SUPPLEMENTARY MATERIAL

Biodegradable polyelectrolyte/magnetite capsules for MR imaging and magnetic targeting of tumors

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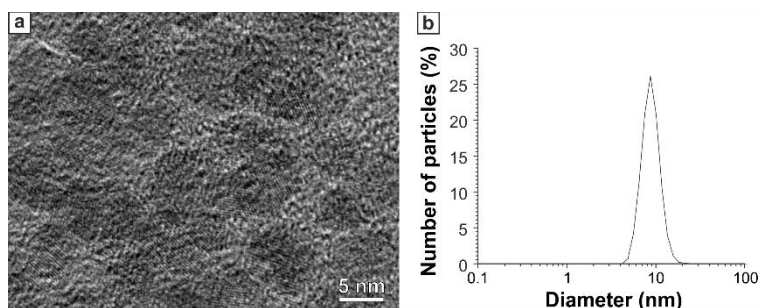
Figure SM1. (a) TEM image of colloidal dispersion of magnetite nanoparticles. (b) Distribution of magnetite nanoparticle diameter measured by DLS.
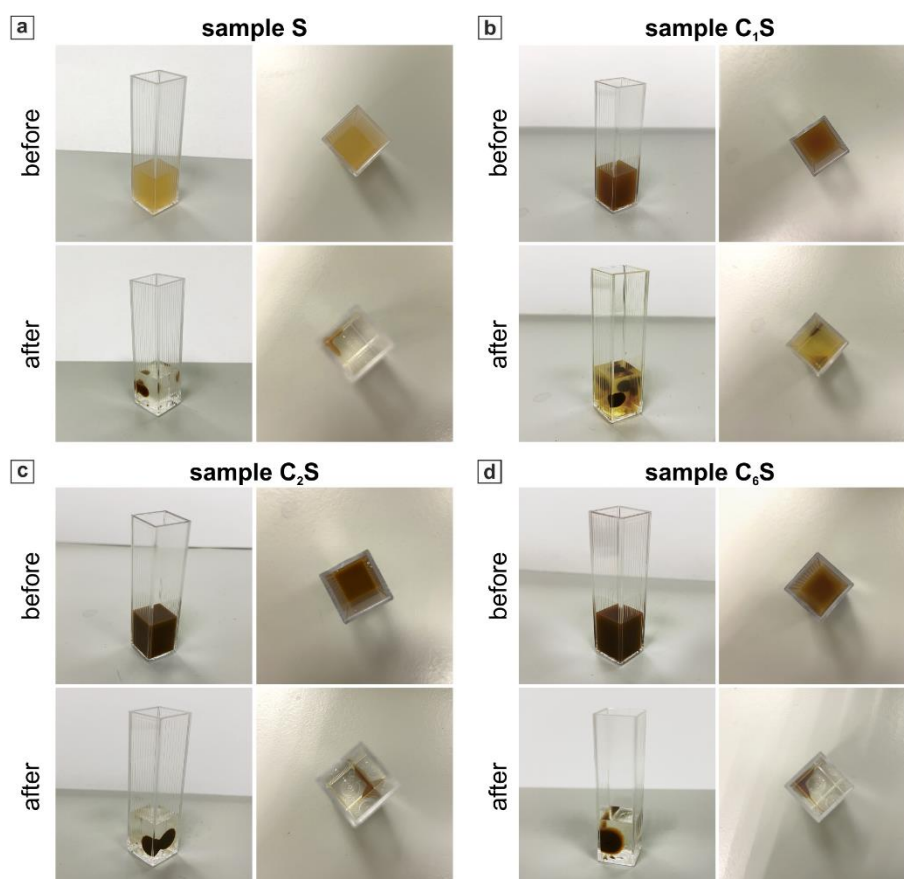
Figure SM2. Photographs of the capsule suspensions in cuvette before and after the application of the permanent magnet with a concentrator (0.5 T).
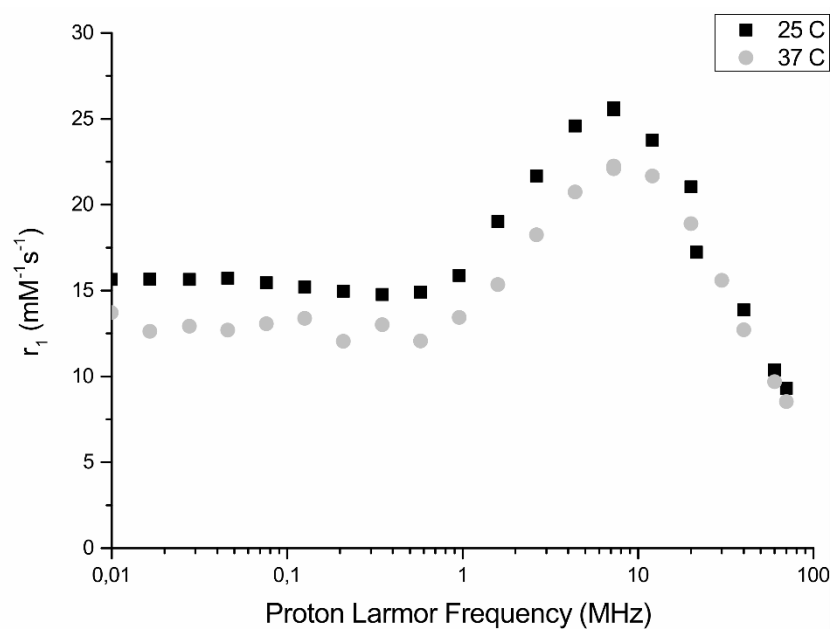

