

Electronic Supplementary Information

**Bifunctional Magnetopolymersomes of Iron Oxide Nanoparticles and
Carboxymethylcellulose Conjugated with Doxorubicin for
Hyperthermo-Chemotherapy of Brain Cancer Cells**

Sandhra M. Carvalho¹, Alice G. Leonel¹, Alexandra A. P. Mansur¹, Isadora C. Carvalho¹, Klaus
Krambrock², Herman S. Mansur^{1,*}

¹*Center of Nanoscience, Nanotechnology and Innovation - CeNano²I, Federal University of
Minas Gerais - UFMG, Av. Antônio Carlos, 6627 – Belo Horizonte/MG, Brazil.*

²*Department of Physics, Federal University of Minas Gerais - UFMG.*

**e-mail: hmansur@demet.ufmg.br*

* To whom correspondence should be addressed: Federal University of Minas Gerais, Av. Antônio Carlos, 6627 – Escola de Engenharia, Bloco 2 – Sala 2233, 31.270-901, Belo Horizonte/MG, Brazil; TelFax: +55-31-34091843; E-mail: hmansur@demet.ufmg.br (H. Mansur)

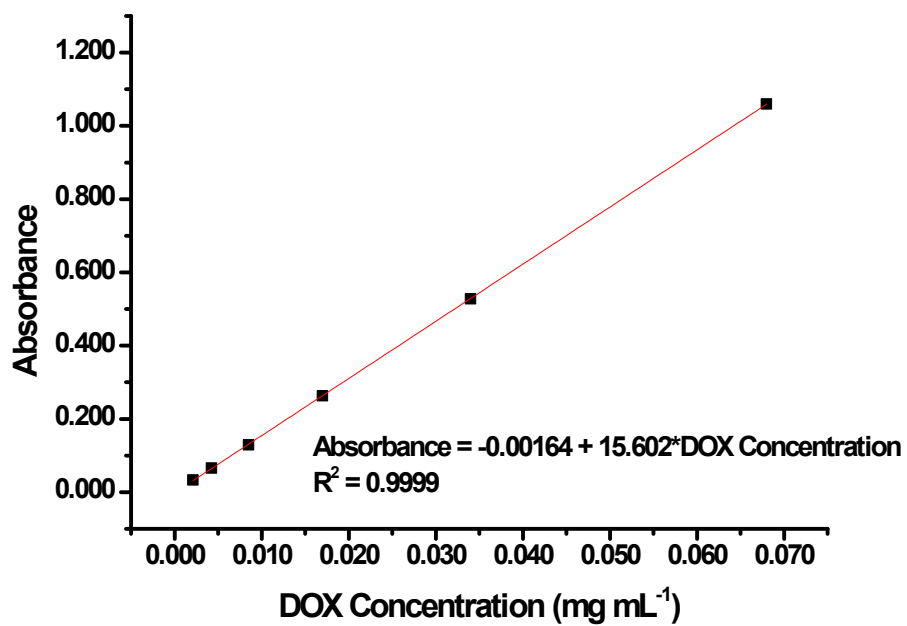


Figure S1 – Beer–Lambert absorbance correlation curve for DOX concentration in MES buffer (pH = 5.5) at $\lambda = 484$ nm.

