Electronic Supplementary Material (ESI) for Soft Matter.

Supplementary Materials

Magnetic field enabled *in-situ* control over structure and dynamics of colloids interacting via SALR potentials

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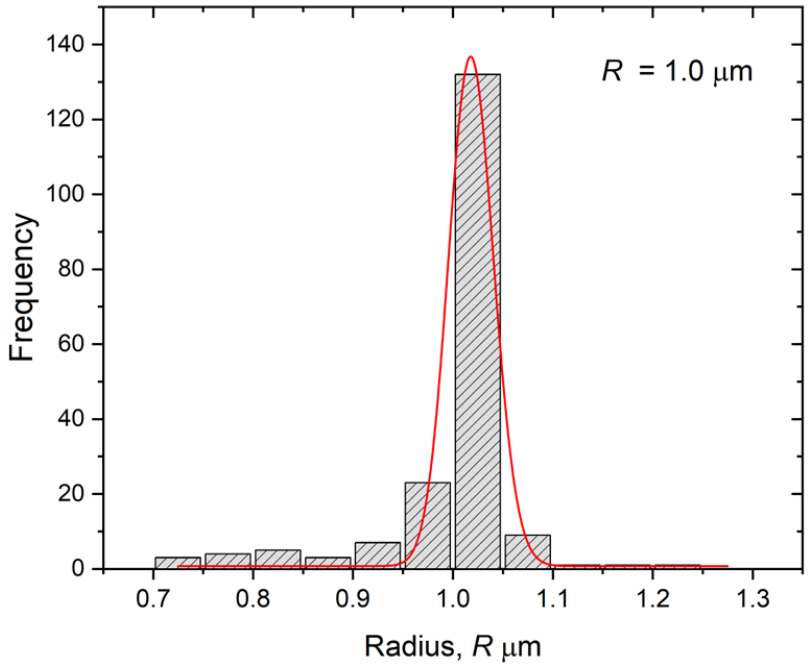
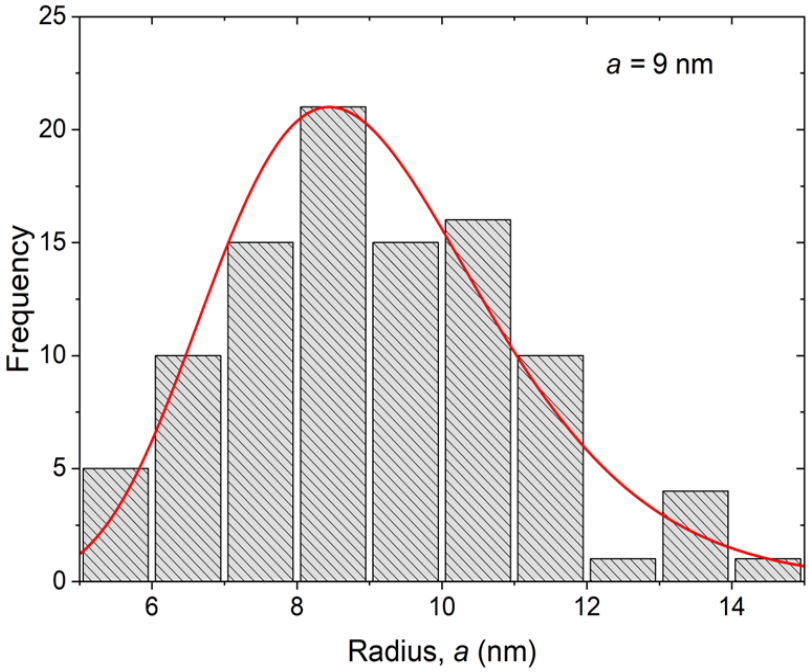
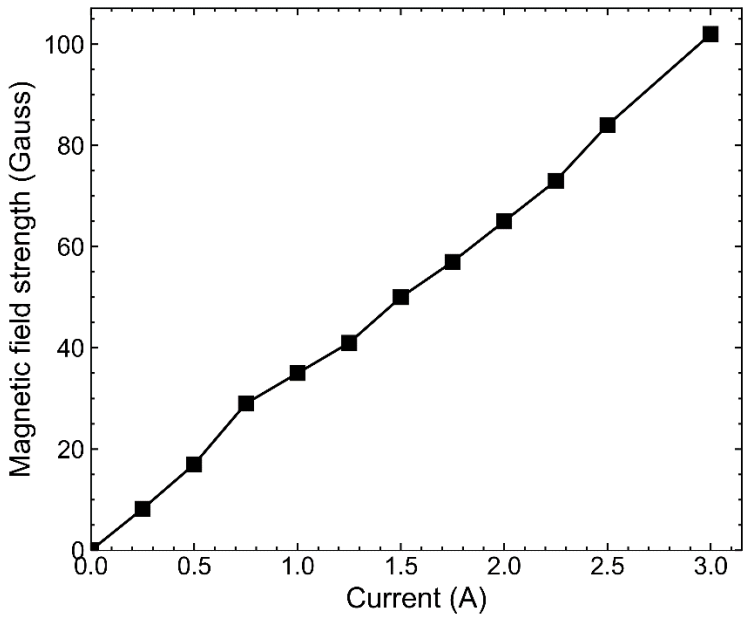


