

Nanoscale Mesoporous Silica Drug Delivery Agents

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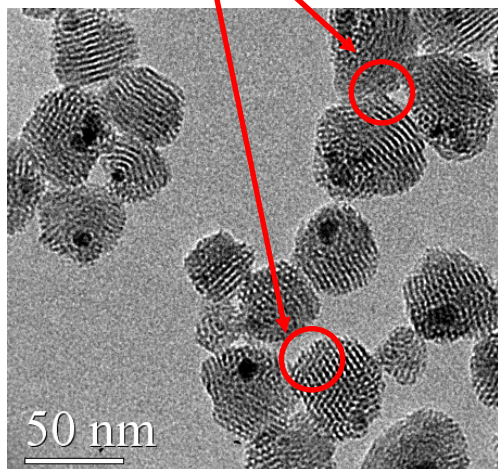
Chemistry, University of Minnesota

NNIN Facilities utilized: Characterization Facility & Nanofabrication Center

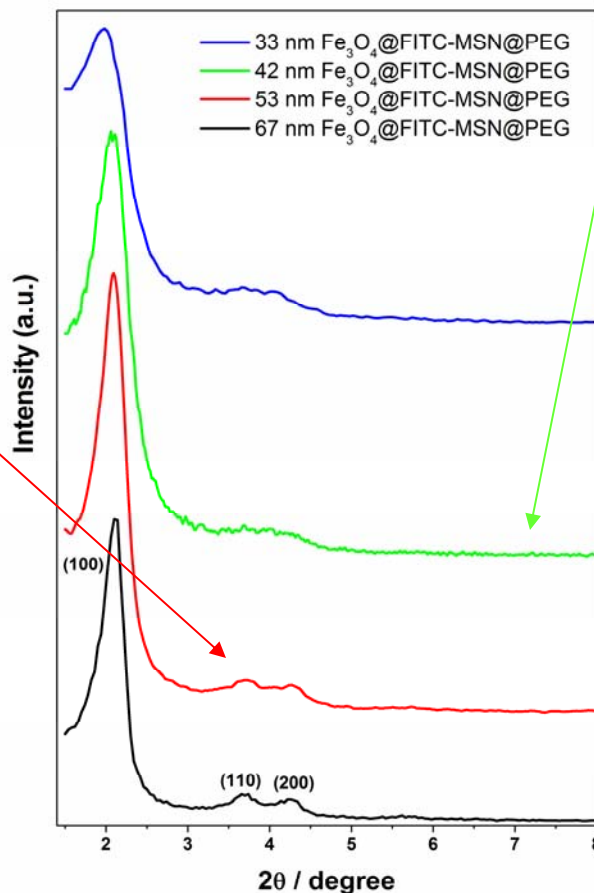
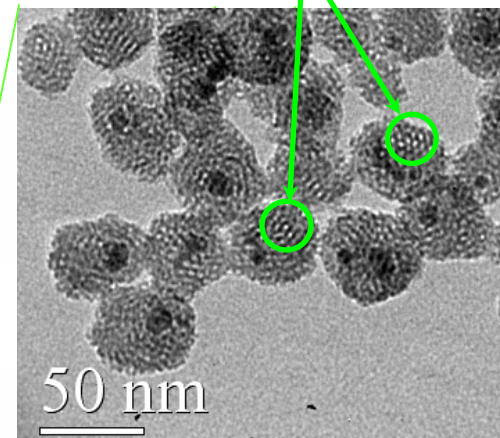
Fabricating and Characterizing Multifunctional Mesoporous Silica Nanoparticles

- ◆ Large surface area
- ◆ Integrated MRI contrast agents
- ◆ Small and stable in biological environments

Well-ordered pore structure



Short-ranged ordered pore



Potential as Drug Delivery Agents

- ◆ Loads cancer drug
- ◆ Antibody-based cell targeting
- ◆ Selective chemotherapeutic delivery
- ◆ MRI during treatment