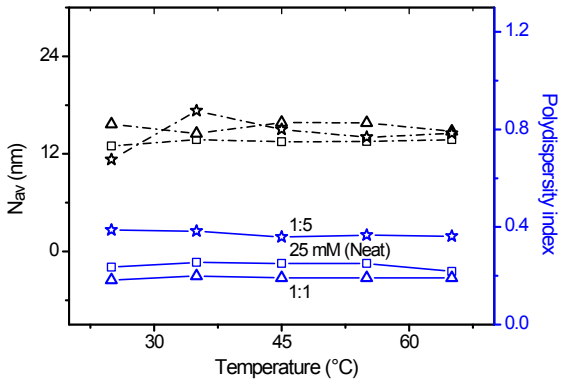


Fig. S5 Hydrodynamic size as N_{av} and the colloidal stability as a function of temperature for MNPs suspension examined at various concentrations, the mean particle size (dotted layer) plotted against polydispersity index (solid layer) with different concentrations neat (box), 1:1 (triangle), 1:5 (star) dilutions.