Supplementary Materials

Saturation of Specific Absorption Rate for soft and hard spinel ferrites nanoparticles synthesized by polyol process

Cristian Iacovita [1], Gabriela Fabiola Stiufiuc [2], Roxana Dudric [2], Nicoleta Vedeanu [1], Romulus Tetean [2], Rares Ionut Stiufiuc [1,3,*] and Constantin M. Lucaciu [2,*]

[1] Department of Pharmaceutical Physics-Biophysics, Faculty of Pharmacy, "Iuliu Hatieganu" University of Medicine and Pharmacy, Pasteur 6, 400349 Cluj-Napoca, Romania; cristian.iacovita@umfcluj.ro (C.I.) simona.vedeanu@umfcluj.ro(N.V.), clucaciu@umfcluj.ro (C.M.L.)

[2] Faculty of Physics, "Babes Bolyai" University, Kogalniceanu 1, 400084 Cluj-Napoca, Romania; gabi.stiufiuc@phys.ubbcluj.ro (S.G.), roxana.pacurariu@phys.ubbcluj.ro (R.D.), romulus.tetean@phys.ubbcluj.ro (R.T.)

[3] Department of Bionanoscopy, MedFuture Research Center for Advanced Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy, Pasteur 4-6, 400337 Cluj-Napoca, Romania, rares.stiufiuc@umfcluj.ro (R.S.)

* Correspondence: rares.stiufiuc@umfcluj.ro; Tel.: 00 40 726 340 278 (R.S.) and clucaciu@umfcluj.ro; 00 40 744 647 854 (C.M.L.)

1. Magnetic hysteresis loops at different temperatures for the three types of ferries MNPs

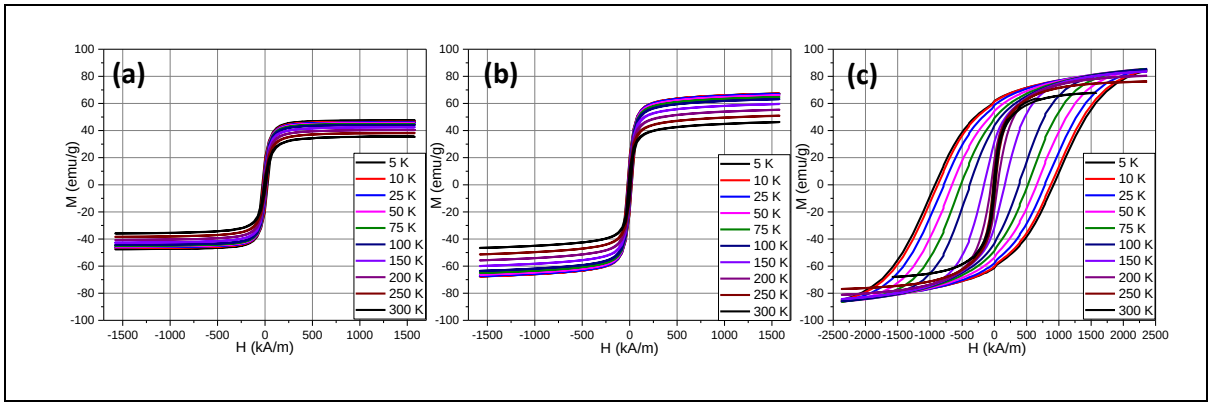

Figure S1. Magnetic hysteresis loops recorded at different temperatures between 5K and 300K for (**a**) $NiFe_2O_4$, (**b**) $MnFe_2O_4$, and (**c**) $CoFe_2O_4$ MNPs.

