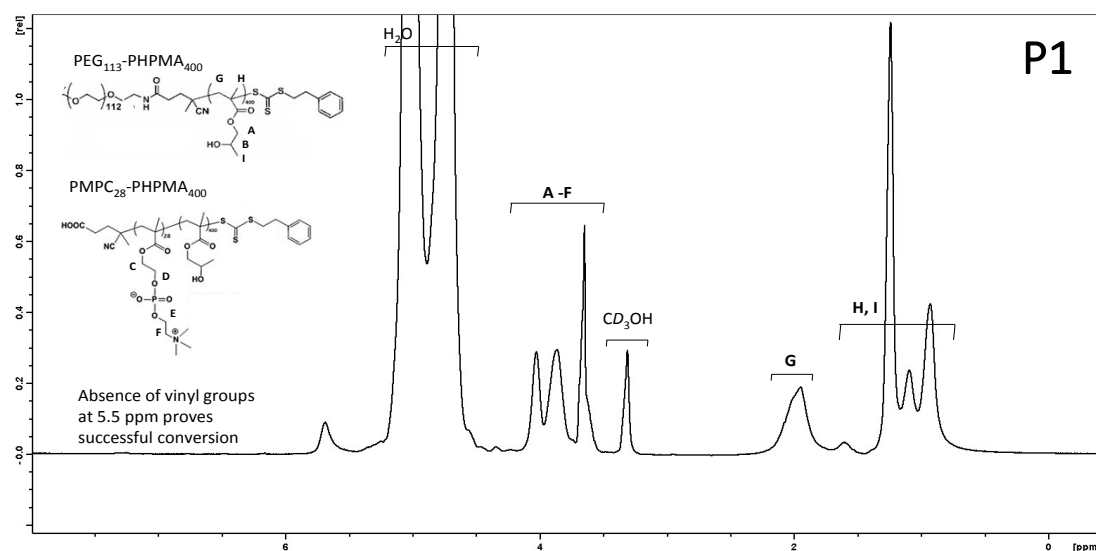


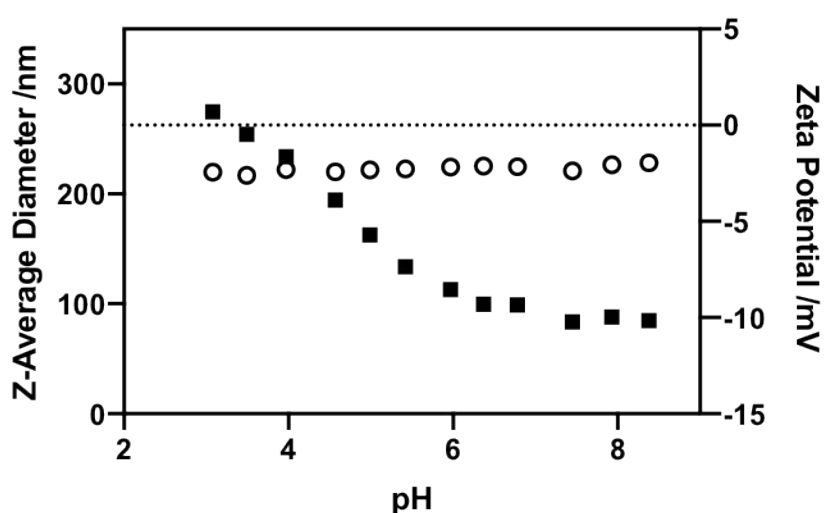
SUPPLEMENTARY INFORMATION

A biomimetic magnetosome: Formation of iron oxide within carboxylic acid terminated polymersomes.

