

Carbon nanotubes as nanovectors for intracellular delivery of laronidase in Mucopolysaccharidosis type I

T. Da Ros,^{a,*} A. Ostric,^a F. Andreola,^b M. Filocamo,^c M. Pietrogrande,^d F. Corsolini,^c M. Stroppiano,^c S. Bruni,^e A. Serafino^b and S. Fiorito^{b,*}

Supporting Information

Methods

All the CNT filtrations have been performed using JHWP filter 0.22 μm pore size on Millipore filtration system.

TEM analyses of CNTs were performed on a TEM Philips EM208, using an accelerating voltage of 100kV. Samples onto a TEM grid (diameter 3 mm, 200 mesh, carbon lacey) were prepared by drop casting from dispersion and drying under vacuum the solvent prior to the TEM analyses. The dispersion was prepared by sonicating for 15 minutes 0.2 mg of CNTs in 1 ml of DMF.

TGA profiles were recorded on a TGA Q500 (TA instruments), under N_2 , by equilibrating at 100 $^{\circ}\text{C}$ for 20 min, and following a ramp at 10 $^{\circ}\text{C}/\text{min}$ up to 800 $^{\circ}\text{C}$ (approximately 1 mg of each compound). The functionalization degree has been calculated at 450 $^{\circ}\text{C}$ taking into consideration the following: in the range of 200-500 $^{\circ}\text{C}$ the weight loss can be attributable only to organic functionalization introduced by chemical treatment, considering that in this range the CNTs themselves are perfectly stable. In the present case at 450 $^{\circ}\text{C}$ there is a flex in the TGA profile (more appreciable for **f1**-, **f2**-, **f3**- and **f4**-MWCNTs than for **ox**-MWCNTs) and so this temperature was chosen.

Figures

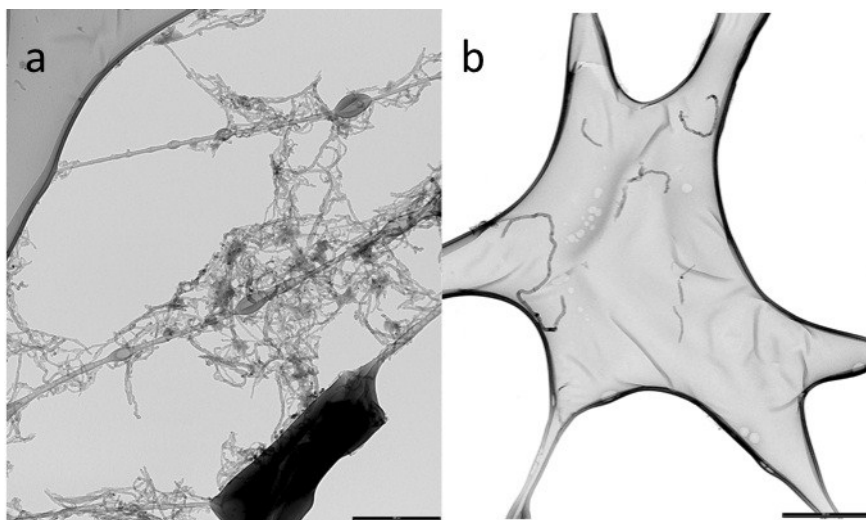


Figure S1: TEM images of MWCNTs before (A) and after (B) the oxidation. Scale bar: 500 nm

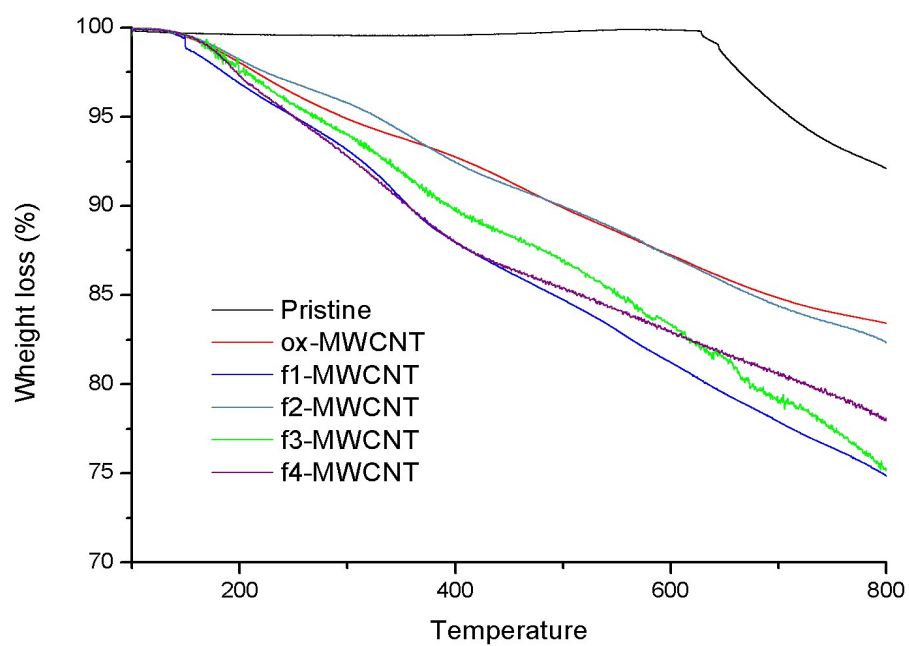


Figure S2: Thermogravigrams of pristine MWCNTs, ox-MWCNTs and of CNTs derivatives f1-MWCNTs, f1-MWCNTs f1-MWCNTs, f4-MWCNTs.