2. M_r / M_s ratio as a function of temperature for the three types of ferries MNPs

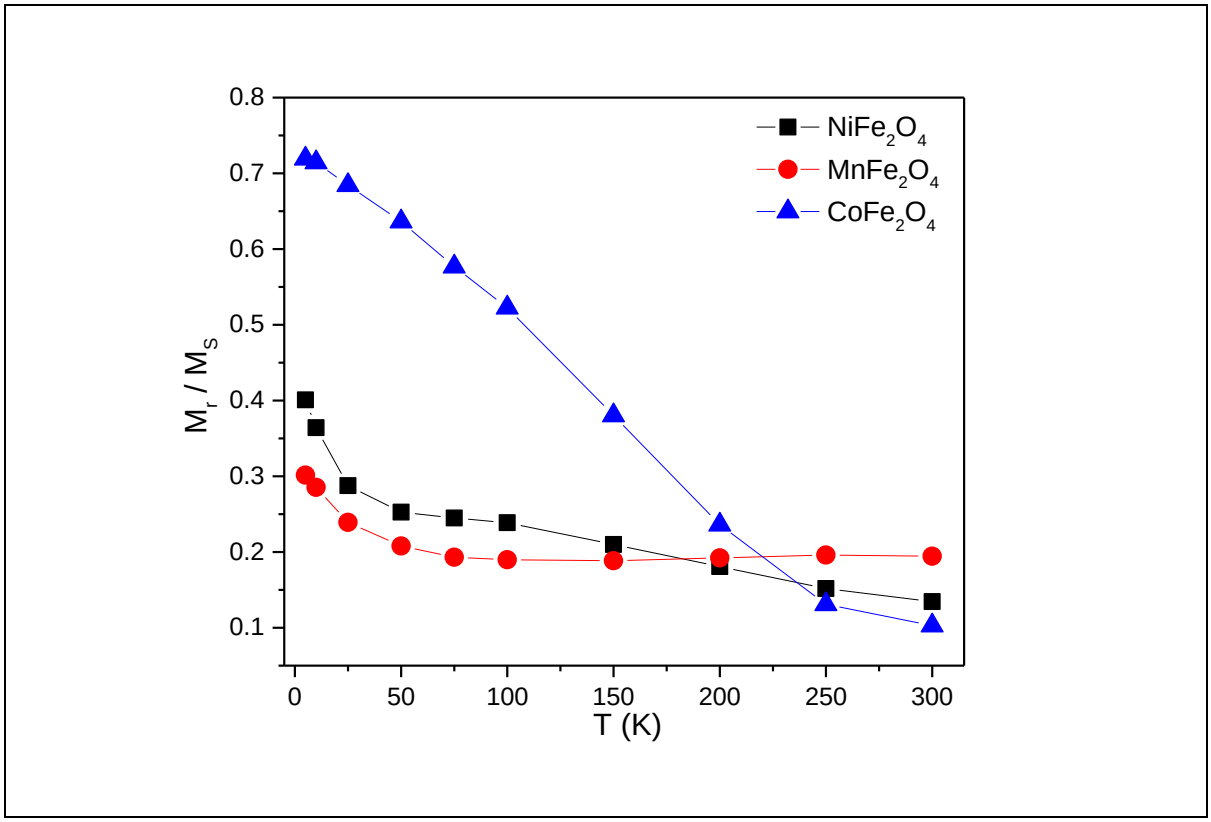

Figure S2. Mr / Ms ratio as a function of temperature for the three types of ferrites MNPs.

3. The coercive field as a function of temperature for the three types of ferries MNPs

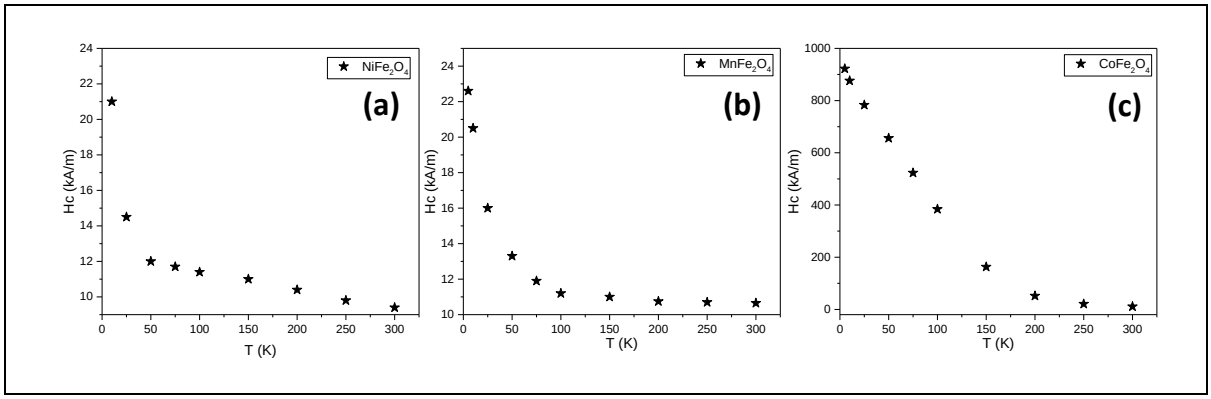

Figure S3. Coercive field as a function of temperature for (**a**) $NiFe_2O_4$, (**b**) $MnFe_2O_4$, and (**c**) $CoFe_2O_4$ MNPs.