Figure SM3. [1]H Nuclear Magnetic Relaxation Dispersion (NMRD) profiles of magnetic polyelectrolyte capsules (sample S) acquired at 25 (black squares) and 37 °C (grey circles).
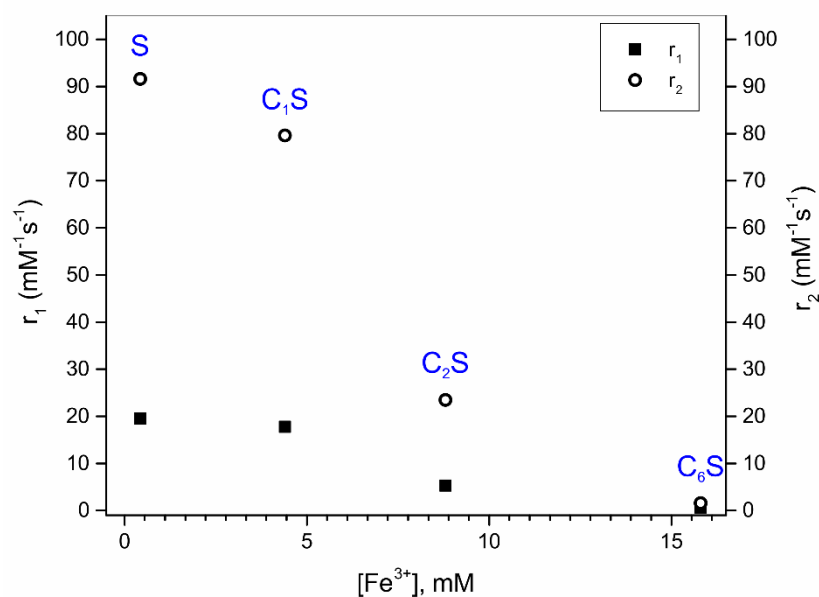
Figure SM4. Dependence of the longitudinal (r_1) and transverse (r_2) relaxivities on the amount of iron in the sample at 0.5 T and 25 °C.

Table SM1. Characteristics of magnetic polyelectrolyte capsules at 7 T and 25 °C.

Sample	Structure	r_1, $(mM \times s)^{-1}$	r_2, $(mM \times s)^{-1}$	r_2/r_1
C_1S	(MNPs)/(PA/DS/PA/MNPs/PA/DS)	0.6	90.7	147.5
C_6S	(MNPs)$_6$/(PA/DS/PA/MNPs/PA/DS)	0.2	36.5	197.0
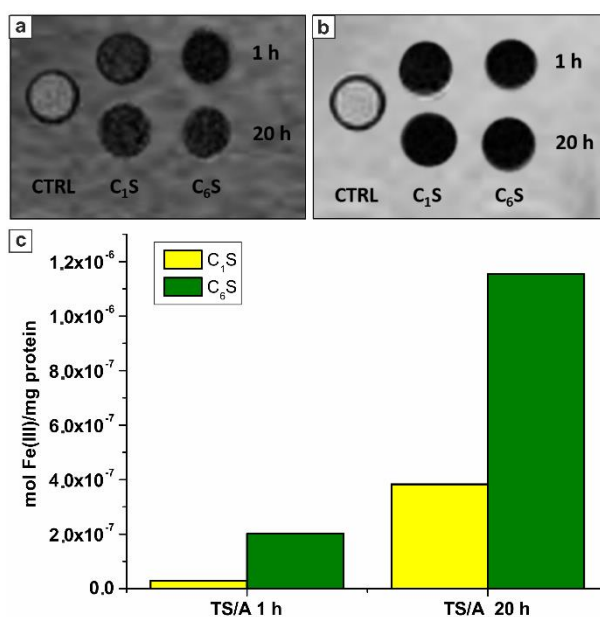
Figure SM5. T_{1w} (a) and T_{2w} (b) magnetic resonance images acquired at 7 T of glass capillaries containing TS/A cells incubated for 1 and 20 hours in the absence (control cells, CTRL) and in the

presence of MNP-doped capsules C_1S and C_6S; (c) amount of iron (in mol) per 1 mg of cellular proteins calculated in TS/A cells following the incubation with sample C_1S or C_6S. 1 mg of proteins is equal to 2.5×10^6 TS/A cells [di Gregorio E, Ferrauto G, Gianolio E, Aime S. Gd loading by hypotonic swelling: an efficient and safe route for cellular labeling. Contrast Media Mol. Imaging, 2013; 8: 475-486].