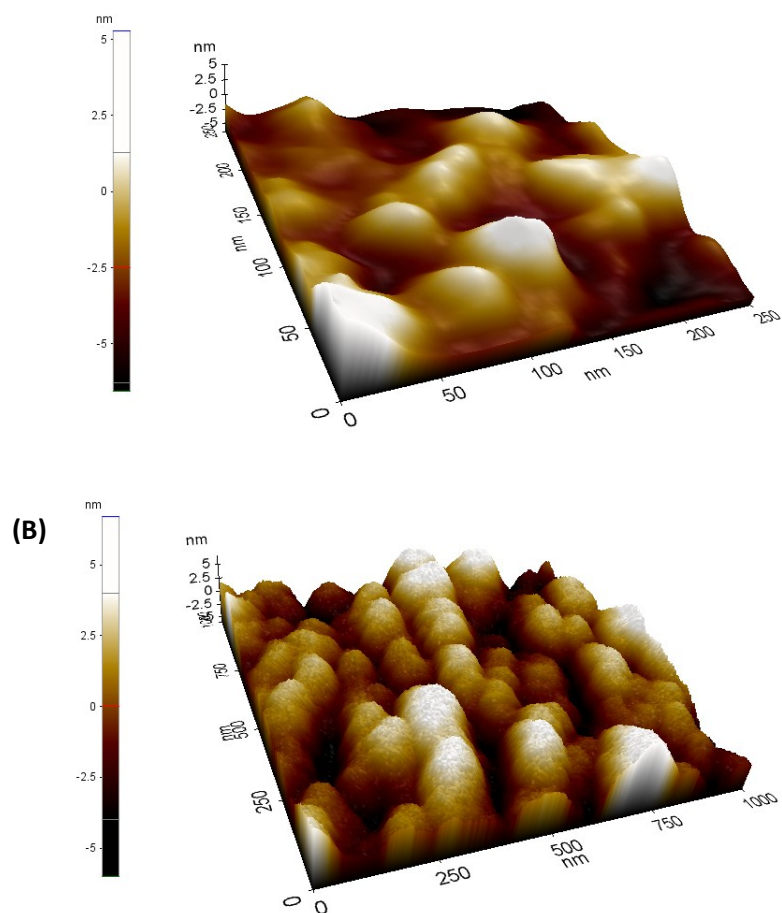
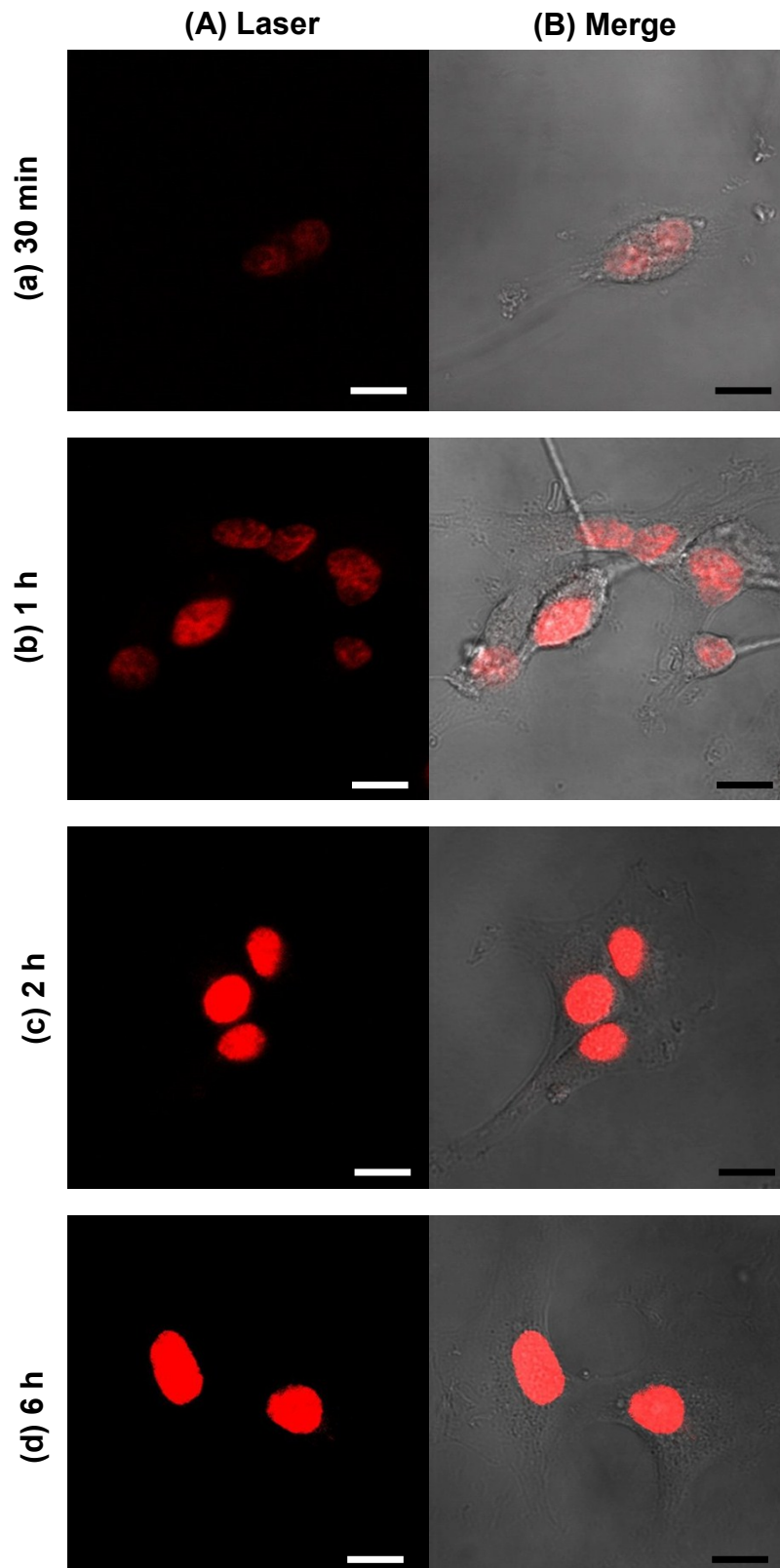