4. H_c versus $T^{3/4}$ curves - for the three types of ferrites MNPs.

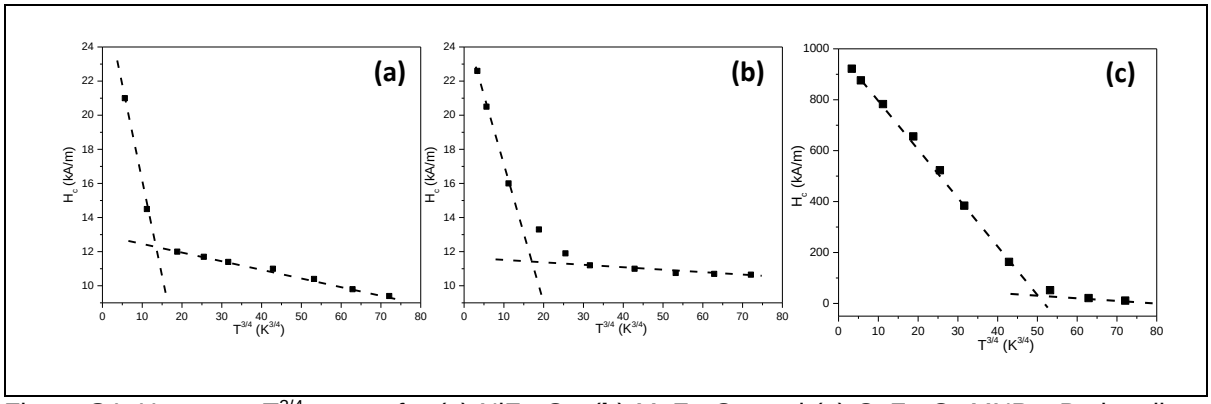

Figure S4. H_c versus $T^{3/4}$ curves for (**a**) $NiFe_2O_4$, (**b**) $MnFe_2O_4$, and (**c**) $CoFe_2O_4$ MNPs. Broken lines are a guide to the eye.