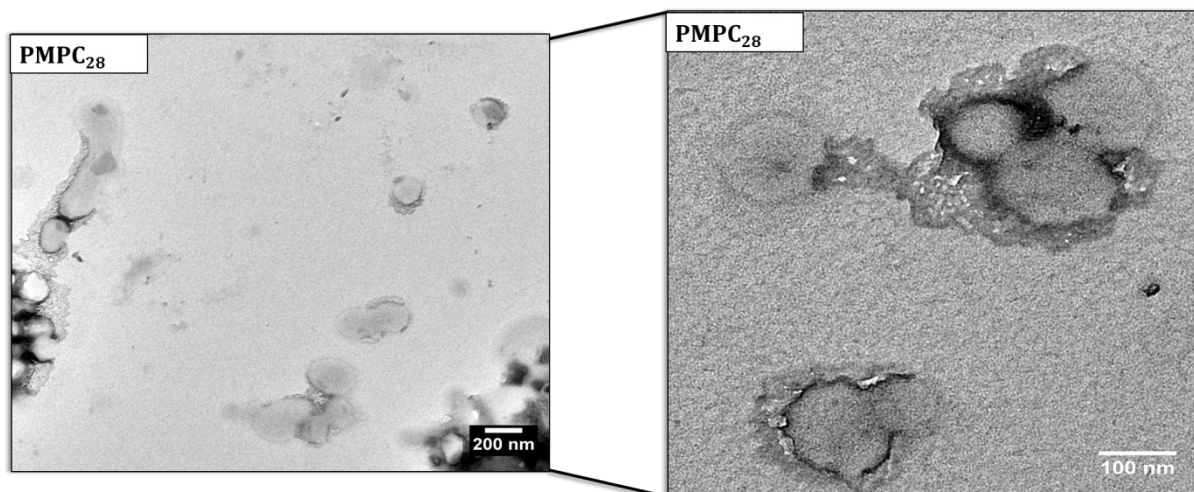
Jennifer Bain,^{a†} Christopher J. Legge,^{a†} Deborah L. Beattie,^{a†} Annie Sahota,^{a†} Catherine Dirks,^{a†} Joseph Lovett,^a Sarah S. Staniland.^{a*}



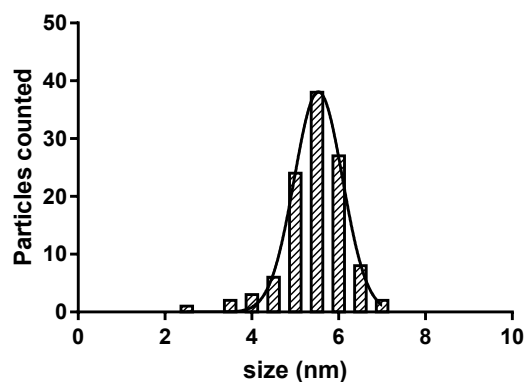
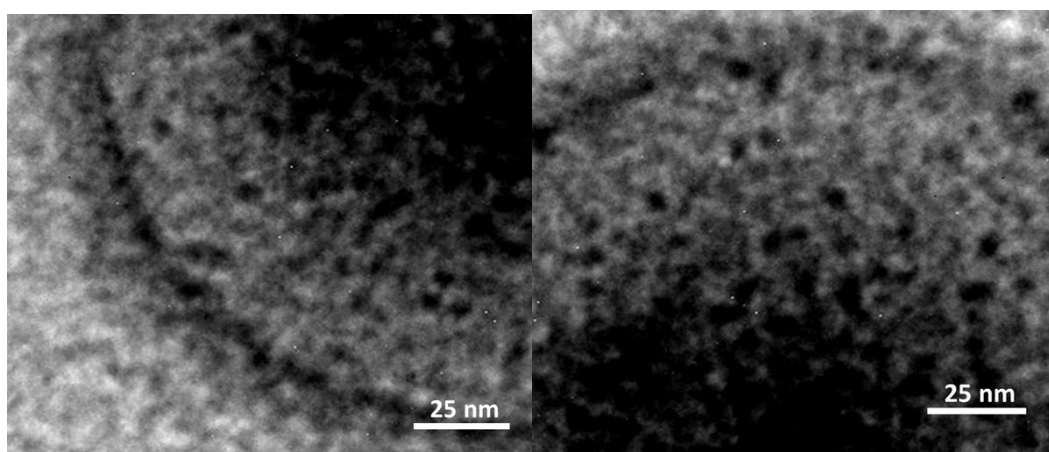
Supplementary Information 1: ¹H NMR of PEG-PHPMA/PMPC-PHPMA polymersomes to calculate conversion from monomer to polymer. Absence of vinyl peaks at 5.5 ppm confirms full conversion



