Electronic Supporting Information

Insight into the antitumor activity of carbosilane Cu(II)-metallodendrimers through their interaction with biological membrane models

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Materials

Cell lines. All cell lines were obtained from the American Type Culture Collection (Manassas, VA). The selection included a healthy cell line of human fibroblasts (142BR), and tumor cell lines from cervix (HeLa), normal and resistant breast cancer cells (MCF7 and HCC1806), advanced prostate cancer (PC3), and colorectal tumor (HT29). General culture protocol: cells were grown routinely in a corresponding media, containing 10% fetal bovine serum (FBS) and 1% penicillin/streptomycin/amphotericin B (Life Technologies, Barcelona, Spain) at 37 °C and 5% CO_2. After the cells reached 70–80% confluence, they were washed with phosphate buffered saline (PBS), detached with 0.25% trypsin/0.2% ethylenediaminetetraacetic acid (EDTA) and seeded at 3-4 x 10^4 cells/cm^2. The culture medium was changed every 3 days. RPMI-1640 (PC3, HCC1806), DMEM (MCF7, HeLa), Mccoy´s 5 Medium (HT29) were the media used. For 142BR fibroblasts used as control, MEM Eagle with 15% FBS, glutamine, non-essential aminoacids and antibiotics.

Methods

Elemental analysis. C, H and N elemental analysis assays were performed on a Leco elemental analyzer CHNSO-932.

Mass Spectrometry. The exact mass measurements of the molecular ion were made in an Agilent 6210 TOF LC/MS mass spectrometer.

Infrared Spectroscopy. The infrared spectra have been performed in a PerkinElmer Frontier spectrometer.

UV-Vis Spectroscopy. The ultraviolet-visible spectra have been performed on a PerkinElmer Lambda 35 spectrometer.

Electronic Paramagnetic Resonance. EPR spectra were recorded by means of an EMX-Bruker Spectrometer operating at X band (9.5 GHz) and interfaced with a PC (software from Bruker). The temperature was controlled with a Bruker ST3000 variable-temperature assembly cooled with liquid nitrogen.

Flow cytometry. Flow cytometry experiments were performed using FACSCalibur cytometer (BD Bioscience). The results were analyzed using Cyflogic v1.2.1 program.

