Electronic Supplementary Material (ESI) for Biomaterials Science.

Facile synthesis of dendrimer like mesoporous silica nanoparticles to enhance targeted delivery of interleukin-22

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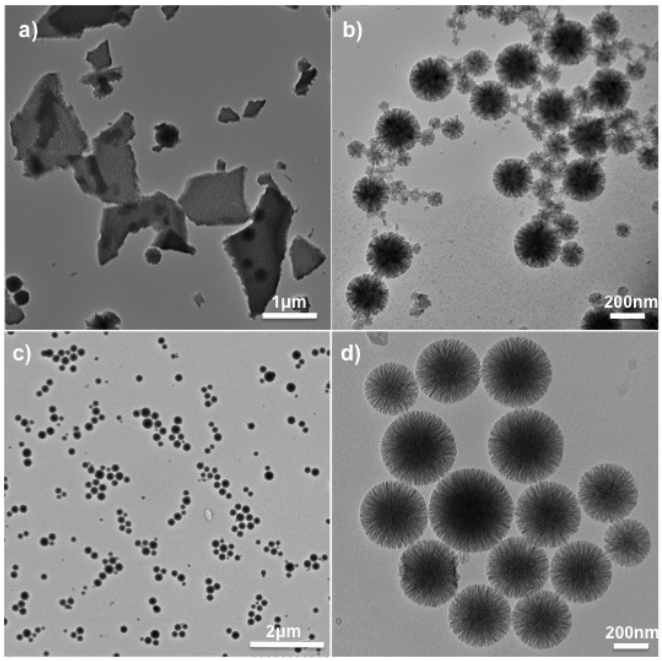
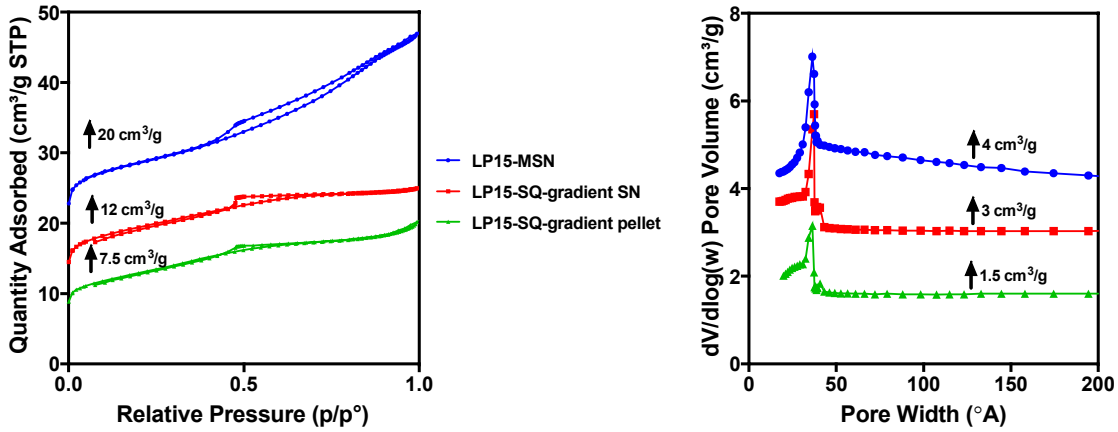
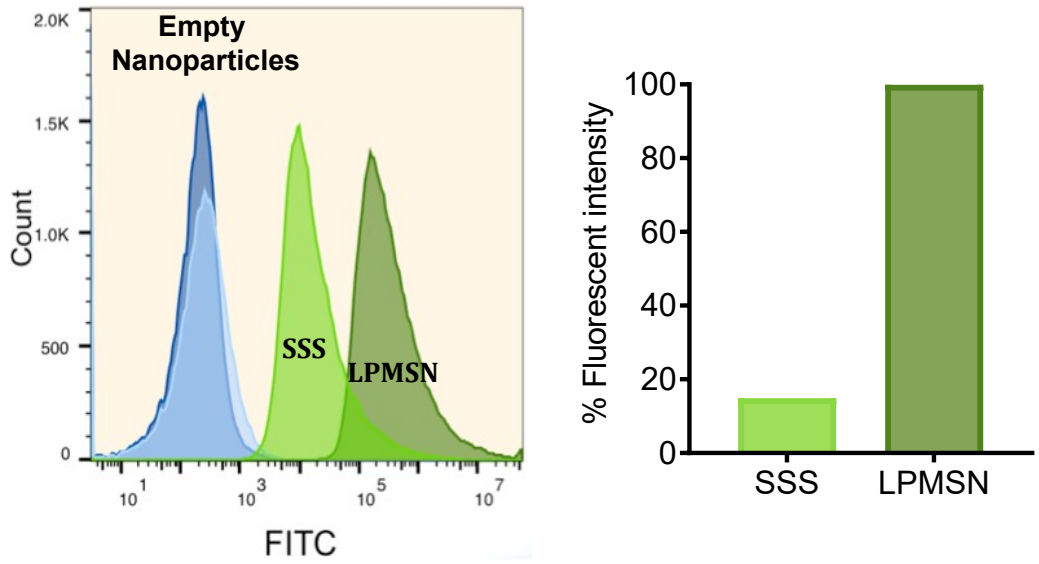


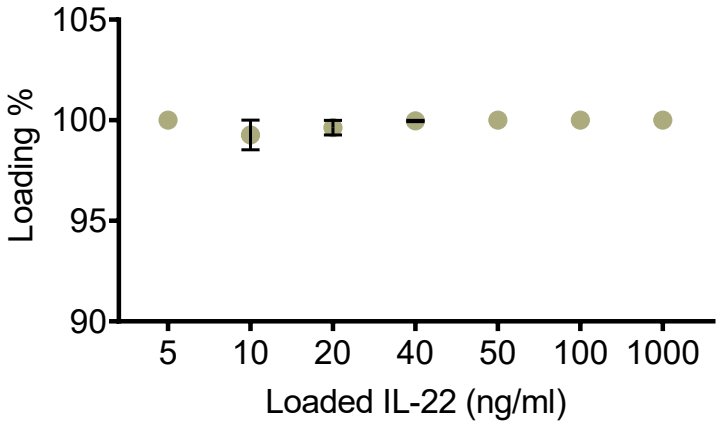
Supplementary Fig. 1 TEM images of a) LPMSNSQ pallet b) LPMSNSQ gradient centrifugation final product and c and d) LPMSN with our optimized protocol.



Supplementary Fig. 2 N_2 sorption analysis of different porous materials prepared by Qiao et.al method (LP15-SQ-Gradient SN, LP15-SQ-Gradient pellet) and our modified protocol (LPMSN).



Supplementary Fig. 3 Flow cytometry shows a 100-fold increase in fluorescent intensity in LPMSNs loaded with FITC-BSA compared to Solid silica spheres (SSS) loaded with FITC-BSA and used as a control. Results are based on 1 mg of FITC-BSA (1 mg/ml) loaded into 5 mg of nanoparticles (5 mg/ml). Fluorescence histogram and corresponding loading percentage (n=3) measured using fluorescent plate reader (excitation 485 nm, emission 535 nm) is shown.



Supplementary Fig. 4 IL-22 loading into LPMSNs. Various concentrations of human IL-22 loaded into LPMSNs. Loading efficiencies were determined by ELISA assay of supernatants after loading using human IL-22 standard. Loading percentage is measured (n=6). In all samples, IL-22 is loaded with 0.5 mg of BSA (0.5mg/ml).