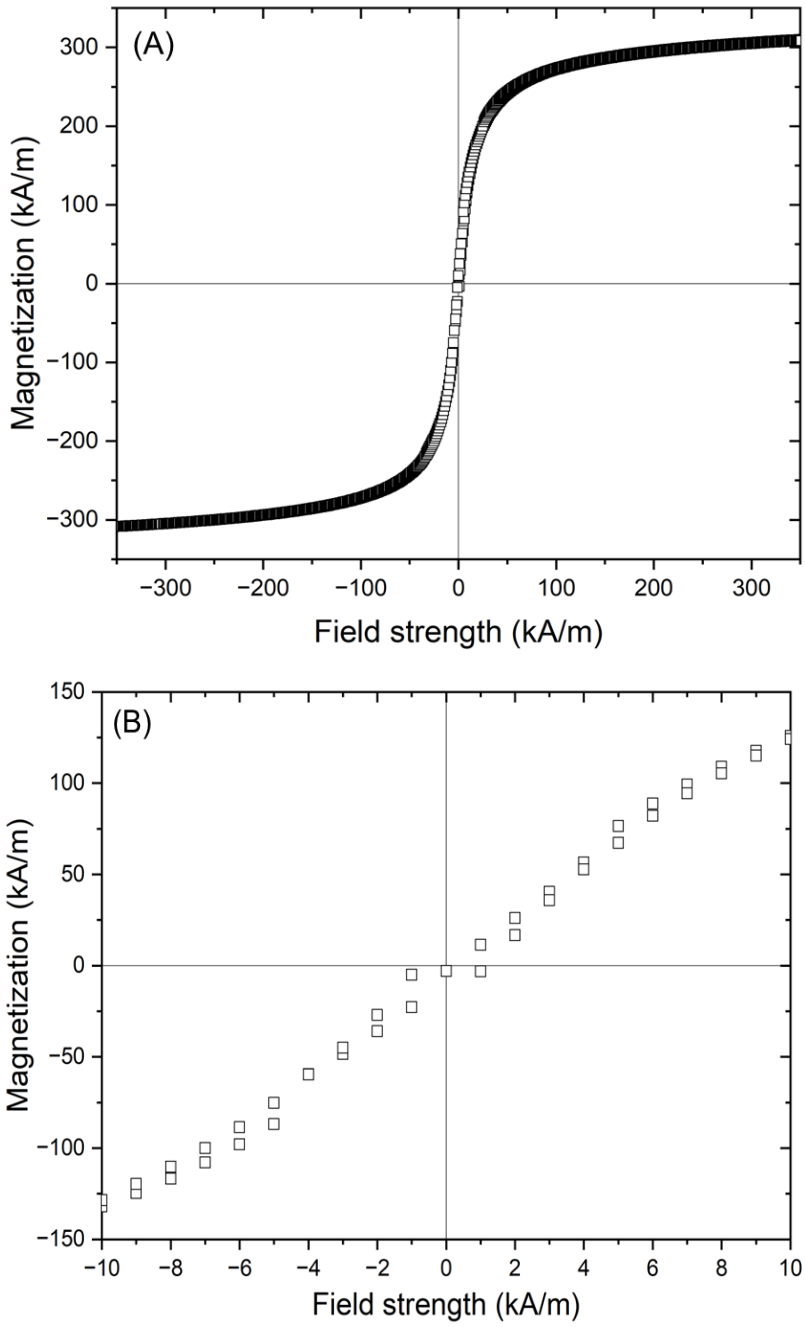
Supplementary Figure 1. Particle size distribution of polystyrene microspheres computed by image analysis. The distribution yields a mean value of R = 1 μm.



Supplementary Figure 2. Particle size distribution of iron oxide nanoparticles (EMG 705, Ferrotec) computed by image analysis using captured Transmission electron micrographs. The distribution yields a mean value of a = 9 nm



Supplementary Figure 3. The calibration curve for the Helmholtz coil is wired to a direct current (DC) power supply to generate a uniform out-of-plane magnetic field. Magnetic field strength is obtained using a handheld magnetometer (AlphaLab Inc. GM2).



Supplementary Figure 4. Magnetic properties of the MNPs at the stock concentration (2.3 vol %) are measured using Superconducting Quantum Interference Device (SQUID) magnetometry**. (A)** The magnetization curve displays and saturation at approximately 50,000 A/m and no hysteresis. **(B)** A linear fit for MNPs in the range of field strength used (0 – 10 kA/m).