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**Plasmonic/magnetic Nanocomposites: Gold Nanorods-functionalized  
Silica coated Magnetic Nanoparticles**

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**Abstract**

We report here on the fabrication of a new example of nano-object that combines magnetic and plasmonic properties. The strategy is based on the electrostatic assembly of negatively charged gold nanorods (NIR-resonant) on positively charged silica-coated iron oxide nanoparticles. Silica coating of magnetic nanoparticles prevented iron oxide nanoparticles irreversible aggregation in water environment. Finally the stability of the nanocomposite in biological medium has been improved through a protein coating (BSA, bovine serum albumin). Morphological, optical and magnetic properties of the hybrid nanomaterials have been evaluated as well as its ability to be manipulated by

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