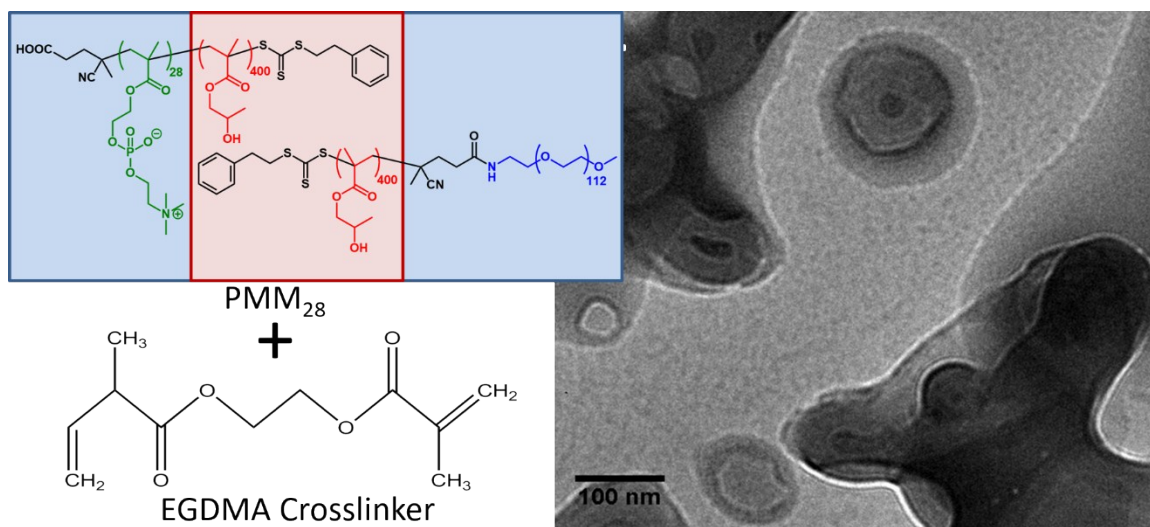
Supplementary Information 2: DLS (open circles) and zeta potential (squares) measurements performed on PMM₂₈.



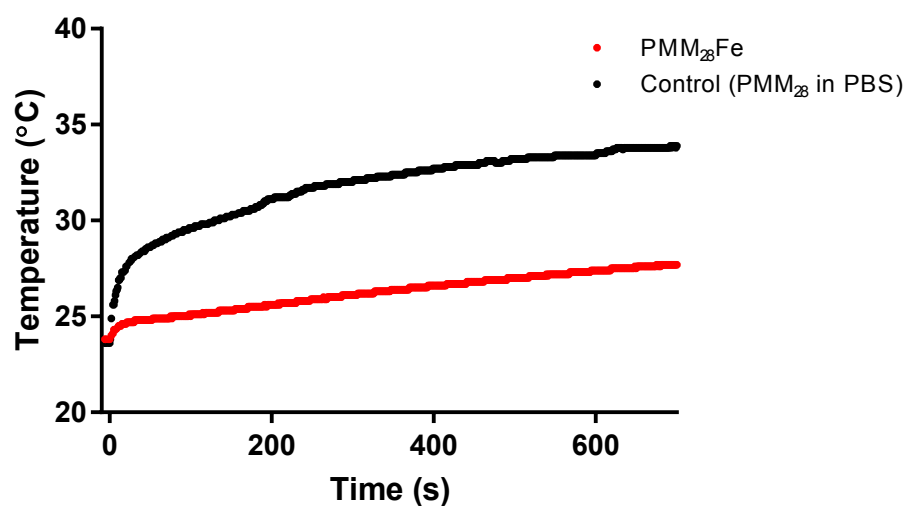
Supplementary Information 3: Unstained TEM images of PMM₂₈ which have been soaked in a mixed valence iron solution (10mM), (no electroporation).



Supplementary Information 4: High-magnification unstained TEM images of PMM₂₈Fe along with histogram of MNP particle diameter (from 100 particles measured), Gaussian fit 5.54nm 0.55 SD



Supplementary Information 5: Unstained TEM images of PMM₂₈ with the addition of ethylene glycol dimethylacrylate (EGDMA) cross-linker. PMM₂₈ samples have been soaked in NaOH (10 mM) before electroporation at 750 V (5 pulses) in the presence of excess mixed valance iron solution.



Supplementary Information 6: Raw hyperthermia data, for the PBS solution the polymersomes are stored in following final SEC clean-up (red) and the control unelectroporated polymer (blue) which have both been subtracted from the data shown in figure 6.