



ISTITUTO ITALIANO
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TITLE

Synthesis of thermo-responsive iron oxide nanoparticles with high specific absorption rates as platform for cancer treatment

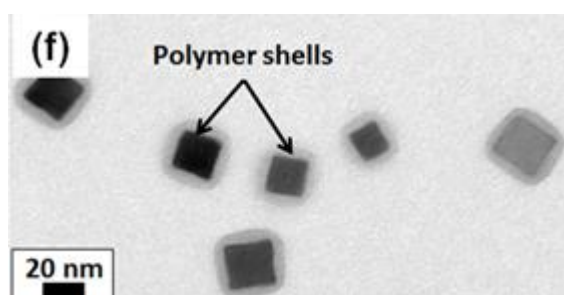
INVENTORS

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DESCRIPTION

The invention deals with a process for the synthesis of magnetic nanoparticles coated with a thermo or pH responsive polymer using the so-called surface-initiated polymerization. The process comprises a radical polymerization step of a monomer or co-monomers susceptible of forming a thermo-polymer or pH responsive copolymer in a solution including magnetic nanoparticles functionalized at their surface with a polymerization initiator.

The process of the invention allows functionalizing strongly interactive cubic iron oxide nanoparticles in an individual state, thus retaining the outstanding heating performances.



APPLICATIONS

Cancer treatment, hyperthermia therapies

KEYWORDS

Cubic iron oxide, smart drug delivery, thermoresponsive polymers, initiated polymerization

BIBLIOGRAPHIC DATA

Procedimento per la sintesi di nanoparticelle magnetiche stimolo-responsive

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