Figure S2 – Typical 3D AFM topographical images of MION@CMC nanoconjugates: (A) sample droplet poured onto mica and (B) sample film (dehydrated).

Table S1 – Summary of hydrodynamic radius (H_D) and zeta potential (ZP).

Sample	H_D (nm)	ZP (mV)
MION@CMC	38 ± 2	-38 ± 3
MION@CMC-DOX_0.1	55 ± 3	-8 ± 4
MION@CMC-DOX_2.2	64 ± 3	-13 ± 7



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Figure S3 – CLSM images of the cellular uptake of free DOX for U87 cells; columns: (A, left) PL image and (B, right) PL + bright field images; rows: incubation times (a) 30 min, (b) 1 h, (c) 2 h and (d) 6 h (scale bar = 10 μ m).

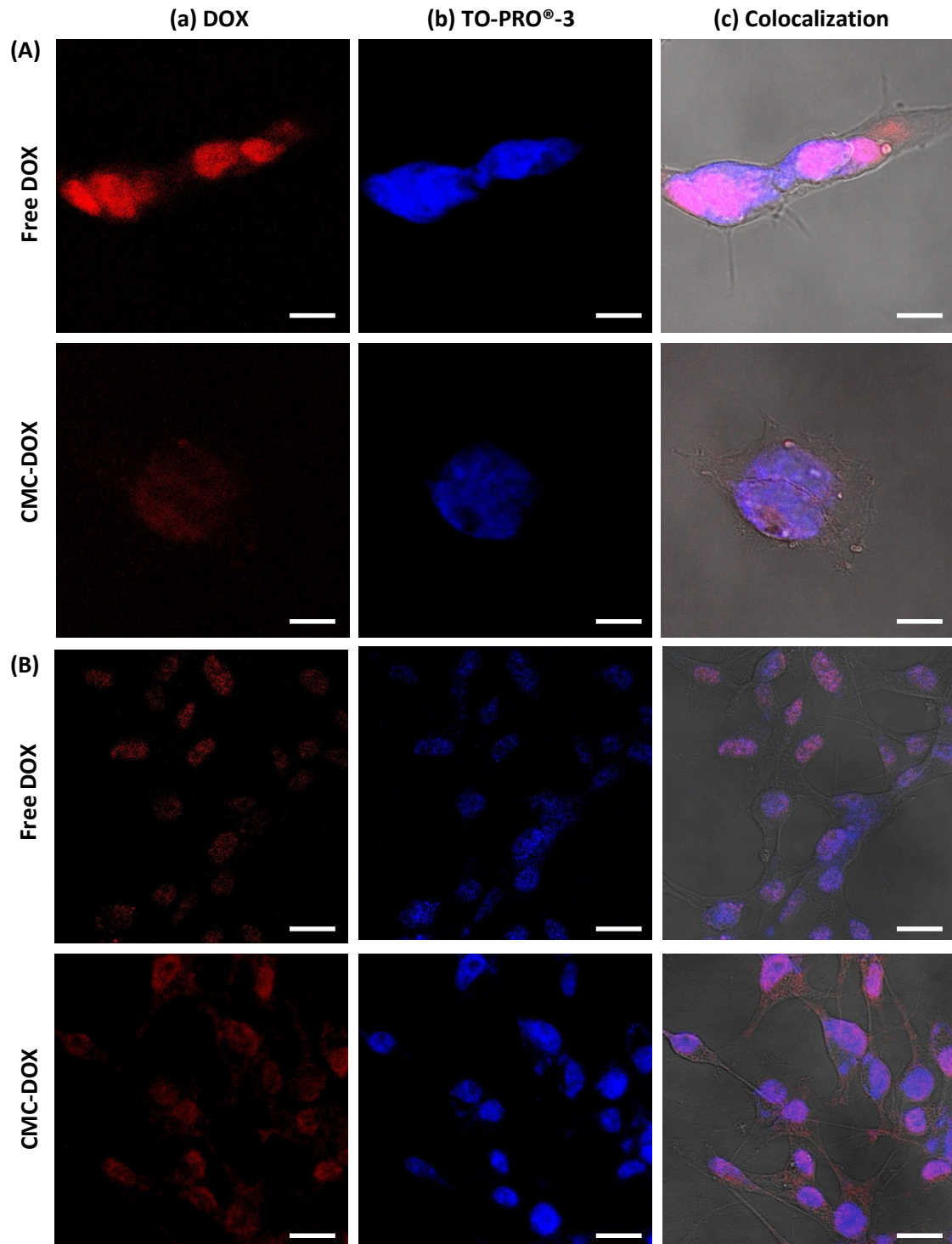


