Fe_{1-x}Ni_x Alloy Nanoparticles Encapsulated inside Carbon Nanotubes: Controlled Synthesis, Structure and Magnetic Properties

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Supporting information

Figure S1: SEM-EDX quantitative measurement for the Fe:Ni ratio over a selected area for a sample of Fe₅₀Ni₅₀@CNT, in which the ratio roughly corresponds to 1:1.



Figure S2: Relative sample mass loss for the pristine CNTs (Pyrograf) during the combustion process, in which 100 % of the CNTs mass has been lost.



Figure S3: Histograms representing the size distribution of the inner diameter (nm) of CNTs and particles diameters for the a) as-prepared and b) annealed samples of Fe₆₇Ni₃₃@CNT.



Figure S4: Relative sample mass loss for Fe67Ni33@CNT sample filled by the second approach during the combustion process of the nanocomposite, in which the CNTs mass start to decrease at T ~ 530 $^{\circ}$ C.