



**The Chinese University of Hong Kong
Non-confidential Abstract of Technology Disclosure**

Title:

A Novel Silica-Coated Superparamagnetic Iron Oxide Nanoparticles with Functional Peripheries for Cell Labeling and Magnetic Targeting

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Patent Status:

US Patent Pending

Inventor(s):

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Non-confidential abstract:

Silica coated super-paramagnetic iron oxide particles with diameters ranging from 4 to 10 nm with different functionalities on the thin silica layer surface are prepared. These nanoparticles with amine functional peripheries increase intracellular cells (including mesenchymal stem cells) labeling efficiency and allow prolonged visibility with techniques including magnetic resonance imaging. These superparamagnetic iron oxide nanoparticles can be used, among others, for in-vivo magnetic resonance imaging cell visualization and magnetic targeted retention of cell for tissue engineering.

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