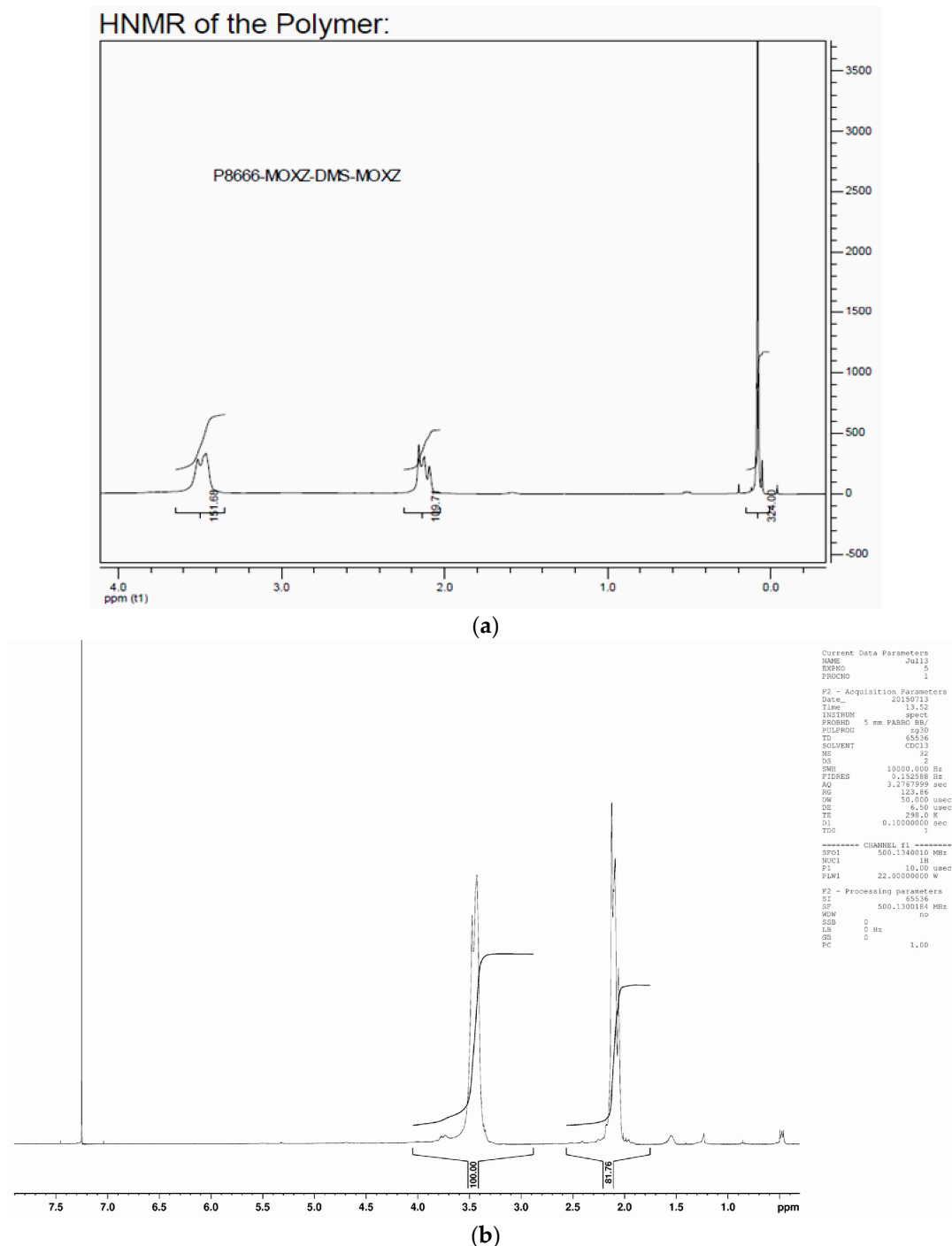
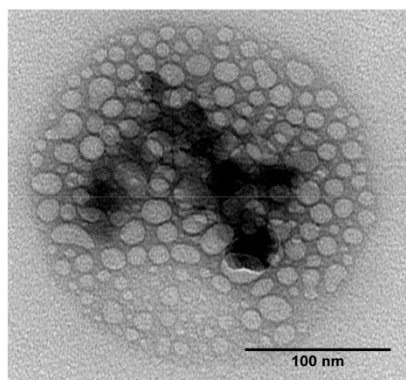


# Supplementary Materials: Synthesis of ABA Tri-Block Co-Polymer Magnetopolymersomes via Electroporation for Potential Medical Application

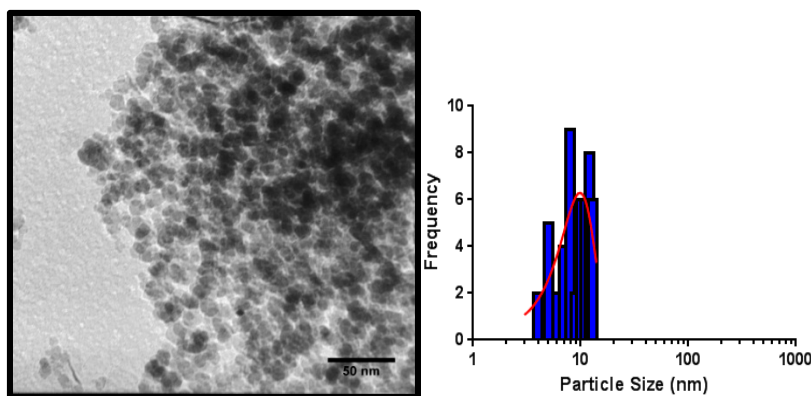
Jennifer Bain, Matthew E. Berry, Catherine E. Dirks and Sarah S. Staniland



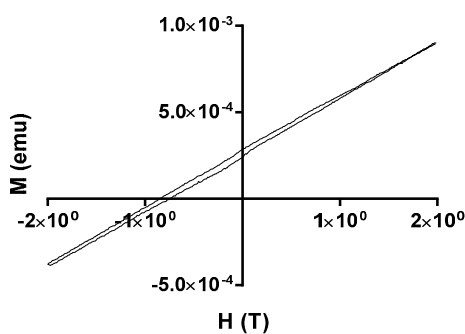
**Figure S1.** H NMR of the PMOXA-DMS-MOXA from (a) the Polymer Source provided data sheet and (b) our own spectrum of the batch used throughout the presented results. The spectra are comparable with both showing two distinct peaks corresponding to the 2 distinct blocks of the polymer. With the multiplet at 2.2 ppm representing the end methacrylate terminated blocks.



**Figure S2.** PMOXA–PDMS–PMOXA polymersomes containing NaOH (10 mM) after incubating in the standard iron ion solution with divalent cation ionophore A23187 at a 1% *v/v* ratio. TEM analysis after 12–24 h of incubation with the ionophore and iron solution showed poorly defined polymersomes containing a minimal amount of what appears to be amorphous iron-oxide (the darker regions on the bubbled grid).



**Figure S3.** (Left) A standard room temperature co-precipitation of magnetite with 10 mM NaOH; (Right) The corresponding TEM grainsizing showing an average nanoparticle size of  $9.28 \pm 2.69$  nm.



**Figure S4.** Magnetic Measurements. magnetopolymersomes were dried under vacuum in a pre-weighed Eppendorf sealed to minimize exposure to air. Magnetic measurements were taken using an Oxford Instruments Maglab vibrating sample magnetometer at 295 K using a varying external field between -2 and 2 T to obtain hysteresis. The plot shows the magnetopolymersomes to be superparamagnetic which corresponds with the particle size as measured by TEM.



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