Figures

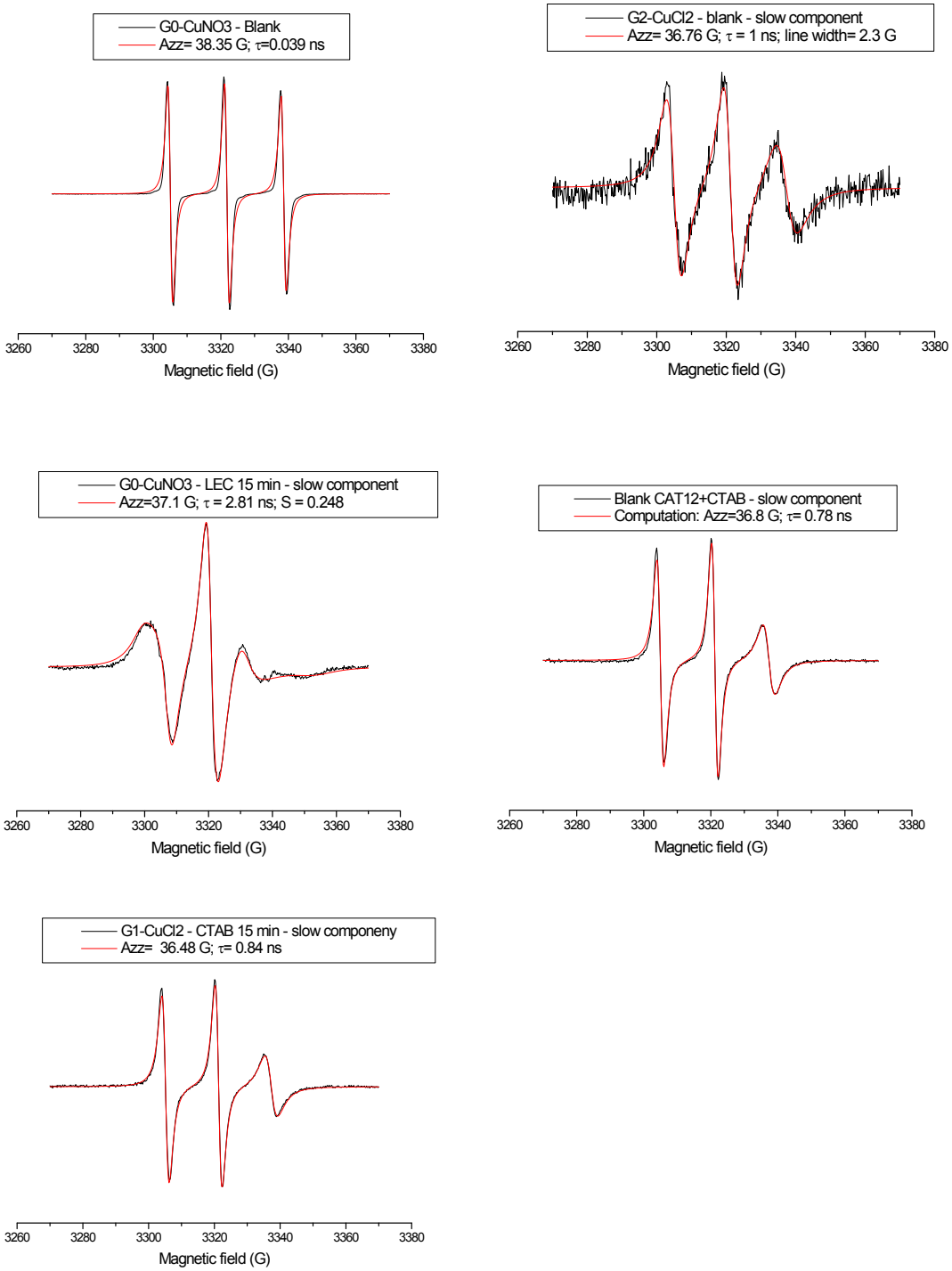
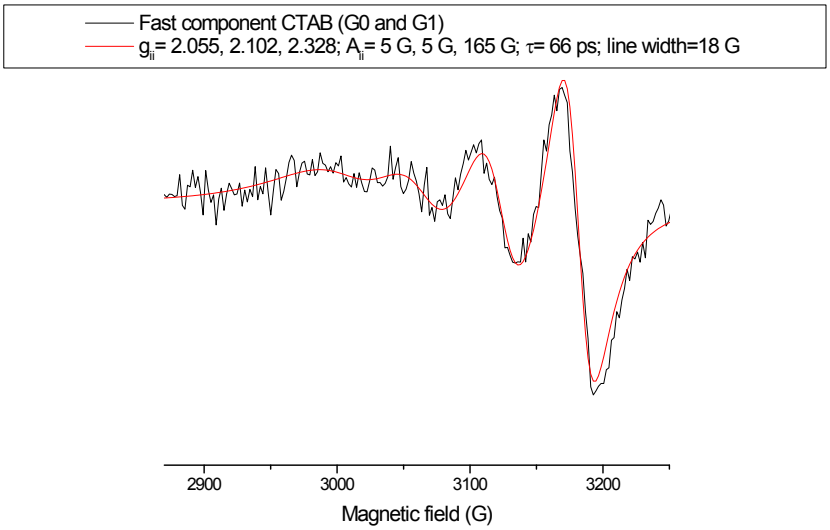
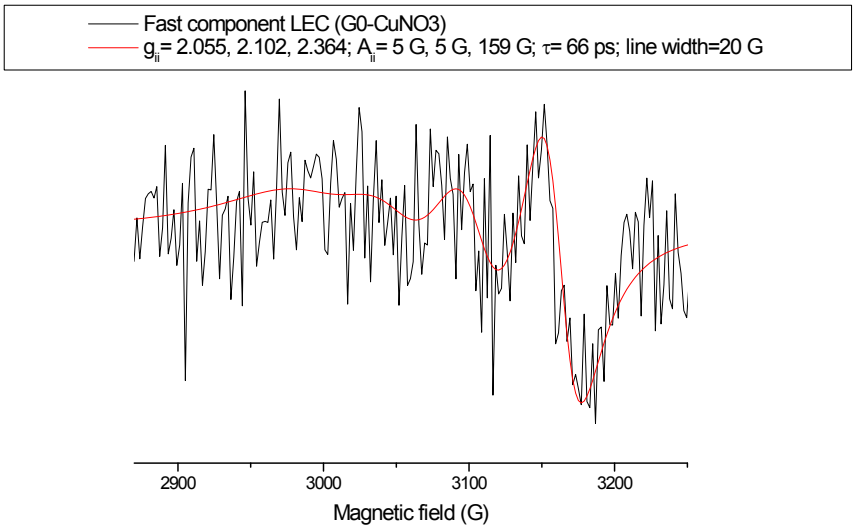
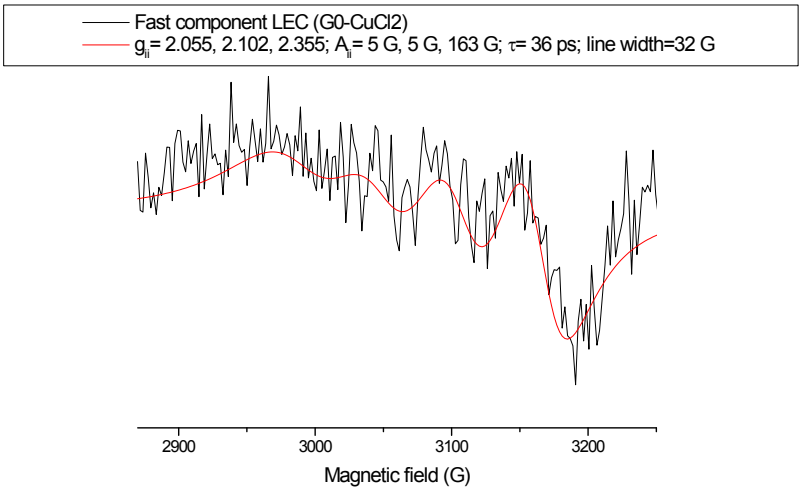
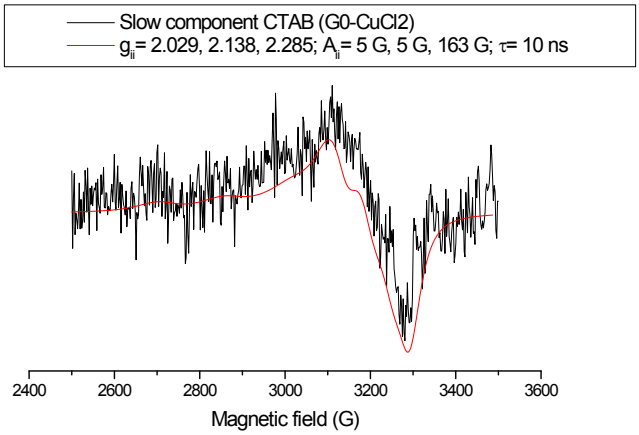


