



Condensed Matter / Materials Seminar

11/15/2007

Speaker: Professor Weilie Zhou

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Magnetic Nanocarriers for Nanomedicine Applications

Time: 3:30PM

Place: Room 258 Phillips Hall

Abstract

Fabrication of biocompatible and non-toxic magnetically-directed nanocarriers for targeted delivery is very crucial for nanomedicine application, especially for tumor therapy. In this talk, the successful synthesis of ibuprofen loaded magnetic hollow silica porous nanospheres (Ib-MHSPNs) and solid lipid nanoparticles (Ib-MSLNs) will be presented. The MHSPNs and MSLNs were investigated by transmission electron microscopy, X-ray powder diffraction, and superconducting quantum interference device (SQUID) magnetometer. TEM results showed that MHSPNs and MSLNs were successfully formed. SQUID measurements indicated that MHSPNs and MSLNs exhibited superparamagnetic behavior above the blocking temperatures. The encapsulation efficiency and drug release were measured by high pressure liquid chromatography (HPLC) and UV spectrophotometer. The MHSPNs and MSLNs can be potentially used in target delivering and control releasing.