

Advances in magnetic silica nanotubes preparation and characterization

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The application of nanomaterials in medical industry has caused an increase of research interest in recent years. The considerable concern of these materials has achieved the preparation of magnetic silica tubes ($r\text{-Fe}_2\text{O}_3\text{@SiO}_2$). Components combined with $r\text{-Fe}_2\text{O}_3\text{@SiO}_2$ have attracted an attention in drug targeted delivery and liquid separation because of their high surface area and magnetic separability. In this contribution the structure of magnetic silica tubes by deposition of Fe_2O_3 particles onto multi-walled carbon nanotubes surface ($\text{MWCNT-Fe}_2\text{O}_3$) was created. After that $\text{MWCNT-Fe}_2\text{O}_3$ have been coated with silica ($\text{MWCNT-Fe}_2\text{O}_3\text{@m-SiO}_2$). The final product has been obtained by heating to get rid of MWCNT. Magnetic silica tubes have been characterized in details.