

Supplementary Information

Magnetically Responsive Biopolymeric Multilayer Films for Controlled Hyperthermia

*Miryam Criado, Beatriz Sanz, Gerardo F. Goya, Carmen Mijangos and Rebeca Hernández**

¹Instituto de Ciencia y Tecnología de Polímeros (CSIC), c/ Juan de la Cierva, 3, 28006 Madrid, Spain

²Nanoscience Institute of Aragón, University of Zaragoza, Mariano Esquillor s/n, 50018, Zaragoza, Spain

³nB nanoscale Biomagnetics S.L., C/ Panamá 2, local 1, 50012, Zaragoza, Spain.

⁴Department of Condensed Matter Physics, University of Zaragoza, Pedro Cerbuna 12, 50009, Zaragoza, Spain.

*Corresponding author:

E-mail address: rhernandez@ictp.csic.es (R. Hernández)

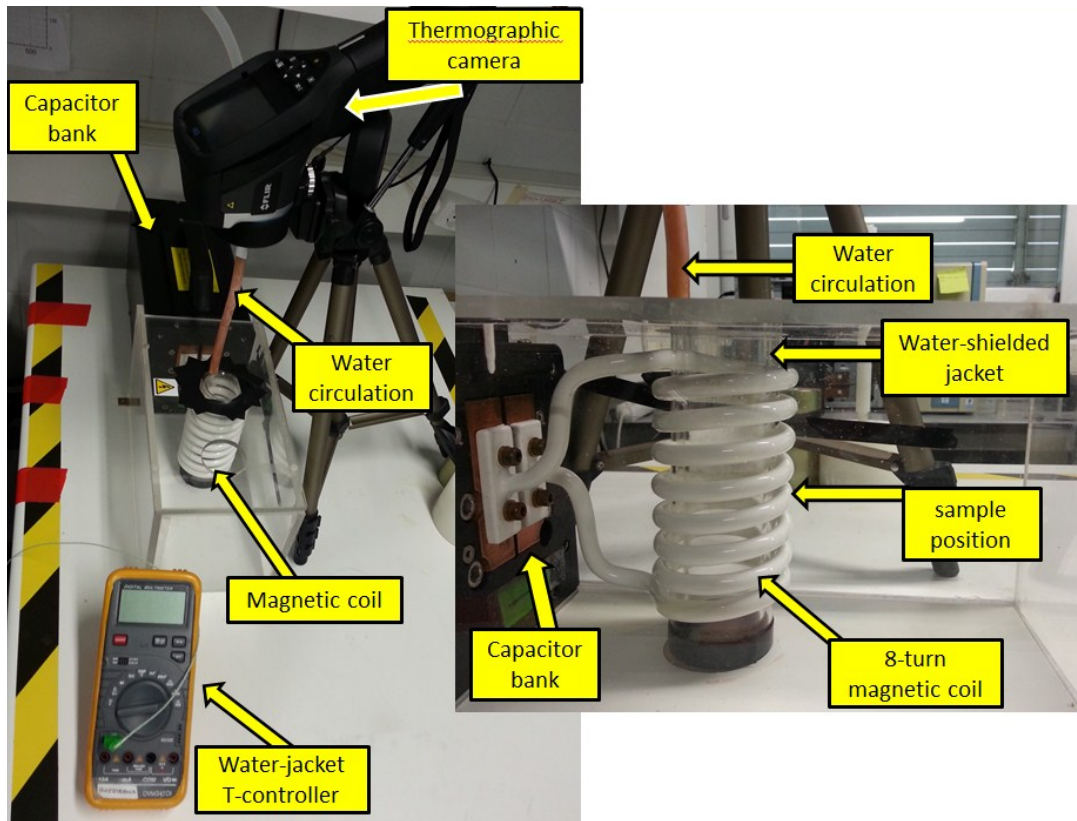


Fig. S1: Experimental setup for the measurement of *in vitro* magnetic hyperthermia and amplification of the sample cell setup.

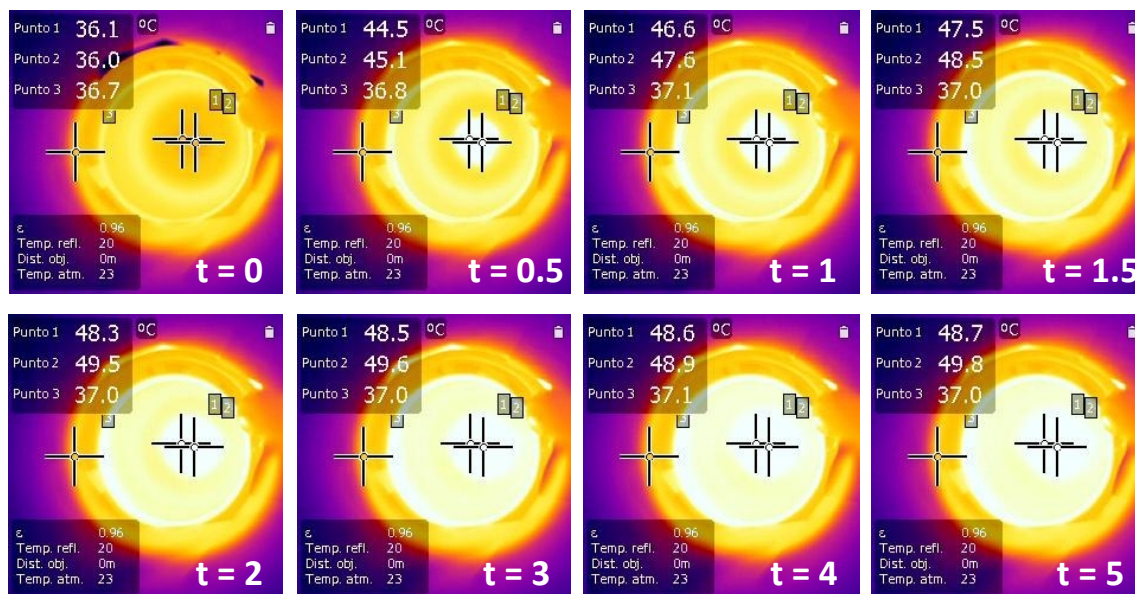


Fig. S2: Sequential photographs obtained by a thermal camera (FLIR Systems, USA) during the heating of a film $(\text{Alg/Chi})_{40}(\text{NPs/Chi})_{160}$. Time (t) is given in minutes. Points 1 and 2 represent two different points of the sample and point 3 represents the temperature of the water-heated jacket.

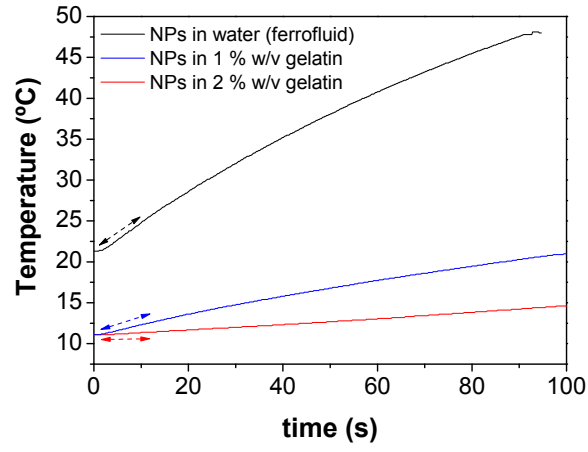


Fig. S3: Magnetic heating of NPs in water (black line) and in 1%w/v (blue line) and 2 %w/v gelatin (red line) at $f = 571$ kHz and $H = 24$ kA/m. The part of the curve employed to determine the SPA is showed by the dashed arrow.