Figure S4 – Confocal laser microscopy images showing the intracellular uptake and distribution of free DOX and CMC-DOX after 30 min of incubation: (A) HEK 293T and (B) U-87 MG cells. Columns: (a) DOX red fluorescence emission; (b) DNA staining with TO-PRO[®]-3 in blue color; (c) co-localization of TO-PRO[®]-3 and DOX in bright field images (scale bar = 10 μ m).

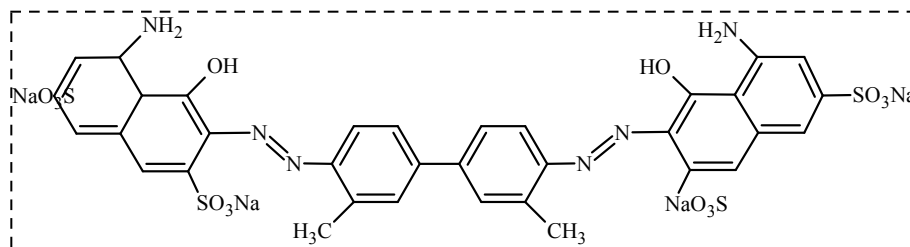
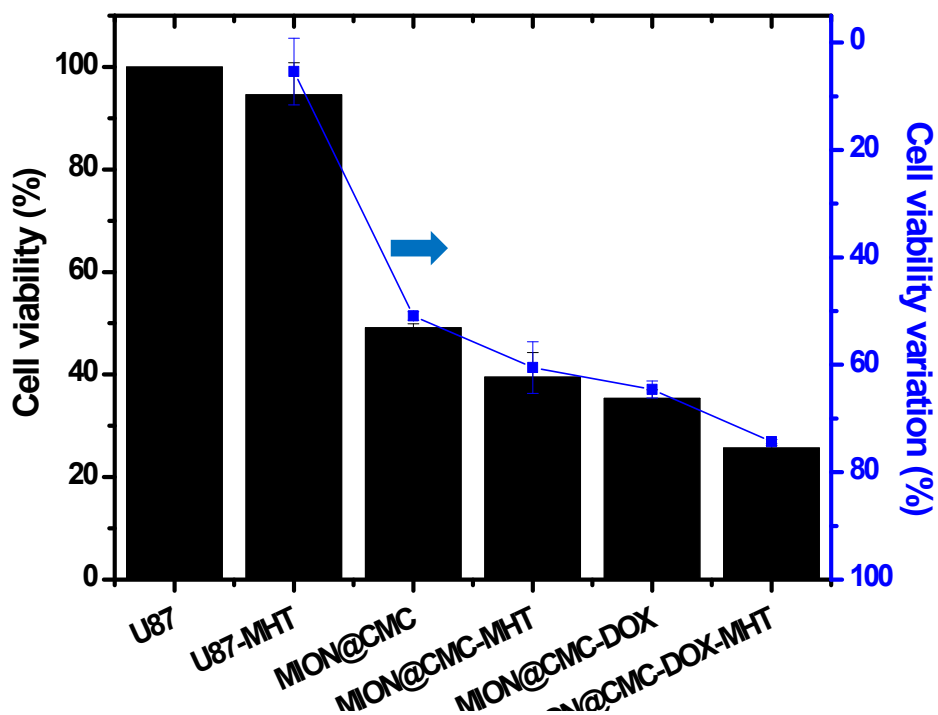


Figure S5 – Trypan blue cytotoxicity test in glioma cells (U87) incubated with MION@CMC nanocolloids comparing the effect of doxorubicin (DOX) and the magnetic hyperthermia treatment (MHT) in cell viability (bottom: chemical formula of trypan blue dye).