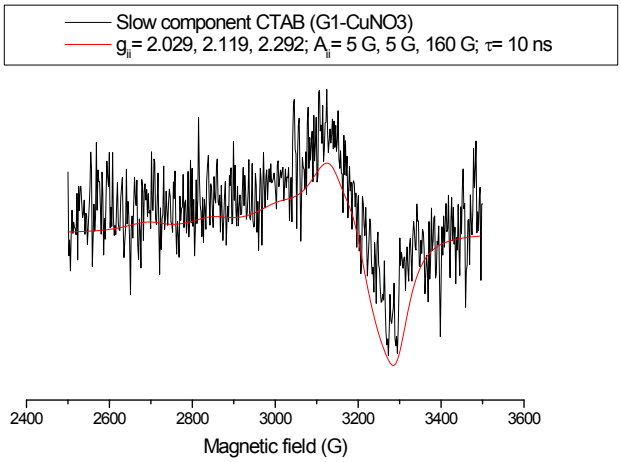
Figure S1: Selected examples of experimental and computed fast and slow components extracted by subtraction of spectra. In the legend, the main parameters of computation are reported. The spectra are normalized in height.


Fast component CTAB (G0 and G1)
g_{ii}= 2.055, 2.102, 2.328; A_{ii}= 5 G, 5 G, 165 G; τ= 66 ps; line width=18 G
2900
3000
3100
3200
Magnetic field (G)


Fast component LEC (G0-CuNO3)
g_{ii}= 2.055, 2.102, 2.364; A_{ii}= 5 G, 5 G, 159 G; τ= 66 ps; line width=20 G
2900
3000
3100
3200
Magnetic field (G)


Fast component LEC (G0-CuCl2)
g_{ii}= 2.055, 2.102, 2.355; A_{ii}= 5 G, 5 G, 163 G; τ= 36 ps; line width=32 G
2900
3000
3100
3200
Magnetic field (G)





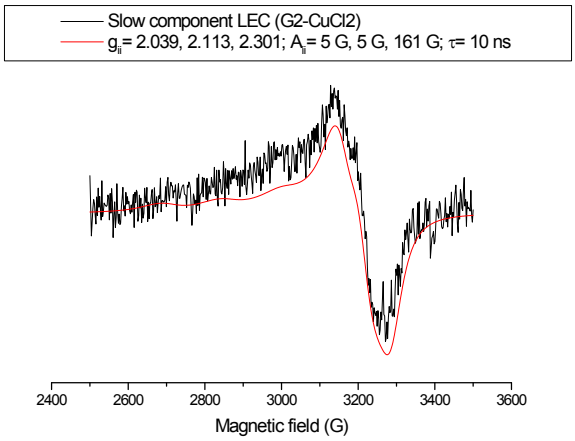


Figure S2. Best computations of fast and slow components of Cu(II) in the studied systems using the subtraction procedure. Figure legends report the main parameters of computation. The spectra were normalized in height.