5. Heating curves - T = f (time) curves - for the three types of ferries MNPs dispersed in water

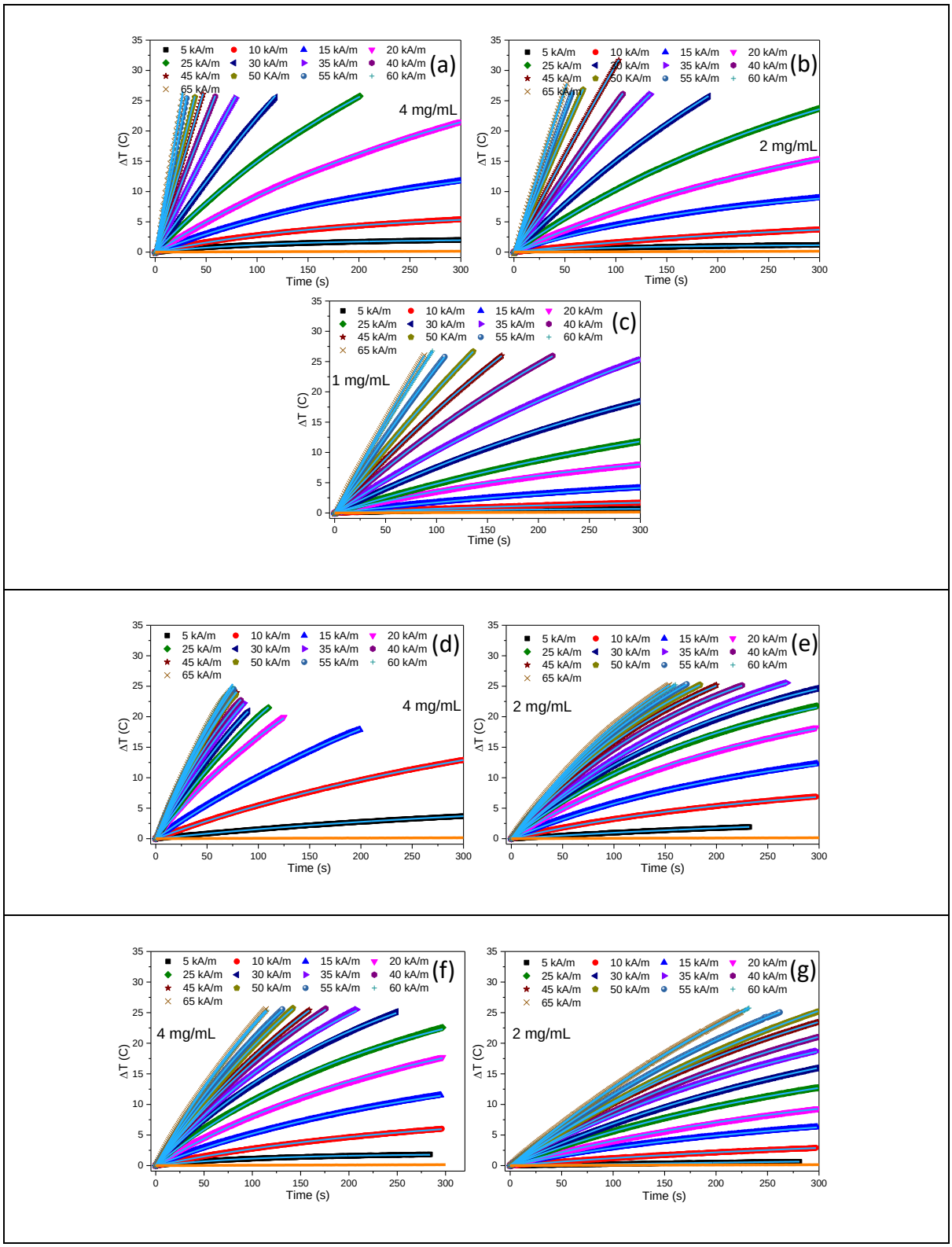

Figure S5. Heating curves fitted with Box-Lucas equation (blue curves) of (**a-c**) $CoFe_2O_4$, (**d-e**) $MnFe_2O_4$, and (**f-g**) $NiFe_2O_4$ dispersed in water at the indicated concentrations, recorded as a function of AC magnetic field amplitudes at a frequency of 355 kHz. Orange lines in each panel represent the heating curve recorded at the highest value of the AC magnetic field amplitude (H = 65 kA/m) on water.

6. ILP dependence on the AMF amplitude for all three types of MNPs

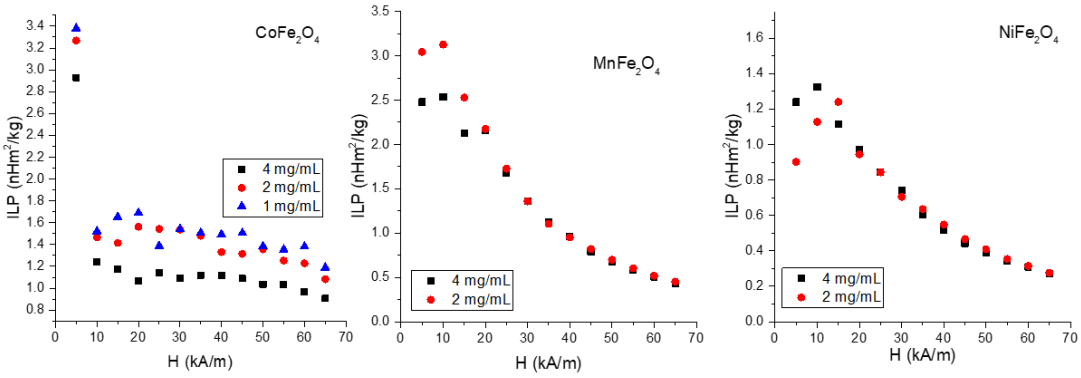

Figure S6. Calculated ILP values for all three types of MNPs as a function of H for each concentration